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Content

Introduction

David Langlet

Welcome to the 31st issue of the Nordic Environmental Law Journal (NELJ). It is the first issue for which I, David Langlet, have the privilege of serving as editor-in-chief. I look forward to continue the work of my predecessors, the late Professor Gabriel Michanek who founded the journal in 2009, and Charlotta Zetterberg who has served as editor from 2019 until her retirement in 2023. I'm sincerely grateful to Charlotta for all the support she has provided. It has been invaluable for me as new editor. I look forward to collaborating with the journal's authors, reviewers, co-editors and eddy.se that does the formatting, as well as to fruitful interactions with the readers.

In addition to the general issues of the NELJ, there are plans for at least one special issue in 2024 and we much welcome suggestions from prospective guest editors for additional such issues in the future.

This issue contains four articles, ranging from wind power to waste trade and from a distinct Nordic to more global perspectives.

In 'Remedying the Fosen "accident" – reflections on private law remedies in a wind mill project gone wrong' Jenny Bondevik and Endre Stavang apply a private law perspective to a much-criticized windfarm case in Norway. It concerns two windfarms at the Fosen Peninsula that according to the Norwegian Supreme Court constitute a private law violation of grazing rights as well as a violation of the right to exercise of culture. Since the licenses to operate the farms are not being withdrawn by the authorities, the authors analyze the potential of using private law instruments such as injunctive relief to rectify these violations.

Under the heading "Navigating the Unknown: Novel Technologies in Finnish Environmental Adjudication" Tellervo Ala-Lahti analyses the ability of permit setting to promote new green technologies. She assesses the role taken by the Finnish

Supreme Administrative Court in fostering the adoption of novel technologies as well as what role the precautionary principle and the concept of Best Available Technique play in this regard. As the Court is confined to legality reviews pertaining to local environmental impacts, the author identifies a need for exploring alternative processes aimed at mitigating uncertainty related to novel technologies.

In "One objective to rule them all: Swedish wolf hunting under the legal-epistemic framework of the Habitats Directive" Mar Ouro-Ortmark assesses the tensions that can arise when the EU's Habitats Directive is implemented into preexistent legal paradigms. This is done by analysing the Swedish wolf hunt of 2023 in the light of in particular the so-called Tapiola case from the Court of Justice of the EU. She finds that a piecemeal implementation, where key epistemic paradigms are disregarded in order to avoid controversy comes with the risk of undermining species protection.

In her article "United State's Plastic Waste Trade and International Law: Impact, the Basel Convention, and Future Prospects" Joanna Helt examines how the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes has addressed the issue of plastic waste import and export. She also looks specifically at the role played by the United States, a nonparty to the Basel Convention and a major generator of plastic waste, in the development of international waste trade regulation as well as the international flows of plastic waste.

Remedying the Fosen "accident" – Reflections on private law remedies in a wind mill project gone wrong

Jenny Bondevik and Endre Stavang***

Abstract

Two windfarms are currently in operation at the Fosen Peninsula close to Trondheim in Norway, to the detriment of the commercial viability of reindeer herding in the area. This harm is excessive and constitutes not only a private law violation of grazing rights, but also a violation for the relevant indigenous families of the international human right to exercise of culture – according to wording of a unanimous Norwegian Supreme Court administrative law case in a related matter. Our paper asks a hypothetical question, in that its starting point is that it is up to the Sami families to take legal action, both to ask a court to order the wind farm operations to cease, and/or to order the facilities to be removed. We hypothesise such an injunction suit under private law principles. We discuss an important exception to injunctive relief, conditioned upon an ex post cost benefit balancing test, in combination with generous monetary damages, thus contributing to the commercial viability of owning and herding reindeer – perhaps also supplemented by other court orders that assume co-existence between green energy production and reindeer ownership in the area. Overall, we find that the case for injunctive relief for the Sami families is not clear – either under property principles, or under international law principles for physical restitution claims. However, this assumes that the investor has not exercised "culpa" ex ante, and that the investor is liable to provide generous monetary compensation ("vederlagserstatning").

Keywords: Fosen case; wind mills; Sami rights; private law injunctive relief

1. Introduction

Two windfarms are currently in operation at the Fosen Peninsula close to Trondheim in Norway, to the detriment of the commercial viability of reindeer herding in the area. This harm is excessive and constitutes not only a private law violation of grazing rights, but also a violation for the relevant indigenous families of the international human right to exercise of culture – according to an administrative law case on a related matter unanimously decided by the Norwegian Supreme Court.[1]

As broadly covered by media, activists and some concerned lawyers claim that this so-called Fosen case shows that the Norwegian state does not adequately respect Sami rights in accordance with the Supreme Court's judgement.[2] However, the two wind farms are already operated by independent legal entities, who are unwilling to cease operation and restitute the situation. Moreover, the state is not willing to order them

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[1] See Section 3 below.

[2] See e.g. https://www.nrk.no/trondelag/stat-og-jurister-svaert-uenige-om-vindkraftanlegg-pa-fosen-er-et-menneskerettighetsbrudd-1.16170690.

to do so, either. The state, the legal entities, and the reindeer owners are as of December 2023 in talks and negotiations/mediations to solve the conflict. In fact, it was announced on Dec. 18th that the reindeer owners in Fosen South have entered into a settlement agreement, thus partially solving the conflict. Talks in Fosen North is continuing.

If the reindeer owners (in Fosen North, see above) really want the wind farms to cease and be removed, there are two venues open. First, they can sue the state and claim that it has a legal duty to order the independent legal entity (Aneo) to cease operation of and remove the wind farm, on the basis that this is the proper remedy for invalid public concessions violating Sami rights.[3] Secondly, the reindeer owners can sue the independent entity and claim the right to a private law injunction to cease and remove. This is the perspective taken in the present article.

In fact, the reindeer owners have done neither of the above. Rather, they are still in communication with the other parties with the aim of resolving the conflict. Thus, our paper asks a hypothetical question, in that its starting point is that it is up to the Sami families to take legal action, both to ask a court to order the wind farm operations to cease, and/or to order the facilities to be removed. We hypothesize such an injunction suit under private law principles, as outlined above. We discuss an important exception to injunctive relief, conditioned upon an *ex post* cost benefit balancing test, in combination with generous monetary damages, thus contributing to the commercial viability of owning and herding reindeer – perhaps also supplemented by other court orders that assume co-existence between green energy production and reindeer ownership in the area.

Overall, we find that such a case will rely on difficult judgements, and that the case for injunctive relief for the Sami families is not clear – either under property principles, or indeed under international law principles for restitution claims.

We emphasise that our contribution might be seen as rather narrowly focusing on private law, and that it also might seem leaning too much towards an economic efficiency understanding. Karl Arne Utgård has provided thorough critical comments on the Fosen case from a public law and human rights perspective, which also broadly points in the same direction as our analysis.[4]

We proceed with our discussion in three stages, followed by a conclusion:[5]

Positive property law (Section 2); The Fosen case (Section 3); Reflections (Section 4); Conclusion (Section 5).

2. Positive property law

We do in fact have a case from the Norwegian Supreme Court, *Rt. 1991 at p. 1281 Vindmølle på Jæren*, that documents private law injunctive relief for windmill nuisances, where the windmill owner was made subject to restrictive regulations by court orders to the benefit of adjoining land owners. Related injunctive relief can clearly include the removal and restoration of land, but not if the burden of physical restoration clearly outweighs the restoration benefit.

[3] Former Norwegian Supreme Court judge Karl Arne Utgård has very recently addressed the Fosen conflict from this perspective, see footnote 4.

[4] Rett24 Dec. 6th 2023, https://rett24.no/articles/karl-arne-utgard--jeg-forstar-ikke-hvordan-noen-er-kommet-pa-at-staten-har-plikt-til-a-rive-vindmoller.

[5] For a thoroughly referenced legal dogmatic treatment underlying our paper, see Jenny Bondevik, Unntak fra rettingskrav. Om ekspropriasjonslignende unntak, PrivIus Journal of Private law 221 2023 (Master Thesis (146 pp., Open Access online), supervised by Endre Stavang).

If the right-holding Sami families sue the wind farm owners and claim for cease and remove, the wind farm owners can invoke the abovementioned exception to private law injunction. This rule can be viewed as implementing Ronald Coase's guideline, based on his institutional economics, that property rights are to be delineated in favour of the party that values them the most, when transaction costs are high.[6] In line with the vocabulary of Calabresi and Melamed, the Sami rights are thus protected by a liability rule, rather than by a property rule.[7]

The exception-to-injunctions rule does not apply if the wind farm owners have been in "culpa", i.e. violated their duty to show due care. This way of narrowing the rule may be seen as a way of ensuring that remedies and enforcement do not suffer from what Kydland and Prescott called problems of time inconsistencies.[8] Without this narrowing, the investor is protected by a generous *ex post* balancing rule, that may create incentives for *ex ante* dubious behaviour.

The positive basis for the exception-to-injunctions rule is to be found in the statute regulating private nuisances (see section 2.1). Moreover, there is strong evidence that the rule is also followed in servitudes law, e.g. when a new construction, such as a building, is found to violate a negative servitude (see section 2.2). In addition, the recent Supreme Court Case, *Trollvassbu*, strongly suggests that our rule is not only a matter of statutory law, but is indeed also a more general legal principle, (see section 2.3).

[6] R H Coase, The Firm, the Market, and the Law, Chicago and London 1988, p. 119; E Mackaay, Law and Economics for Civil Law Systems, Cheltenham 2013, p. 218.
[7] G Calabresi & A D Melamed, Property Rules, Liability Rules, and Inalienability: One View of the Cathedral. 85 Harvard Law Review 1972, pp. 1089–1128.
[8] F E Kydland and E C Prescott, Rules Rather than Discretion: The Inconsistency of Optimal Plans, 85 Journal of Political Economy 1977, pp. 473–492.

2.1 Neighbour law rules

There are different types of legal sanctions available against the person who violates his neighbours' rights. A sanction that will typically be imposed is compensation as an award of damages. Another possibility is to claim physical restitution, in order to achieve a form of material protection of the violated right. This is normally the type of solution that serves the aggrieved party best, due to difficulties in proving a financial loss (as a claim for compensation requires).

Is it possible to derive general principles for these types of situations based on case law and public policy? Can the rules about restitution in Grannelova (Act on legal relations between neighbours) be seen an expression of a more general rule that can be applied in a non-statutory manner?

In terms of neighbour law, Grannelova §§ 10 and 11 provides the opportunity to claim physical restitution where either some sort of activity, or else a building, is illegal according to neighbour law (breaching any of the sections in §§ 2–5). From this starting point there are then two exceptions; first, exceptions that can only be made as a consequence of compensation being awarded (§ 10 second paragraph and § 11), and second, exceptions that can be made regardless of any award of compensation (§ 10 first paragraph). The first form of exception is primarily based on a cost benefit analysis of performing the restitution. The cost benefit analysis is based on the one party's expenses and losses, on one side, versus the other party's benefits, on the other. If there is a clear mismatch between these interests, exceptions can be made.

As an absolute condition, the neighbour cannot have been in culpa prior to the conflict. The wording in the law itself implies a rather strict threshold, but this varies a little in case law.

If exception is to be made, the aggravated party succeeds in its remuneration claim. This sum is assessed by the court based on principles of what seems reasonable and fair. The assessment is, unlike tort law, not limited to a financial loss. This means that the assessment can also be based on future loss, or on other conditions, such as both parties' conduct.

2.2 Servitude law rules

There are similarities between the situations regulated by neighbour law and violations of negative servitudes, where the landowner has exceeded the land burden of the property and thereby violated the purpose of the servitude. In servitudes law, the same considerations apply as in neighbour law, and the system of sanctioning therefore has a resemblance (note: there is a specific court, "Jordskifteretten", with expertise in the field that handles these cases, not the ordinary courts).[9] An illustrative case is *Rt. 2011* s. 228 *Naturbetong II*, concerning a claim regarding compensation for non-economic damage in § 17. The claim was based on the beneficiary's enrichment by violating the servitude. The Supreme Court stated that there is no need for a statutory rule to claim restitution, where a negative servitude has been violated.

2.3 From rules to principles – the Trollvassbu case

A very prominent and interesting case is *HR-2022-1119-A Trollvassbu*. Here, the parties were not neighbours, but instead a landowner claiming against the owner of a cabin on the parcel of land that belonged to the landowner. The owner of the cabin had built it pursuant to agreement with the state, which was thought to own the land at that time. However, uncertainty prevailed about who owned the land in the area. Later, the conclusion was reached that the land belonged to a local farmer, who sued the cabin owner and claimed eviction and ownership of the cabin, since it was built on his land.

The Supreme Court considered whether Grannelova § 11 or lov om hendelege eigedomshøve (Act on accidentally commingled property) § 8 should be applied. The Court summarised the sources of law in section 44. While § 8, which allocated the cabin ownership to the farmer, applies directly to the case, neither the preparatory works of lov om hendelege eigedomshøve or Grannelova restrict/prevent the possibility of applying § 11, which would uphold the original cabin owner's rights conditional upon generous compensation, even though it primarily regulates a different situation. Due to the legal and political justification of § 11, the court decided that the rule can equally apply to this case. Because of this, it can be argued that the rule should have a wider area of application.

In this particular case, the rules are interpreted in a particularly purpose-oriented way – based on what appears to be reasonable and fair with regards to the result. The assessments authorized by the regulations are based on considerations of fairness and reasonableness.

Could this case be an indication that the rules, as expressed in Grannelova, apply more as *established principles* than as individual rules? One can question whether legal practice is based on analogical inferences, or whether it is a case of applying more independent non-statutory legal principles. It can be argued that one should see the application of the law as a generalization from the solution in Grannelova. Other case law substantiates this, see for example *RG-1974-38*, *RG-1992-601* and *RG-2007-1432*.

It is reasonable to see the rules in Grannelova as an expression of more established principles that exist as "*common law*", rather than

[9] Regulations of change and replacement of servitudes in servituttlova (Act on servitudes) §§ 5–8.

as narrow rules that can only be applied if the situation is directly regulated by neighbour law. This is particularly evident in the assessment of remuneration, which is based on considerations of reasonableness and fairness.

3. The Fosen case

In the Fosen case, the Supreme Court declared the permissions to install and operate wind turbines on land with reindeer grazing rights, granted by the Norsk Vassdrags- og Energidirektorat, void (being a licence to build, own and operate windmills and a right to expropriate grazing rights). This implies that the relevant legal entity (Aneo, in Fosen North) does not have the necessary permissions to carry on operating the windmills. From a perspective based on neighbour law, as discussed above, this means that the windmills stand on foreign land (compare Grannelova § 11).

If there was a question of restitution in this case, could the principles in neighbour law be suitable for solving the conflict? If so, how would the outlined principles translate into unwritten law? If applicable, the question of physical restitution will depend on which of the parties has a predominance of interests and whether Fosen Vind was in culpa or not.

First, let us look at the problem from the perspective of Fosen Vind. Physical restitution will imply extensive expenses, loss of both expected income and also of expenses incurred with building the windmills. It can be questioned whether this interest is equally worthy of protection if the owner of the initiative is granted the right to bring compensation claims against the state, so that their personal loss is reduced. Is the state more likely to carry the responsibility due to the permissions being granted in the form of an official permit?

Another question is to what extent Fosen Vind had been in culpa. In cases where a party has obtained the necessary permission to carry out a type of activity, there is rarely any form of guilt arising from the party conforming to a public decision. Although it should be noted that in this case, the company was met with strong protests (the demonstrations). This could play a role in the measurement of compensation.

Next, let us look at the problem from the perspective of the Sami right holders. In a perspective based on law of property, grazing rights are a form of right of use. These types of rights normally have a weaker protection than the property right itself. The right of grazing is, however, protected by the right to cultural practice, which is an important normative value and right for indigenous peoples (see especially reinbeiteloven (Act on reindeer grazing) § 1 and Grunnloven (Basic Law) § 108). This right is protected from interference through the International Covenant on Civil and Political Rights (ICCPR) article 27. Note that there is no room for a balancing of interests when deciding whether there is a breach or not of article 27 (HR-2021-1975-S section 124).

This does not, however, mean that the possibility of applying a balancing of interests is simultaneously cut off, when the impact of the human rights violation is assessed. Even if the permissions given in the case are a breach of article 27, the question remains, what are the legal effects of this? Relevant rules include: ICCPR article 2 (3) a: the person whose rights has been violated shall have an "effective remedy". And also UN Human Rights Committee (HRC) on "effective remedy" in General Comment No. 31 on The Nature of the General Legal Obligation Imposed on States Parties to the Covenant (2004). According to paragraph 15 of the General Comment "cessation of an ongoing violation is an essential element of the right to an effective remedy." In other words, it is crucial that the violation of human rights ends. Furthermore, according to paragraph 16: "article 2, paragraph 3,

requires that States Parties make reparation to individuals whose Covenant rights have been violated". The human rights committee does not say anything about which specific measures are meant by "make reparation".

In the case *Poma Poma v. Peru* (Communication No. 1457/2006), the UN Human Rights Committee states that ICCPR article 2 (3) (a) entails that "the State party is required to provide the author an effective remedy and reparation measures that are commensurate with the harm sustained". In other words, the State must provide effective remedies and reparative measures that are proportionate to the damage that has occurred.

Based on international law, a proportionality assessment should be undertaken when deciding on which measures should be taken to mitigate the human rights' violation. When assessing which types of reparative measures one is obliged to undertake, there are two cases that are relevant in particular.

First, in the *Chorzow factory* case (Germany v. Poland, PCIJ, Collection of judgments, Series A. no. 9, July 26 (1927) s. 47–48), it is stated that "reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed". Second, in the *Pulp Mills* case (Argentina v. Uruguay, ICJ Judgment of 20 April 2010), it is stated that "[w]here restitution is materially impossible or involves a burden out of all proportion to the benefit deriving from it, reparation takes the form of compensation or satisfaction, or even both."

If the rules of international law are to be taken into account, international law practice and statements from HRC show that the question is based, to a large extent, on the same principles as those used in the balancing of interests in neighbour law. Thus, there is not really a contradiction between private law principles and remedies in public international law.

Allow us to emphasise: Based on private law principles, the threshold limits defining unlawfulness, that ideally should be estimated upfront (*ex ante*), take on another form and structure than the sanctioning rules, that are applied later in time (*ex post*). This crucial distinction is also in operation under the international law that is to be respected in Fosen. Thus, even under this international law, the two wind farms already installed and in operation, may continue without physical restoration, but then contingent on generous monetary compensation. See also the International Law Commission's Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries (2001) Article 35, combined with note (11), emphasizing equity and reasonableness, closely resembling Norwegian property law, as described above.

However, international law operates with an aggravating requirement for there to be a "disproportionality", by using "a burden out of all proportion" or "materially impossible" as a threshold. This means that the question in the Fosen case is whether a question of restitution constitutes a burden out of all proportion, or whether instead it is materially impossible.

4. Reflections

The rule that we have both outlined and suggested for application, equally in the Fosen case, is that the remedy for violating reindeer grazing rights should be damages rather than an injunction, provided an *ex post* cost benefit analysis (CBA) is clearly or extremely in favour of the investor, and also that monetary compensation is generous, compared to traditional tort law principles. Our reflection concerns the CBA inherent in the rule, on the one hand, and the economic function of the damages remedy, on the other.

Regardless of which qualification require-

ment is used based on national law it is the interests of the parties that are the central starting point for the analysis. Because of the protection of Sami right holders given by the ICCPR article 27, it can be questioned whether a cost benefit analysis is both applicable and legitimate. The problem is that CBA is inspired by utilitarianism as a moral philosophical model. This type of analysis assumes that it is possible to address all interests within the analysis. It can be argued that there must be a limit to which rights are suspended in accordance with a CBA. Rights protected by the ICCPR article 27 could be an example of those kinds of rights. This type of moral philosophy has its roots within natural law.

Another challenge in using CBA to determine the best solution, is that not every interest can be easily compared. A fundamental problem in law is that there can be a difference in valuation. This applies particularly to qualitative differences between what is being compared, otherwise known as incommensurability. The solution in Grannelova is to compensate the violated part if he or she does not have preponderance of interests. However, the interests that are being evaluated are the losses to one party (that easily can be calculated to a financial amount) versus the benefits to the other party (which often are not related to a specific amount of money).

Would it be possible to measure a satisfactory compensation for suspending the grazing rights in the Fosen case? This raises further and even harder questions: How much is the Sami people's grazing rights, and thereby their right to enjoy their own culture, worth? Would it be possible to give such a generous amount of compensation that this right can be suspended? Indigenous people's right to enjoy their own culture is a crucial part of the Sami's rights as a minority group. ICCPR article 27 could be seen as a limit to rights that could be suspended as a result of a cost benefit analysis, in the sense that they are non-negotiable. A kind of idea that deontic considerations must trump economic ones.

In an environmental perspective, however, our rule appears to be a reasonable way to solve the conflict, as it might yield both a more sustainable utilization of resources and also a solution that would avoid wasting resources. With generous damages to the reindeer herders, our rule might benefit both parties without harming outsiders, i.e. be viewed as approximately Pareto improving.[10] By measuring damages generously, this could even contribute to the commercial viability of the herding, and thus eliminate the human rights violation.[11]

5. Conclusion

To conclude, the case for injunctive relief for the Sami families is not clear – either under property principles, or under international law principles for physical restitution claims. However, this assumes that the investor has not exercised "culpa" *ex ante*, and that the investor is liable to provide generous monetary compensation ("vederlagserstatning"). We hope that the parties in Fosen North are negotiating in good faith in the shadow of this rule.[12]

[10] Louis Kaplow and Steven Shavell, Fairness versus welfare. London: Harvard University Press, 2002.

[11] The parties in Fosen South that have now settled, agree that the human rights violation has been eliminated. New grazeland has been offered, as well as monetary compensation of 175 million NOK.

[12] As mentioned, the parties in Fosen South has, as announced on Dec. 18th 2023, settled the conflict, thus eliminating the human rights violation there.

Navigating the Unknown: Novel Technologies in Finnish Environmental Adjudication*

*Tellervo Ala-Lahti***

Abstract

The Industrial Emissions Directive (IED) has had a limited impact on technological advancements and contributed only modestly to emissions reduction. Against this background it is posited that the adoption of multiple flexible legal instruments is imperative to stimulate the use of novel technologies across firms and sectors. Through a review of court rulings, this study seeks to elucidate the evaluative role undertaken by the Finnish Supreme Administrative Court (SAC) in enhancing the legal standing of novel technologies. An inquiry is made into whether there exist legal prerequisites that could guide the courts towards adopting a more flexible stance concerning environmental quality norms, with the potential to elevate the legal status of novel technologies in the assessment of the legal grounds for the granting of environmental permits. Furthermore, the study scrutinizes the role of the precautionary principle, addressing local environmental risks and scientific uncertainties in the legal interpretation of the SAC. The findings underscore the limited discretion of the SAC of Finland, confined to legality reviews pertaining solely to local environmental impacts. This constraint necessitates the exploration of alternative processes aimed at mitigating uncertainty related to novel technologies.

Keywords: Industrial Emissions Directive; novel technologies; Best Available Technique; precautionary principle; Finnish Supreme Administrative Court

1. Introduction

The European Industrial Strategies propose that the adoption of novel industrial technologies can catalyse a transition of European industry towards a sustainable, greener, and more efficient economy, with a heightened digital dimension.[1] This transformation is envisioned to enhance Europe's industrial competitiveness in global markets, aligning with the objectives of the European Green Deal.[2] The Industrial Emission Directive (IED)[3], as part of the European Union's secondary environmental law, regulates over 52,000 high-emission installations engaged in highly polluting industrial activities,

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[1] Communication from the Commission, COM(2020) 102 final, 'A New Industrial Strategy for Europe', (2020), pp. 4–3, 7, 15; Communication from the Commission, COM(2021) 350 final, 'Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery', pp. 17, 19; Communication from the Commission, A Green Deal Industrial Plan for the Net-Zero Age, COM(2023) 62 final, pp. 1–4, 6.

[2] COM(2020) 102 final, p. 2, 6–10, 12–14; COM(2021) 350 final, pp. 2, 5, 16–20.

[3] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), OJ L 334, 17.12.2010, pp. 17–119. (IED)

encompassing power plants, refineries, waste treatment and incineration, metal production, cement manufacturing, glass production, chemical processing, pulp and paper production, food and drink processing, as well as the intensive rearing of pigs and poultry.[4] Furthermore, an installation subject to the IED may engage in multiple IED activities simultaneously, such as both cement production and waste co-incineration.[5]

The IED establishes a comprehensive permitting and control framework across Member States, targeting on-site reduction in air, water, and soil pollution, with the overall goal of safeguarding human health and the environment.[6] However, with regard to greenhouse gas emissions, when emissions of a greenhouse gas from an installation are specified within the European emission trading scheme[7] for an activity conducted in that installation, the permit shall abstain from specifying an emission limit value for direct emissions of that gas, unless it is necessary to prevent significant local pollution.[8] Moreover, the permit shall refrain from imposing obligations related to energy efficiency for units emitting carbon dioxide on the site.[9]

Given the substantial role that novel technologies play in the industrial green transformation as per EU policy, the Best Available Technique (BAT) conclusions, governed by the EU's IED have fallen short of optimal effectiveness in facilitating the adoption of novel technologies within industrial facilities.[10] The BAT conclusions encompass a range of achievable emission levels associated with the application of the best available techniques (BAT-AELs).[11] The defined range of emission level values (ELVs) in the basis of BAT-AELs are used by national environmental permit authorities to make binding determinations of ELVs for individual industrial installations. Industrial operators are required to achieve the determined ELVs when operating an installation that requires an environmental permit under the IED.[12] Article 21 of the IED, implemented in Section 80 of the Finnish Environmental Protection Act, rules that when new or updated BAT conclusions are approved for an industry sector, the permit conditions of previously issued environmental permits must be reviewed within four years if they do not align with the current BAT conclusions.[13] Emerging or novel technologies can only be incorporated into the BAT conclusions when the conclusions are revised by initiating a new European Integrated Pollution Prevention and Control Bureau

[4] COM(2022) 156 final/3, 2022/0104 (COD), Proposal for a Directive of the European Parliament and of the Council amending Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste, p. 3.

[5] Ibid.

[6] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), OJ L 334, 17.12.2010, 17–119. (IED) (2010/75/EU), preamble (2), (3) and (29), article 1 (Subject matter).

[7] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, OJ L 275, 25.10.2003, pp. 32–46, Annex I.

[8] IED (2010/75/EU), art. 9(1).

[9] Ibid. art. 9(2).

[10] COM(2022) 156 final/2, 2022/0104 (COD), p. 28, preamble (24); Commission Staff Working Document SWD(2022,) 'on reporting of environmental data from industrial installations and establishing an Industrial Emissions Portal', (2022) 111 final PART 1/5, 5 April 2022, p. 11.

[11] IED (2010/75/EU), art. 3(13) defines BAT-AELs as "*[…] the range of emission levels obtained under normal operating conditions using a best available technique or a combination of best available techniques, as described in BAT conclusions, expressed as an average over a given period of time, under specified reference conditions*."

[12] IED (2010/17/EU), recital 12, art. 3(5) and art. 30.

[13] See, Stepanoff, Maaret, 'BAT-päätelmien sitovuus uuden ympäristönsuojelulain mukaisesti – Katsaus' Ympäristöpolitiikan ja –oikeuden vuosikirja 2016, p. 291.

in Seville (Sevilla process), which constitutes an exchange of information among EU Member States, environmental NGOs, the European Commission, and representatives of European industry. In the Sevilla process, the stakeholders form Technical working Groups and aim to define new BATs and their incorporation into the reference documents on Best Available Techniques (BREFs).[14]

The inadequacy of incentives within the IED to promote the adoption of novel technologies within existing industrial sites arises primarily from the infrequent updates to the BAT conclusions.[15] The situation tends to encourage the persistent utilisation of existing technological practices, proven through practical implementation on industrial sites, for an extended period of up to a decade, rather than fostering the adoption of novel technologies.[16] In addition, the legislative process for creating BAT conclusions (Sevilla process) prioritises the implementation of existing cost-effective solutions over incentivising the adoption of novel technologies (which are not yet cost-efficient), and thus BAT-AELs are not predicated on factors such as national emission targets or the collective operational range of all current installations.[17]

The identification of BAT methods and levels is predominantly established at the EU level, but the permitting authority retains the discretion to refine specifications at the local level and, ultimately, verify that the BAT level outlined in BAT conclusions aligns with the permit conditions for the activity in question.[18] The legal uncertainty surrounding the use of the novel technologies at industrial sites arises when the environmental authority or administrative court seeks to evaluate the adequacy of the technology in light of the BAT conclusions, but the conclusions are not directly applicable to the proposed novel technology. In such cases, the absence of robust standards complicates the assessment of the environmental impacts of novel technologies.[19][20] In the context of environmental permit procedures, an additional complicating factor is the obligation for operators to furnish supporting evidence that substantiates the adequacy of their proposed technological solutions, aligning with all relevant environmental norms applicable in the specific case.[21] Such evidence stands as a prerequisite for permit issuance, necessitating proactive environmental impact assessment.[22]

This can be a time and resource-intensive process. In addition, even if a novel technology were in use in one industrial sector, its application in a different sector requires extensive data analysis to assess potential risks (to the local environment).[23] Such analysis can be complex, further burdening operators and potentially hindering the adoption of innovative solutions.[24]

Although the BAT conclusions serve as a guide for selecting technology, in environmental permitting the focus of the procedure lies primarily on the environmental impacts of the

[14] European Industrial Production Information Exchange, The Sevilla Process <https://eipie.eu/the-sevilla-process/>; See also, IED (2010/17/EU), art. 13 (BAT reference documents and exchange of information).
[15] SWD, 111 final PART 1/5, p. 11.
[16] Ibid.
[17] IED (2010/17/EU), art. 1(10) and (14).
[18] Stepanoff 2016, p. 291.
[19] Dellise, Marie et al., 'Challenges in Assessing Best Available Techniques (BATs) Compliance in the Absence of Industrial Sectoral Reference' 263 Journal of cleaner production 121474 (2020), p. 3–4, 7–8; Cikankowitz, A., 'Using BAT Performance as an Evaluation Method of Techniques' (2013) 42 Journal of cleaner production 141, pp. 143–145.
[20] Giner-Santonja et al. (2020), p. 837.
[21] Ibid.
[22] Act on the Environmental Impact Assessment Procedure, Section 3, 14 and Chapter 4 (Taking environmental impact assessment into account in the permit procedure and permit).
[23] See, Section 2.2 of this article about Petrol Station cases.
[24] Ibid.

installation rather than the specific technologies employed.[25] In this regard, article 18 of the IED anticipates a connection with ambient environmental quality standards, e.g. those established under the Water Framework Directive (WFD)[26], and explicitly mandates that "additional measures shall be included in the permit" when adherence to an environmental quality standard requires locally stricter conditions than those attainable through the use of BAT techniques. The European Commission's evaluation of IED's efficiency has revealed challenges faced by permitting authorities in applying Article 18 of the IED to impose more stringent ELVs than those required by BAT conclusions to meet environmental quality standards that stem from other environmental norms.[27] This is due to the lack of clarity regarding the definition of 'stricter conditions' beyond those attainable through BAT conclusions, including the specification of 'additional measures' required for permits to adhere to environmental quality standards.[28] This ambiguity has resulted in divergent interpretations when establishing permit conditions in Member States.[29]

The integration of the EU's IED into Finnish national law occurred as part of a comprehensive amendment of environmental legislation, with a crucial aspect being the transformation of BAT conclusions into a legally binding component.[30] In order to understand how the BAT conclusions affect the introduction of novel technologies when permitting new industrial installations, one needs to consider how the BAT conclusions are interpreted around technologies whose adequacy cannot be assessed in the light of BAT conclusions. This article studies the role of the Supreme Administrative Court of Finland (SAC) in establishing legal clarity in permitting procedures regarding the use of new technologies in industrial sites. Thus, it will delve into how the Finnish SAC has interpreted the role of novel technologies when there has been a risk of violation of other environmental quality standards, necessitating the inclusion of additional measures in the permit.

Against this background, the article will aim to answer the following question:

1. Could the prevailing interpretation practices of the Finnish Supreme Administrative Court concerning precaution, substantial pollution (indicative of other environmental quality standards), and Best Available Technique conclusions have a positive impact on fostering the adoption of novel technologies within industrial sites?

The following sets the scene for a complex interplay of the strict interpretation of the precautionary principle, together with other environmental norms, and the promotion of the use of novel technologies in industrial processes.

[25] See, Environmental Protection Act (527/2014) (EPA), Section 27 (General permit requirement) and Section 49 (Conditions for granting a permit).

[26] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, OJ L 327, 22.12.2000, pp. 1–73.

[27] SWD(2022) 111 final, PART 2/5, pp. 175–176.

[28] Ibid.

[29] Ibid.

[30] Government Proposal to the Parliament for the Environmental Protection Act and Amendments to Certain Related Laws, HE 214/2013 vp., p. 1; Puheloinen, Eeva-Maija et al., Teollisuuden päästödirektiivin (IED) voimaansaattaminen ja muita ympäristönsuojelulain kehittämisajatuksia, Ympäristöministeriön raportteja 6/2011, pp. 33–35.

2. Novel Technologies in Finnish Environmental Adjudication – Case Study

In the context of Finnish jurisprudence, the courts have an extensive range of information regarding the varied impacts of an industrial project at their disposal. Particularly in cases pertaining to the Finnish Environmental Protection Act (527/2014) (EPA) or the Water Act (587/2011), the composition of the court chamber encompasses not solely judges versed in legal matters, but also judges with specialised expertise.[31] These expert judges are distinct from their legal counterparts and possess technical or scientific qualifications rather than formal legal training.[32] In light of this, one may consider whether expert judges could provide more explicit evaluations of technologies with innovative potential in the courts, establishing legal references for specific novel technologies instead of relying solely on technological development on the basis of BAT conclusions.

Rather than assessing the potential innovation effects of the chosen technology, the legal evaluation focuses on addressing uncertainties in the context of environmental risks. The precautionary principle guides the interpretation of courts and enables the evaluation of environmental and human health risks that are prohibited under environmental regulations, along with the associated scientific uncertainty regarding their materialisation.[33] In other words, the principle empowers the court to assess these risks and uncertainties for the environment and human health effectively. The precautionary principle is particularly applicable in areas where scientific evidence is inconclusive or contested by experts, and a preliminary and objective scientific risk assessment raises justifiable concern that a substance, production process, or product may pose a threat to human health or the environment.[34]

The precautionary principle and the due care principle are featured prominently in the Finnish EPA, Section 20, being foundational principles of Finnish Environmental Law that guide the assessment and granting of permits. In accordance with these principles, activities with the potential to cause environmental contamination are required to be conducted with due care and precaution. This entails considering factors such as the probability of pollution, the risk of accidents, and the measures available for accident prevention and mitigation. In the Finnish tradition, the precautionary principle has been pivotal in the most complex cases, particularly when dealing with significant uncertainties related to long-term and cumulative impacts of major industrial sites, where the SAC has relied explicitly on the precautionary principle in conjunction with relevant legal norms.[35] The most famous environmental law case from Finland, the Finnpulp case, represents one of these complex cases, based on a skillful intertwining of factual examination with the legal aspects of

[31] Paloniitty, Tiina et al., 'Scientific and Legal Mechanisms for Addressing Model Uncertainties: Negotiating the Right Balance in Finnish Judicial Review?' Journal of Environmental Law, Volume 33, Issue 2, (2021), p. 293.

[32] Ibid.; See also, Paloniitty, Tiina et al., 'Securing Scientific Understanding: Expert Judges in Finnish Environmental Administrative Judicial Review' 27(4) EEELR 125 (2018), pp. 1–5.

[33] See, Jalava, Kimmo et al., 'The precautionary principle and management of uncertainties in EIAs–analysis of waste incineration cases in Finland: Impact Assessment and Project Appraisal' 31(4) (2013), p. 281.

[34] Communication from the Commission, 'on the precautionary principle', COM(2000) 1 final, pp. 3, 17–20; European Political Strategy Centre (Strategic Notes) 'Towards an Innovation Principle Endorsed by Better Regulation', Issue 14 (2016), p. 3.

[35] Paloniitty, Tiina et al., 'The EU Nature Conservation Law in Finnish Judicial Review: Various Avenues, Coalescing Case Law?' In M. Eliantonio, E. Lees, & T. Paloniitty (Eds.),'EU Environmental Principles and Scientific Uncertainty before National Courts – The Case of the Habitats Directive' Hart publishing (2023), pp. 223–224.

the precautionary principle and the crucial notion of 'significant pollution',[36] interpreted together with more specific environmental quality norms.[37]

The cases addressed in this chapter have in common that the operators, in their permit applications, had asserted that the technologies they employed could prevent the manifestation of environmental impacts prohibited by environmental standards. Environmental legal cases commonly share the characteristic that the facts under consideration are oriented towards the future (ex post evaluations), as the evidentiary basis for assessing risk relies heavily on scientific knowledge, used to predict the prospective environmental impacts of activities. The subsequent analysis explores how the SAC of Finland has interpreted scientific uncertainty in cases where operators have sought to minimise risk by implementing new technical solutions.

2.1 Decoding the Finnpulp Case

In the Finnpulp case, Finnpulp Oy was refused an environmental permit by the SAC due to the potential for wastewater discharges from the bioproduct mill to cause significant pollution, as prohibited under Section 49 of the EPA.[38] The SAC determined that the key issue to be resolved was whether the conditions for granting an environmental permit, especially concerning the water impacts of the operation, had been fulfilled. The legal essence of the decision hinged on the ecological status of the water body, compliance with EU legal obligations, the application of the precautionary principle, and a comprehensive assessment of the operation's entire lifetime, including the associated risk of pollution.[39] Notably, the SAC observed that, as established in the Weser case by the European Court of Justice (CJEU),[40] the EU's WFD has become legally binding for individual installations and projects, making it a source of normativity for industrial operators.[41]

In the Finnpulp case, the SAC emphasized that in assessing compliance with the obligations derived from the EU's WFD, the norms established in the Weser case must be considered. These norms relate to non-deterioration and the achievement of a good status for water bodies.[42] In the Weser case, the interpretation of Article 4(1)(a)(i) of the WFD was elucidated. Under the article, Member States are obligated to undertake measures to prevent the deterioration of the status of all bodies of surface water, in the implementation of the programmes of measures outlined in river basin management plans for surface waters.[43] One of the questions in the Weser case was whether the term 'deterioration of the status' in Article 4(1)(a)(i) of WFD should be construed as encompassing solely adverse alterations leading to the reclassification of the body of surface water into a lower class according to Annex V to the directive (the status classes theory).[44] In answering the question, the CJEU's interpretation was that the 'deterioration of the status' of a body of surface water occurs immediately when the condition of at least one quali-

[36] EPA (527/2014), Section 49 (Conditions for granting a permit).
[37] Paloniitty, Tiina et al. (2021), pp. 301–302.
[38] (SAC:2019:166), Finnpulp case, under heading 2.3 The framing of the question and the starting points for permit consideration and 2.4 Legal assessment and outcome; See also, Belinskij, Antti et al., 'KHO:n Finnpulp-päätös (KHO 2019:166) ohjaa sopeutuvampaan lupien muuttamiseen ja yhteisvaikutusten hallintaan'. Edilex 2020, p. 1.
[39] (SAC:2019:166), under heading 2.3 and 2.4.
[40] CJEU (C-461/13), Bund für Umwelt und Naturschutz Deutschland e.V. v. Federal Republic of Germany; the Weser judgment) delivered by the Court of Justice of the European Union on 1 July 2015.
[41] Paloniitty et al. (2021), pp. 302–303.
[42] Ibid., pp. 291–292, 302.
[43] CJEU (C-461/13), n 52.
[44] Ibid.

tative factor specified in Annex V of the WFD worsens by one class. Importantly, this deterioration triggers the criterion even if it does not result in an overall reduction in the class of the entire body of surface water.[45] Therefore, national authorities could not grant a permit for an activity that would cause significant deterioration in the quality of surface water under the WFD: this interpretation was followed by the SAC in the Finnpulp case.[46] In line with the CJEU's interpretation, the SAC ruled that, according to Section 49(2) of the EPA, significant pollution or the risk of it is considered to be a substantial additional load in a water body that results in an overall impact leading to the deterioration of the state or any qualitative factor of the body of surface water.

The Finnpulp ruling marked a significant development, as it delved into intricate aspects of water models in a manner unprecedented in previous Finnish cases.[47] The inadequacy of the predictive capacities within environmental models are particularly apparent in cases where there exists a risk of non-compliance with the quality standards stipulated in the European Union's WFD.[48] Thus, one of the reasons that the SAC denied a permit in the Finnpulp case was lack of evidence on the environmental effects of the installation on the basis of the environmental models used.[49] The hydrodynamic and water quality model evaluating the plant's effects on the lake underwent thorough examination, with its appropriateness for inland lake conditions being challenged due to technical simplifications. Criticism was also directed at the oxygen modeling, which overestimated organic matter decomposition. Consequently, the Court's conclusion rested on the presence of uncertainties in water impact assessment, resulting in the withholding of approval.[50]

The strict interpretation of the WFD, guided by the precautionary principle, led to the dismissal of the permit for Finnpulp Oy, while the assessment of proposed technologies was based on BAT conclusions rather than their innovative potential. The SAC determined that the previously granted and contested permit included conditions established by the regional administrative authority and specified by the administrative court, allowing emission levels based on the BATs.[51] Therefore, the court did not address the potential of the technologies used, which the operator could develop further to obtain the environmental permit, but relied on the fact that BAT conclusions specified all cost-effective purification technologies available that were suitable for wastewater treatment in the bioproduct mill. Thus, even if emission-restricting permit conditions were designed to comply with the requirements of BAT, the permit was not granted because the emissions from the activity into the water bodies caused a risk of 'significant pollution'.[52]

2.1.1 Legislative Hurdles and Environmental Permitting Rigidity: The Impact of Repealing Section 71 of the Environmental Protection Act

Another reason for the lack of a flexible approach on permit granting in the Finnpulp case, by the majority of the SAC's judges, is a legislative amendment that had gone wrong in terms of streamlining the granting of environmental

[45] CJEU (C-461/13), n. 52, 55, 59.
[46] (SAC:2019:166), under heading 2.3.
[47] Paloniitty et al. (2021), p. 295; (SAC:2019:166), under heading 2.2. Evidence obtained in the matter.
[48] Paloniitty et al. (2021), pp. 290–293.
[49] (SAC:2019:166), under heading 2.4.
[50] Ibid.
[51] Ibid.
[52] (SAC:2019:166), under heading 2.3.

permits.[53] Within the context of environmental law in Finland, the trend has been towards streamlining regulations to avoid unnecessary regulatory costs and undue bureaucracy for businesses and citizens.[54] As a result, Section 71 of the EPA, according to which environmental permits could include provisions for the review of permit conditions at specified intervals, was repealed in 2015. In accordance with the now-repealed Section 71, environmental permits could have contained conditions for obligating a comprehensive re-evaluation of the entire operation's prerequisites, specifying the deadline for the operator to submit a review application to the permitting authority.[55] Before the amendment took place, the provision for revising a permit was predominantly applied to environmental permits granted by the state authority.[56]

The review procedure, previously governed by Section 71, has been replaced by Section 89 of the EPA. Under the new provision, the supervisory authority is tasked with monitoring the emergence of grounds for permit modification as part of routine and other supervision. Contrary to the former Section 71, the responsibility for permit review no longer falls upon the operator through permit conditions; instead, initiation is contingent on proposals from designated entities, subject to meeting the conditions stipulated in Section 89. According to Section 89, initiation of a permit review is possible only if proposed by the operator, supervisory authority, relevant public interest supervisory authority, affected party, or the registered association or foundation specified in Section 186 of the EPA.[57] Furthermore, to facilitate permit review, compliance with one of the specified conditions (1–5) in Section 89 is imperative. Among these conditions is the requirement that the permit authority shall amend the permit if "emissions may be substantially reduced without undue cost due to advances in best available techniques", indicating the cost-efficiency requirement for updates of existing permits under BAT conclusions.[58]

In the Finnpulp case, the Supreme Administrative Court referred precisely to the removal of Section 71 from the Environmental Protection Act in 2015. It contended that the current legislation does not adequately facilitate the modification of permit conditions even if these conditions would be subsequently found to be ineffective in preventing environmental contamination.[59] Thus, the amendment made it more difficult for permit authorities and courts to take a flexible approach to permit granting. In addition, the SAC evaluated in the Finnpulp case that Section 54 (Regulation concerning a specific account) of the EPA is restrictive: according to the section, an environmental permit may include a condition mandating that the operator provide a detailed assessment on environmental pollution or the risk thereof resulting from the operation, but only if detailed information on emissions, waste, or the effects of the operation could not be provided for the permit evaluation at the first place. Therefore, the obligation to provide information cannot be invoked if all the information to be investigated must be available to the permitting

[53] The amendment to the Environmental Protection Act (423/2015), which took effect on the 1st of May 2015, and the corresponding amendment to the Mining Act (424/2015), effective from the 1st of July 2015; Government Proposal to Parliament for the Amendment of the Environmental Protection Act (HE 257/2014 vp.), pp. 45–46.

[54] (HE 257/2014 vp.), pp. 13–27; Belinskij, Antti et al., (2020), pp. 2–4.

[55] (HE 257/2014 vp.), p. 45.

[56] Puska, Anne 'Ympäristölupamääräysten tarkistamisesta luopumisen vaikutukset – Viranomaishaastattelujen tulokset' Publications of the Ministry of Environment 2019:10, p. 9.

[57] Ibid.

[58] EPA (527/2014), Section 89(3).

[59] (SAC:2019:166), under heading 2.4.

authority for the consideration of granting the permit or for issuing key permit conditions.[60]

Finally, SAC noted that the provisions of Sections 89, 93, and 80 of the EPA concerning changes to the environmental permit, revocation of the environmental permit, and the impact of BAT conclusions on permit conditions are not sufficient to ensure that continued operation for decades does not result in significant pollution. Therefore, Finnpulp could potentially have obtained an environmental permit if the post-approval modification process within the Finnish EPA had been more flexible than the current approach.[61]

2.1.2 Debating Flexibility: Dissenting Views on the Interpretation

In contrast, the dissenting judges contended that a more flexible interpretation (which might have had a positive impact on the implementation of novel technologies) was also plausible considering the current provisions of the EPA, since permit conditions necessitating investigations and reevaluations were still possible. Notably, the voting statement of environmental expert Harri Koivusalo, supported by legal counselor Mika Seppälä, emphasised that environmental permit-required activities include continuous monitoring of the BATs.[62] The dissenting judgement would have amended the administrative court's decision by adding three permit conditions and amending one of them due to complaints, but otherwise would have largely dismissed the complaints.[63]

In the dissenting judge's perspective, firstly, it was argued that the Regional State Administrative Agency had, in its decision to grant the environmental permit, established emission limits adequately in accordance with the requirements of BAT conclusions. However, in the original permit decision, the emission limits had been specified as daily and monthly averages, whereas the European Commission had approved, through its implementing decision (2014/687/EU)[64], the BAT conclusions to produce pulp, paper, and board under IED, stating that emission limit values for pulp mills should be set as specific emission limit values in yearly average (kg/ADt).[65] That is why the dissenting judge, Koivusalo, would have adjusted the emission limit values to align with the implementing decision by adding permit condition 2a.[66]

Notably, the dissenting judgement highlighted that after the commencement of operations, it was still possible to further improve the environmental protection solutions and efficiency of the bioproduct mill, considering the process's unique characteristics and chosen technical solutions, which were not directly related to the conclusions on the BATs. Therefore, Koivusalo would have instilled greater confidence in the technologies employed by Finnpulp Oy and in the operator's capacity to mitigate the environmental pollution risk stemming from wastewater emissions through advancement in technologies. The development in emissions would have been monitored by technical-economic reports:

[60] Ibid.

[61] Ibid.

[62] (SAC:2019:166), Voting statement, under heading 2.5. Permit conditions.

[63] Ibid. *In Koivusalo's opinion, the permit conditions shall be amended by including provisions 2 a, 49 a, and 49 b. In addition, permit provision 51 shall be amended*.

[64] Commission Implementing Decision of 26 September 2014 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of pulp, paper and board (notified under document C(2014) 6750), OJ L 284, 30.9.2014, p. 95, Table 1 (BAT-associated emission levels for the direct waste water discharge to receiving waters from a bleached kraft pulp mill).

[65] (SAC:2019:166), Voting statement, under heading 2.5.

[66] Ibid.

Koivusalo would have added a permit condition requiring the permit holder to present a technical and economic report addressing the reduction of cooling water thermal load, enhancing water efficiency, and recycling, by January 1, 2024, with a follow-up in 2029, in addition to the technical and economic report on measures to reduce emissions specified in permit condition 2 by 30 percent, in which the calculations would have been based on the actual emissions from the operation. Such an interpretation would encourage the operator to adopt better technological solutions, but only within the bounds of cost-effectiveness.

Koivusalo's interpretation of WFD stipulated that the ecological quality objective for water bodies is to achieve at least a 'good' status. If the status of water bodies does not meet this objective, it is necessary, among other measures, to periodically review permits that affect the status of those waters. Koivusalo concluded that the provisions of the Finnish EPA were partly deficient in implementing the obligations of the WFD, because of the specific requirements for permit modifications set forth in Section 89.[67] Still, within the dissenting judgement, he argued, that Section 54 of the EPA – which is primarily intended for obtaining detailed additional information and should not be broadly used to review key provisions of the permit – could be interpreted such that, if necessary, it allows for significant restrictions on wastewater emissions to ensure that the goals of the WFD are met.[68] In this context, Koivusalo referred to the potential variation in the share of background and internal loading by the Finnpulp bioproduct mill affecting the ecological status of Kallavesi, which might deviate from the expected level at the time of permit issuance. Thus, Koivusalo recognized the scientific uncertainties associated with the case, aligning with the final decision, but he adopted a flexible interpretation of Section 54 of the EPA, diverging from the stance taken by the majority of the judges. Consequently, Koivusalo's interpretation of the case would rely on scientific evidence considering the development of technological solutions together with detailed permit conditions, allowing more flexibility and continuous learning in managing environmental risks.

Further, Koivusalo expressed concerns about the majority's perspective on the unreliability of environmental models and their suitability for predicting impacts on the water system, in accordance with the interpretation of the 'non-deterioration' established in the Weser case.[69] Koivusalo emphasised that while the models and impact assessments had limitations and uncertainties, a comparative analysis had been used to assess the impacts of the Finnpulp Oy's bioproduct mill's emissions against the existing state of the lake. Koivusalo further noted that the Finnish Environment Institute, acting as an expert authority, had issued an opinion to the Regional State Administrative Agency regarding the impacts of wastewater discharges from a bioproduct mill.[70] According to this opinion,

[67] Ibid.
[68] Ibid.

[69] Ibid. *Koivusalo further mentioned that the emission limit values set in the permit should be based on the best available techniques (BAT) as defined in the EU directive. He discussed the need to ensure that emission limits aligned with BAT and that the standards set in the permit did not exceed those established by the relevant directives.*

[70] Aluehallintovirasto Itä-Suomi 'Kuopion biotuotetehtaan ympäristölupa ja toiminnanaloittamislupa sekä vesitalouslupa ja valmistelulupa' Päätös nr. 14/2017/1, Dnr. ISAVI/1171/2016, p. 101 (284). *The impacts of wastewater were assessed using four well-established and purpose-appropriate models. Two of these models are tools for calculating the dispersion of the effluent plume and are utilised for the calculation of initial dilution in the immediate vicinity of the discharge point. Additionally, calculations of wastewater transport on the scale of the entire Kallavesi water system were conducted using two different models. The effects of the load*

the modeling presented in the application has been carried out using well-established and suitable modeling tools. Koivusalo's assessment of the models, water quality data, and potential impacts led him to the conclusion that the activities related to the Finnpulp bioproduct mill would not have caused 'significant pollution' as referred to in section 49 (2) of the EPA, or other adverse environmental effects prohibited by the EPA or the EU WFD.[71]

2.2 The Burdensome Burden of Proof of Environmental Impacts in Petrol Station cases

A series of the SAC's cases (between 2002 and 2021[72]) referred to here as the 'petrol station' cases, involved old petrol stations located in important groundwater areas.[73] What these cases had in common was that the court's evaluation focused on the adequacy of technical protective measures in relation to the prohibition of groundwater pollution as stipulated in Section 17 of the Finnish EPA.[74] The SAC has emphasised the importance of preventing fuel from entering the soil and groundwater from petrol stations located in a groundwater area, which is in some cases crucial for municipal water supply.

In 2002, the SAC noted that the aim is to prevent groundwater contamination by using the best available technology and most environmentally sound protective measures[75], and reinstated the permit conditions set out by the environmental board in the original permit, which the administrative court had revoked in its previous decision.[76] According to the conditions, in addition to the distribution area of the groundwater, a tight plastic film must be installed under the fuel tanks in a way that allows the resulting basin to be emptied (permit condition 5) and there must be a direct alarm connection from the fuel tank level monitoring system to a continuously manned control room (permit condition 6).[77] However, in 2010 the SAC no longer considered the BAT compliance of the technologies to be sufficient, if the risk and uncertainties of groundwater pollution, prohibited under section 17 of the EPA, were present. Consequently, nowadays adherence to the BAT conclusions does not

on the water system were computed for two three-year periods, one representing the average or 'normal' water situation (2007–2009) and the other depicting a dry water situation (2009–2011).

[71] (SAC:2019:166), Voting statement, under heading 2.4. Conditions for granting the permit.

[72] (SAC:2002:36); (SAC 11.02.2003/294); (SAC:2010:28); (SAC:2011:37); (SAC:2015:45); (SAC: 2020:13); (SAC:2021:34).

[73] *The delineation of groundwater areas involves defining boundaries and recharge areas. Exceptionally, a groundwater area can also be point-shaped. These areas are classified into categories for water abstraction purposes: as important for water supply (Class 1), suitable for other water abstraction (Class 2), and those groundwater areas where a surface water or land ecosystem, protected under nature conservation or other legislation, is directly dependent on the groundwater (Class E). If a Class 1 or 2 area is additionally associated with a surface water or land ecosystem directly dependent on the groundwater, an additional E designation is used (1E or 2E).* Britschgi, Ritva et al. 'Pohjavesialueet – opas määrittämiseen, luokitukseen ja suojelusuunnitelmien laadintaan' Ympäristöhallinnon ohjeita 3/2018, p. 127.

[74] Section 17 of the EPA: "*Substances or micro-organisms shall not be deposited at, or discharged to, or energy conducted to a site, or these shall not be handled in such a way, that: 1) in groundwater areas important to water supply or otherwise suitable for such use, a change in groundwater quality may cause hazard or harm to health or the environment or groundwater quality may otherwise materially deteriorate; 2) a change in the quality of groundwater on the property of another may cause hazard or harm to health or the environment, or the groundwater is rendered unfit for its intended use; or 3) the action may otherwise cause an infringement of the public or private interest by affecting the quality of groundwater (prohibition against groundwater pollution). Further provisions may be issued by government decree on substances hazardous to health and the environment referred to in subsection 1, where the direct or indirect release into groundwater is prohibited.*"

[75] (SAC:2002:36), under heading The judgment of the Supreme Administrative Court, the reasoning.

[76] (SAC:2002:36), under heading The judgement of the Administrative Court and The judgment of the Supreme Administrative Court.

[77] (SAC:2002:36), preamble.

justify deviating from the absolute prohibition against groundwater pollution when conducting activities.[78] According to the SAC, the prohibition of groundwater contamination includes a prohibition on causing danger, and the activity does not have to cause concrete pollution to be in violation of the prohibition on groundwater contamination.[79] Thus, locating a fuel distribution station in a significant groundwater area is not possible without exceptional reasons under which the risk of groundwater contamination is sufficiently ruled out.[80]

Therefore, since 2010, the SAC has emphasized the importance of preventing any hydraulic connection between the station and groundwater. Since then, the permit applicants have supplemented their applications with more comprehensive investigations on the technologies used, but permits were still denied because the chosen locations were environmentally unsuitable.[81] For example, in 2011, an operating petrol station was located in a significant groundwater area without a prior environmental permit.[82] The case involved a new environmental permit assessment, treating the case as if it were the placement of a new petrol station in the area.[83] The SAC acknowledged that a sufficiently thick and impermeable clay layer above the groundwater level could support permit issuance. However, the pressure of the groundwater at approximately 2.5 meters below the surface increased the risk of contamination. Additionally, the thickness of the clay layer near the tank area was below two meters.[84] Given the soil and groundwater conditions, the permit application did not provide sufficiently effective protection techniques to prevent groundwater contamination in terms of the significance of the groundwater occurrence and the associated risk.[85]

In the petrol station cases, the SAC has emphasised the need to consider factors such as the risk of accidents and the sensitivity of the area affected by the operation to environmental pollution, following the requirements of the precautionary and due care principles.[86] In addition, from 2015 onwards, the risks posed by petrol stations located in groundwater areas began to be assessed in the light of legislative changes, specifically the environmental protection requirements for liquid fuel distribution stations, which came into force on June 1, 2010, through the Government Decree on Environmental Protection Requirements for Liquid Fuel Distribution Stations (decree 444/2010), as well as the updated standard SFS 3352 for the distribution of flammable liquids, which was confirmed on February 17, 2014.[87] Under Section 135 of the Act on the Safety of Handling Dangerous Chemicals and Explosives (3.6.2005/390), the Safety and Chemicals Agency (Tukes) publishes a list of standards (including SFS 3352) that, when followed, are considered to fulfil the requirements of sections issued under that law.

In the case of 2015, the distribution station

[78] (SAC:2010:28), under heading Legal Assessment. Cf., (SAC:2011:37), (SAC:2015:45), (SAC: 2020:13), (SAC:2021:34).
[79] Ibid.
[80] Ibid.
[81] (SAC:2010:28), (SAC:2011:37), (SAC:2015:45), (SAC: 2020:13).
[82] (SAC:2011:37), preamble.
[83] Ibid.
[84] (SAC:2011:37), under heading 2. Investigation Concerning the Fuel Distribution Station and Groundwater Area and 3.2. Granting Conditions for Environmental Permit.
[85] Ibid., under heading 3. Legal Assessment and 3.1. Applicant's Obligation to Provide Information.
[86] (SAC:2010:28), under heading 1.2. Conditions for Granting Environmental Permit; (SAC:2011:37), under heading 1. Applicable Legal Provisions and Legislative Proposals; (SAC:2020:13), under heading Applicable Legal Provisions; (SAC:2021:34), under heading Applicable Legal Provisions.
[87] (SAC:2015:45), preamble.

was situated on a significant Class I groundwater area, on the edge of the actual groundwater formation area, and approximately 650 meters from the groundwater extraction point.[88] In its resolution, the SAC noted that according to Section 5(2) of the decree (444/2010), devices and structural components intended for the handling and storage of liquid fuels must comply with the requirements of standard SFS 3352 for distribution stations and their equipment or other equivalent requirements. However, the decree (444/2010) does not aim to ease the conditions for granting a permit under the EPA, noting that, according to Section 4 of the decree, the distribution station must be located in accordance with the requirements set out in the EPA.[89] Notably, given current knowledge in the field of geotechnics, the SAC's evaluation was that compliance with the requirements of standard SFS 3352 or equivalent standards for protective solutions do not automatically eliminate the risk of groundwater contamination in a groundwater area, and adherence to the technology outlined in the standard does not guarantee that a distribution station can be located in a groundwater area under the EPA.[90] In the case, the risk of groundwater contamination was increased by the distribution station's location on the edge of the groundwater formation area and the soil's highly water-conductive quality. The exceptional situations, where fuel spills might travel outside the protected distribution station area, and the resulting risk of groundwater contamination, had not been adequately assessed with regard to the conditions of the location of the operation and its surroundings.[91] On these grounds, the SAC rejected the operator's complaint and did not grant an environmental permit for the petrol station.

Consequently, according to the SAC, when evaluating the risk of groundwater contamination caused by a petrol station situated in a groundwater area, attention must be paid to the adequacy of the technical protective measures of the petrol station and the corresponding risk assessment in light of all applicable environmental protection norms, indicating the location choice of the petrol station, besides the hydrogeological and other conditions of the groundwater area. The higher the risk for the groundwater area[92], the more advanced the monitoring and security technologies should be to be able to manage the risk.[93] Crucially, the SAC has consistently upheld that a violation of the restriction on groundwater pollution (EPA 17 §) can occur even if there is only an indirect risk to groundwater, rendering the technical efficacy irrelevant if the groundwater pollution prohibition is potentially breached.

The petrol station cases demonstrate the gradual development of decision-making over adequate monitoring technology and security measures concerning the risk of ground water pollution under the EPA. Despite repeated improvement in risk analysis and technical solutions, the lack of location-specific data concerning risks to the most vulnerable groundwater areas has led to permit refusal in all petrol station cases between the years 2003–2020. One of the major reasons for permit denial was the locations chosen, which were environmentally unsuitable under EPA, Section 11 (Site selection). According to Section 11, the environmental permit assessment shall consider the nature of the operation and the likelihood of pollution.

[88] Ibid.
[89] (SAC:2015:45), under heading Legal Assessment.
[90] Ibid.
[91] Ibid.
[92] See, Government Decree on Water Resources Management (the section is added 10.11.2016/929), 8 c § (Classification of the groundwater area to class E).
[93] See, (SAC 2021:34), 4.4 Conditions for Granting Environmental Permit.

The placement of petrol stations in groundwater areas requires, from this starting point, a case-specific legal evaluation.[94]

However, in 2021, the SAC changed the judgement of the first instance and granted a permit for a petrol station in an E1 groundwater area[95], noting that the current legislation had not been deemed to establish an absolute impediment to the placement of petrol stations in groundwater areas, but only an absolute prohibition against groundwater pollution.[96] The court considered the risk of groundwater contamination by assessing the station's location, groundwater flow direction, and soil conditions, which the operator had investigated thoroughly. The SAC explicitly assessed whether the technologies used were sufficient for granting a permit for a petrol station in an E1 ground water area. More specifically, the matter at hand revolved around whether the permit applicant had presented sufficient evidence to deem the risk of groundwater contamination so low that the conditions for granting an environmental permit for the distribution station had been met, considering the specified permit requirements.[97]

In 2021, the permit application by Neste Oy included a comprehensive, site-specific risk assessment which concluded that the local geological conditions (including the soil layer and groundwater depth) offered a significant buffer against groundwater pollution. Therefore, the assessment by the SAC concerning the proposed techniques was carried out, but only because the operator had demonstrated that the natural conditions of the station's location were in line with the requirements stipulated in the EPA's Section 11.[98] While acknowledging the potential risks, the court concluded that the proposed protective measures, including advanced technological solutions and monitoring reduced the risk to a very low level.[99] However, the SAC recognised that the soil had been previously contaminated with oil hydrocarbons, but the depth of the groundwater, about 22 meters below the surface, reduced the immediate risk of contamination. Since Neste Oy had provided comprehensive technical and structural measures for the protection of groundwater, which partly exceeded the levels of protection required by the distribution station standard SFS 3352, the SAC altered the decision of the Vaasa Administrative Court.[100] The SAC granted the permit and considered that, overall, the evidence supporting the environmental permit decision has been deemed sufficient.

All in all, the SAC's decisions have amplified the primacy of the absolute ban on groundwater pollution of important groundwater areas in uncertain circumstances, precisely the requirement set out in EPA 11 § and 17 §. In 2021, environmental permit was granted only after the location was found to be correct under EPA 11 § and the operator was able to provide a comprehensive on-site analysis on environmental

[94] (SAC:2011:37); under heading 3.2 Conditions for Granting Environmental Permit.

[95] About 1E classification, see footnote (142).

[96] (SAC:2021:34), under heading 4. Legal Assessment, 4.1 Assessment Foundations; See also (SAC 2010:28), (SAC:2011:37), and (SAC:2015:45) on placement of the installation.

[97] (SAC:2021:34), under heading 4.1; cf. (SAC:2010:28), (SAC:2011:37) and (SAC:2015:45).

[98] (SAC:2021:34), *The site of the petrol station, while being in a 1E-class groundwater area, is on the edge of the area. The groundwater flows from the station's site to the edge of the classified groundwater area, rather than to the core of the groundwater area. Moreover, the closest water intake plant is 3.4 km to the northwest and does not have a hydrological connection to the station*.

[99] SAC:2021:34, under heading 4.1, 4.2. Assessment of the Location and Hydrogeological Conditions of the Distribution Station Site and Area, 4.3. Assessment of the Technical Protective Measures and Accident Risk of the Distribution Station.

[100] SAC:2021:34, under heading 4.4 Conditions for Granting Environmental Permit.

conditions of the area and groundwater protection solutions, besides technological solutions to avoid accidents and to minimise the risk of unlawful pollution. However, in the 2021 case, the dissenting judge argued that based on the presented evidence, the risk of contamination of the groundwater formation area cannot be sufficiently minimized with the proposed measures under the existing hydrogeological conditions.[101] Hence, she would have invoked the precautionary principle, as in her opinion, the evidence presented did not provide assurance that the petrol station would not present a risk of groundwater contamination, as prohibited by Section 17 of the EPA.[102] Consequently, the dissenting judge would have continued the strict interpretation practise of the SAC regarding the inadequacy of technical solutions, despite the better location of the petrol station.

2.3 BAT Compliance and Future Prospects: Insights from the BASF Battery materials Finland Oy Case

In the BASF Oy case, the SAC of Finland assessed a complaint from BASF Battery Materials Finland Oy regarding an environmental permit for an electric vehicle battery material factory.[103] The court dismissed the company's request for an inspection and rejected the complaint. The case demonstrates the challenges of meeting the requirements of BAT conclusions regarding the best available techniques and the emission limits they entail, especially when the entire industrial sector is novel. The SAC, in its assessment of Battery Oy's permit application, analysed the installation's location regarding its impact on the groundwater area as it did in the Petrol Station cases. The geographical orientation of the project traversed the groundwater formation area, the transition zone, and the exterior of the groundwater area, necessitating a comprehensive evaluation of the hydrogeological implications. Legal frameworks such as the EPA (17 § and 49 §), Water Management and Marine Strategy Act[104], and Environmental Administration Guidelines[105] stipulate the boundary delineations and protective measures for groundwater areas, which are typically characterised by high permeability soil layers and bordered by robust geological structures. These delineations, which are not subject to arbitrary redefinition, were instrumental in forming the Court's assessment. The Court considered the extensive soil-drilling data, highlighting the presence of variable soil layers across the project site, notably permeable sandy silt layers which pose a risk of water infiltration into the groundwater.[106]

Besides groundwater pollution, SAC considered environmental risks due to the proposed sulfate-rich wastewater discharge into the Kokemäenjoki River. Despite BASF Oy's claims of low risks, the court, prioritising the precautionary principle, found the evidence insufficient.[107]

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[101] SAC:2021:34, Voting judgement.

[102] Ibid.

[103] (SAC:2022:T19), Environmental Permit Case for the Battery Material Factory.

[104] *According to section 10c of the Act on the Organization of Water Management and Marine Administration, the Centre for Economic Development, Transport and the Environment (ELY) must amend the delimitation or classification of groundwater areas if essential information requires it. Thus, the boundaries of groundwater areas cannot be assessed on a case-by-case basis contrary to the definition by the ELY Centre.*

[105] 'Groundwater Areas – Guide to Determination, Classification and Planning of Protection' Environmental Administration Guidelines 3/2018.

[106] Ibid. *According to the guidelines, the boundary of the groundwater formation area indicates a highly permeable part of the groundwater area where the permeability of the soil is at least equal to that of fine sand. The outer boundary or the groundwater area is determined on hydrogeological grounds at a point where the groundwater area either borders on rock or where there are sufficiently tight soil layers that protect the groundwater on top of groundwater-conducting soil layers. Such layers include, for example, clay or silt layers that are over three meters thick.*

[107] (SAC:2022:T19), under heading Legal Assessment.

SAC suggests that due to the significant uncertainties regarding the effects of discharging sulfate-containing wastewater into the receiving water, there were insufficient grounds to grant a permit for such discharge under the conditions specified in the environmental permit decision of the regional state administrative agency. Thus, the potential negative effects of sulfate on the river's ecosystem, including the freshwater pearl mussel, were deemed to carry significant uncertainties. Moreover, the proposed wastewater treatment methods were judged to lack effectiveness or efficiency.[108]

The interesting part of the case is that in assessing the compliance of the proposed technology by BASF Battery Materials Finland Oy's in light of the BAT conclusions, the SAC noted that there was no explicit description of battery material production within any of the conclusions or BAT reference documents under the IED (2010/75/EU). Nevertheless, the SAC found that the proposed technologies could fall under BAT conclusions for wastewater and waste gas treatment in the chemical industry, non-ferrous metal production, and inorganic chemical manufacturing. These conclusions include methods for treating sulfate-containing wastewater, though these are typically less effective at the higher concentrations caused by the battery material factory.[109]

In an attempt to demonstrate the BAT compliance of the technologies selected, BASF Oy commissioned a report (Niras A/S report) on the non-ferrous metal (NFM) conclusions, assessing technologies for removing sulfates from wastewater.[110] According to the report, only reverse osmosis had been reported to affect sulfates, but there was no information on the effectiveness of the method in treating wastewater generated by the company's operations within Battery Factory. Within the planned processes, the technology would have consumed a lot of energy and led to the risk of highly concentrated wastewater that required further treatment.[111] Any proposed BAT technology was not found to be cost-efficient. Thus, the Nitra A/S report stated that there was no information on the effectiveness of the techniques (in the relevant BAT reference document) which could be applied to battery material production, and that the techniques mentioned also had environmental impacts as harmful as those of the technique that they were planning to use.[112]

The SAC acknowledged that even though there were no effective sulphate wastewater treatment methods in the BAT conclusions for battery material production, a review of the BAT requirements for inorganic chemical manufacturing is likely as the battery materials sector grows, and it may eventually encompass these activities.[113] In this regard, the case illustrates the extensive expertise required from the permit applicant if there are no BAT conclusions ap-

[108] (SAC:2022:T19) under heading 2.2.4 Best Available Technique.

[109] Ibid.

[110] Ibid. *According to the expert opinion provided by the Finnish Environment Institute, the production of battery materials has not been unequivocally described in any BAT reference document issued under the Industrial Emissions Directive (2010/75/EU) or in the related BAT conclusions confirmed by the Commission. However, BASF Oy's operations can be subject to the BAT conclusions for Chemical Waste and Waste Gas Treatment (CWW) from the chemical industry, as applicable, and also, as indicative references, to BAT conclusions for Non-Ferrous Metals Production (NFM) and BAT reference documents for Large Volume Inorganic Chemicals – Sulfuric Acid and Sulfuric Acid Anhydride (LVIC-S and SIC BAT). Information on sulfate-containing wastewater treatment techniques, such as chemical precipitation, clarification, filtration, ultrafiltration, activated carbon filtration, flotation, reverse osmosis, ion exchange, and biological treatment methods, is available from the CWW and NFM reference documents.*

[111] Ibid.

[112] Ibid.

[113] Ibid., under heading Reference documents and BAT conclusions related to the operation.

plicable to the novel industrial sector. The case further highlights the difficulty of implementing BAT technologies from other industrial sectors in different kinds of industrial processes, in this case as part of a battery material factory. Overall, the case underlines the challenging nature of assessing the BATs in practice, particularly when essential information is lacking, and scientific uncertainty regarding environmental impacts prevails.

2.4 Biosampo Technology: BAT Analysis in Intensive Livestock Farming

The Biosampo case, which was about the extension of a pig farm and the related odour nuisance, further underlines the complexities involved in evaluating technologies assessed under BAT conclusions together with other environmental quality norms.[114] The permitting authority had deemed that the handling of slurry using the Biosampo equipment represents the best available technology concerning farm-specific manure processing, but the Vaasa Administrative Court concluded that the Biosampo equipment, while not yet widely adopted, lacked information on the frequency of potential malfunctions.[115] In addition, there was insufficient evidence concerning the impact of slurry pit cooling on odor and its effectiveness under different conditions.[116]

Therefore, in this case, the Biosampo technology could not be used as a basis for permit granting since the risk of illegal odour nuisance could not be adequately assessed in the light of current data.[117] Although Biosampo could not be considered a novel technology in the sense that it would not have been found in any of the BAT documents[118], the Vaasa Administrative Court, had to assess whether the reduction of odour nuisances enabled by Biosampo technology could lead to the conditions for granting a permit by assessing whether the BioSampo technology could also be BAT in this particular case in terms of manure storage, besides reducing odour emissions in the manure application area.

In its evaluation of odour nuisance, the Vaasa Administrative Court considered the nature and scope of the operation, local conditions, the number of residential areas nearby, and the short distances to the nearest sensitive targets.[119] In these regards, the proposed location did not meet the requirements for site selection specified in Section 11 of the EPA.[120] The court anticipated that the proposed operation, as extended according to the application, would result in a significant reduction of general well-being due to odour and an unreasonable burden on the nearby residents as defined in Section 49 of the Finnish EPA.[121]

As a final instance, the SAC held that there was insufficient evidence to support Biosampo's efficacy, and thus the SAC did not find grounds to amend the decision of the Vaasa Administrative Court, which had declined the permit.[122] Compared to the decision of the Vaasa Administrative Court, the SAC further highlighted the need to assess the joint impact of separate ac-

[114] Vaasa Administrative Court 25.6.2019 n. 19/0311/3 and (SAC 13.8.2020/3394), Application for leave to appeal and appeal in an environmental permit case (livestock shelter, Seinäjoki).
[115] Vaasa Administrative Court 25.6.2019 n. 19/0311/3, under heading Legal Assessment and Conclusions.
[116] Ibid.
[117] Ibid., under heading Information Obtained in the Case.
[118] *Biosampo technology can be found from*: Giner Santonja, Germán et al., 'Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs' Industrial Emissions Directive 2010/75/EU (Integrated Pollution Prevention and Control), 2017.
[119] Vaasa Administrative Court 25.6.2019 n. 19/0311/3, under heading Legal Assessment and Conclusions.
[120] Ibid.
[121] Ibid.
[122] (SAC 13.8.2020/3394), Conditions for Granting the Environmental Permit.

tivities – namely other animal shelters – in the area which together constituted an unreasonable odour nuisance. Concerning the technical solutions, the court assessed that the technical solutions presented in the permit application could not be considered sufficient grounds for granting the permit, considering the challenging location of the expansion. The anticipated adverse effects of the planned operation could not be adequately prevented by the measures outlined in the application or the permit conditions.[123]

Consequently, the Biosampo technology was found unsuitable for solving the entire problem of odour nuisance caused by the expansion of the pig farm. Apart from the period when the sludge tanks were mixed, the pig farm would have caused as much odour nuisance as other animal shelters, since emptying the sludge shafts, in relation to manure storage, is the most odour-producing single operation that is repeated throughout the year. As in the Petrol Station cases, the location was a key factor in this case, as the planned pig farm did not meet the requirements for the choice of location provided in EPA 11 §. The Biosampo case is yet another example of how environmental impacts are the main focus of the administrative courts, while the technological means are evaluated individually in the light of BAT conclusions, but not in the light of their innovation potential.

3. The Need for Technology Testing Across Forums

3.1 Limited Discretion of the Supreme Administrative Court

Even though sustainable development is cited in Section 1 of the Finnish Environmental Protection Act, concerning the purpose of the Act, the court's discretion is limited to the fulfillment of the legal conditions for granting a permit, focusing on whether significant pollution, interpreted together with more specific environmental quality norms and environmental principles, is imminent. In other words, broader considerations like the overall sustainability effects of the operation or other values are excluded, and the prevention of significant pollution at the local level is a major determinant for how the issue of estimated environmental impacts and their uncertainty are interpreted in the courts.[124] Therefore, it is currently apparent that the discretionary powers conferred upon judges involve the examination of technological aspects in alignment with BAT conclusions, rather than including the assessment of emissions across the entire production chain. Thus, the evaluation of these technologies against their environmental impacts from the broader perspective of sustainable development is excluded. For this reason, we may well ask whether more flexible interpretation by the SAC could enhance the adaptation of technologies that are strategically important for the green transition.[125]

Nevertheless, the SAC's current interpretation aligns with the Finnish environmental quality norms, the current interpretation of the precautionary principle, and article 18 of the IED, suggesting that other adverse environmental or human health effects can be considered, and risk and uncertainties evaluated even though the technological choices of the installation would be in line with BAT conclusions.[126] Further, the cases that end up in the SAC are exceptionally complicated and require preliminary rulings that guide future legal interpretation in other authorities. A more flexible interpretation by the

[123] Ibid., under heading Legal Assessment.

[124] Paloniitty, Tiina et al., pp. 223–224.

[125] COM(2023) 62 final, p. 3.

[126] Commission Staff Working Document SWD(2020) 181 final 'Evaluation of the Industrial Emissions Directive (IED) Directive 2010/75/EU of the European Parliament and of the Council' Brussels (2020), p. 34.

SAC would provide guidance for the permit authorities and the administrative court of Vaasa, indicating that, in uncertain situations, even stringent environmental protection standards (such as the absolute ban on groundwater pollution) could be interpreted more flexibly to accommodate technological development.

Furthermore, it is noteworthy that expert judges may be constrained in exercising their expertise in circumstances characterised by substantial uncertainty due to the lack of comprehensive data for a thorough evaluation of local risks to the environment and human health. Therefore, it is justifiable, under the precautionary and due care principles, along with other environmental norms, not to grant a permit under inherently uncertain situations where the operator has not been able to provide all the data needed to assess the environmental risks and uncertainties therein effectively. It can be argued that the prevailing construal of the stance adopted by the SAC of Finland serves to genuinely endorse responsible novel technologies in relation to pollution at the local level. In this regard, it is imperative to recognise that pollution-prone industrial sites inherently entail risks and are frequently situated in proximity to valuable environmental resources, e.g., ground water areas, which are subject to legitimate protection under environmental regulations.

For these reasons, when scientific uncertainties are taken seriously, none of the installations represented in the cases should have received an environmental permit under current environmental legislation. However, examining the situation more broadly, the court's interpretation may appear to conflict with European industrial policy goals that aim for green and digital industrial transformation by enhancing innovation,[127] as the court cannot consider the "cradle to grave" life cycle impacts (encompassing raw material extraction, production, distribution, use, and end-of-life disposal or recycling) of industrial production and the innovation effects therein.[128] For instance, in the cases under scrutiny, the expansion of a pig farm, characterized by methane and ammonia emissions, and the life cycle emissions of a petrol station, as opposed to a battery material factory aimed at promoting electrification, may assume entirely different positions in a sustainability assessment that thoroughly integrates life cycle sustainability considerations.

3.2 Proposed Amendments to the Industrial Emissions Directive: Strategies for Minimizing Uncertainty associated with the use of Novel Technologies

Instead of promoting new technologies through the courts' flexible use of their power of interpretation, the uncertainty inherent to novel technologies could be minimised within (administrative) processes other than court procedures. In these procedures, the discretion can go beyond local environmental impacts. Unlike expert judges, the experts within the experimental procedures could conduct sustainability assessments beyond the assessment of local environmental impacts and incentivise the development of technologies to the technology readiness level (TRL)[129] which enables novel technologies to be incorporated into BAT conclusions, providing greater legal certainty in situations in which in-

[127] About EU's industrial policy plans, see footnote (1).

[128] See, Wulf, Christina et al., 'Review of Sustainability Assessment Approaches Based on Life Cycles' Sustainability 11(20), 5717, (2019), p. 1.

[129] *A novel technology can only become a candidate for BATs when it has gone through the path from research to deployment on the basis of the technology readiness level range, demanding a lot of testing. Before reaching high technology readiness, the legal status of the technologies remains highly uncertain*. See, Proposal for a Directive of the European Parliament and the Counsil (EC) 'amending Directive 2010/75/EU of the COM(2022) 156 final, 2022/0104 (COD), preamble (24).

dustrial projects would like to utilise those technologies.

In this regard, the Commission's proposal to amend the IED aims to implement tools for evaluating novel technologies. The proposal addressed the promotion of the testing and deployment of emerging techniques to improve their environmental performance by facilitating cooperation with researchers and industries in publicly funded research projects and establishing the Innovation Centre for Industrial Transformation and Emissions (INCITE).[130] INCITE would gather and analyse information on new approaches, particularly on emerging techniques relevant to IED activities, and characterise the TRL and environmental performance of the innovative technologies and techniques.[131] Additionally, the amendment of the Directive aims to encourage the adoption of innovative technologies and techniques by promptly revising BREFs when evidence indicates the availability of more effective innovative techniques.[132]

More generally, the amendment aims to accelerate the adoption of zero-pollution ambitions for a toxin-free environment, and support climate, energy, and circular economy policies, in line with the European Commission's zero pollution ambitions and industrial strategies.[133] Besides other objectives, these goals are meant to be met through expansion of the scope of the IED and enhanced permit effectiveness. The permit effectiveness is meant to be achieved by, e.g., ruling competent permit authorities to set emission limit values at the lowest end of the relevant BAT-AEL range, unless the operator can demonstrate that applying BAT as outlined in BAT conclusions only allows for meeting less strict limit values. In addition, according to the proposal, derogations should not be granted if they pose a risk to compliance with (other) environmental quality standards.[134] In this context, the proposal also underlines that Section 18 of the IED should be construed and implemented by the Member State laws such that the term 'environmental quality standards' encompasses the requirements specified in Union law, including EU legislation on air or water, which may require the permit to include specific additional measures besides BAT-based emission level values.[135]

Furthermore, there are several potentially highly polluting activities that do not currently fall within the scope of IED, including intensive farming (cattle farms, mixed livestock farms, and aquaculture), mining/quarrying industries,[136] upstream oil and gas industries (extraction),[137] and large-scale battery production (including industrial manufacturing of automotive, electric vehicle, and portable batteries).[138] The incorporation of the large-scale installations for the production of batteries into IED is primarily due to anticipation of a substantial increase in the amount of large-scale battery manufacturing for electric vehicles within the Union up to 2040, thereby augmenting the Union's share of global

[130] COM(2022) 156 final/3, 2022/0104 (COD) pp. 13, 15, 16, 30, 43, 55, 57, 59, 64. See INCITE ibid., pp. 56, 60, 67 and New Chapter II on 'promoting innovation', Article 27(a).
[131] Ibid., p. 28.
[132] Ibid., p. 4.
[133] SWD(2022) 111 final PART 2/5, Strasbourg, 5.4.2022, pp. 71–72.
[134] COM(2022) 156 final/3, 2022/0104 (COD), p. 18.
[135] Ibid., p. 19.
[136] *These are currently regulated by Directive 2006/21/EC on the management of waste from the extractive industries and within the scope of the E-PRTR Regulation (European Commission) No 166/2006 (activity 3a).*
[137] *These are currently subject to BAT Guidance Document on upstream hydrocarbon exploration and production which is voluntary to follow.*
[138] Scarbrough, Tim et al., 'Assessment of options for the revision of the Industrial Emissions Directive – Final Report', European Commission publication, Ref: ED 13995, Issue number 1.8, December 2021, pp. 27–28.

battery production.[139] The inclusion is expected to improve the overall sustainability of batteries and minimise their environmental impact throughout their life cycle.[140] Therefore, besides large-scale battery production, the amendments to Annex I entail the inclusion of the extraction of industrial and metallic minerals, necessary for the manufacturing of certain novel technologies, within the scope of the IED.[141]

3.3 Navigating Trade-Offs: The European Commission's Proposal for the Net-Zero Industry Act and Critical Raw Material Act

In contrast to the stricter environmental requirements stipulated by the IED amendment, the European Commission has also proposed regulation amendments which indicate trade-offs between local environmental protection and climate change adaptation through technological progress. Therefore, the rapid growth in demand for batteries has created tension between local environmental protection norms (environmental quality norms) and the need for new industrial installations that promote the electrification of societies and the transition away from a fossil-based economy. In response, the Commission has proposed a Net-Zero Industry Act[142] aimed at establishing a simplified regulatory framework for the production capacity of crucial climate-neutral technologies like batteries, wind turbines, heat pumps, solar panels, electrolysers, and carbon capture and storage technologies.[143] The aim of the proposed Net-Zero Industry Act is to ensure that the production capacity of the strategic net-zero technologies listed in the Annex will have reached or almost reached the reference value by 2030. This reference value shows that the production of technologies in the EU should be at least 40 percent of the annual deployment needs of the corresponding technologies needed to achieve the Union's climate and energy goals for the year 2030.[144]

In line with its Net-Zero Industry Act ambitions, the Commission has proposed an Act to ensure the EU's access to a secure and sustainable supply of critical raw materials (Critical Raw Material Act)[145], designed to enhance Europe's resilience and preparedness by mitigating vulnerabilities within the supply chain of critical raw materials needed for the manufacturing of strategic Net-Zero technologies and Chips.[146] Regarding the supply chain vulnerabilities thus identified, the submissions received have underscored several structural deficiencies that impede the progress of extractive industries in undertaking projects within the European Union.[147]

One of the main means to achieve the goals of the presented regulation amendments is the simplification of permit requirements for 'stra-

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[139] COM(2022) 156 final/3, 2022/0104 (COD), preamble (5). *It is acknowledged that battery compound production (i.e., chemicals) is already covered within the IED's present scope, along with battery disposal and recovery*.

[140] Ibid.

[141] Ibid. pp. 20–21, 34. *According to the proposal 'industrial minerals' means minerals used in industry for the production of semi-finished or finished products, with the exception of metalliferous ores, energy minerals, construction minerals and precious stones*.

[142] Proposal for a Regulation of the European Parliament and of the Council on 'establishing a framework of measures for strengthening Europe's net-zero technology products manufacturing ecosystem (Net Zero Industry Act)', COM(2023) 161 final, 2023/0081 (COD), Brussels, 16.3.2023.

[143] COM(2023) 62 final, p. 3.

[144] COM(2023) 161 final, 2023/0081 (COD), art. 1(2) and Annex.

[145] Proposal for a Regulation of the European Parliament and of the Council on 'establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) 168/2013, (EU) 2018/858, 2018/1724 and (EU) 2019/1020' COM(2023) 160 final, 2023/0079 (COD), Brussels, 16.3.2023.

[146] Ibid., pp. 7, 9. *The Act guarantees that manufacturers of pivotal technologies endorsed in the Chips Act, or the Net-Zero Industry Act can depend on a stable and sustainable provision of critical raw materials*.

[147] Ibid., p. 9.

tegic projects', which are promoting the manufacturing of strategic net-zero technologies or (more sustainable) access to the critical raw materials. Despite the overall goal of not compromising the level of environmental protection, both regulation proposals encompass binding time limits for permit processes[148] and the intent to enable the application of the exception provisions of some directives in pursuit of the public interest,[149] including exceptions articles in the WFD (art. 4(7)), Habitats Directive (Articles 6(4) and 16(1))[150], and Directive on Conservation of wild birds (Article 9(1)(a))[151], and a reassessment of their applicability.[152] This includes expanding the definition of "public interest" to incorporate net-zero technologies and the extraction of critical raw materials.[153] Consequently, the proposals indicate that in a detailed evaluation of individual cases, a responsible permitting authority may determine that the project's contribution to the public interest outweighs concerns related to nature and environmental protection when all of the requirements of the introduced exception articles are met.[154]

The proposals may indeed alter the position of the strategic projects in relation to local environmental impacts in the environmental permit evaluation, with the hope of promoting the adoption of these technologies. This serves as a prominent illustration of the trade-offs that have been made in pursuit of the enhancement of novel technologies in the service of the electrification of European energy production.[155] However, the exception articles of the above-mentioned directives are formulated strictly, and they only allow deviations from quality norms in precisely defined situations.

4. Conclusions

The Finnish Supreme Administrative Court's discretion is limited to a legality review focused on local environmental impacts, excluding broader considerations of sustainability and innovation effects. Considering the limited discretion, based on Best Available Technique conclusions for technologies and various environmental quality standards for environmental impacts, along with the prohibition of "significant pollution" under the Environmental Protection Act, it is challenging to argue that interpretation within these confines could promote novel technologies in industrial sites.

Nevertheless, the flexible interpretation of environmental norms is not the sole means to promote industrial innovations; alongside this, various experimental processes tailored to industrial entities have emerged. In these processes, such as INCITE's identification of emerging technologies, technological innovations can be developed collaboratively with regulatory authorities. It is crucial to advance various technologies to the highest readiness level possible before initiating the permitting process. Otherwise, scientific uncertainty regarding the impacts of the technology may remain too significant, potentially leading to the denial of the permit.

148 COM(2023) 161 final, 2023/0081 (COD), art. 6, art. 13; COM(2023) 160 final, 2023/0079 (COD) art. 10, art. 11.
149 COM(2023) 161 final, 2023/0081 (COD) (Proposal for Net-Zero Industry Act), preamble 51, art. 12(3); COM(2023) 160 final, 2023/0079 (COD) (Critical Raw Material Act), preamble 19, art. 7.
150 Council Directive 92/43/EEC Of 21 May 1992 on the Conservation of Natural Habitats and Of Wild Fauna and Flora (OJ L 206, 22.7.1992, p. 7–50).
151 Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ L 20, 26.1.2010, p. 7–25).
152 Proposal for Net-Zero Industry Act, preamble 51, art. 12(3); Proposal for Critical Raw Material Act, preamble 19, art. 7.
153 Proposal for Net-Zero Industry Act, art. 12(3); Proposal Critical Raw Material Act, art. 7.
154 Ibid.
155 Ibid.

In considering incentives for the adoption of new industrial technologies, it is crucial to focus on the bigger picture and contemplate how to strike a balance between local environmental protection and the adoption of technologies with sustainability benefits. The introduction of these technologies still involves numerous scientific uncertainties that need to be addressed. The role of environmental permitting authorities or the courts does not encompass assessing the sustainability benefits of the novel technology (including the benefits in terms of combating climate change) in relation to local environmental impacts, but instead focus specifically on local environmental impacts alone. Nevertheless, the European Commission has proposed regulations for strategic projects concerning the extraction of critical raw materials and the manufacturing of net-zero technologies. This may, in the future, facilitate and expedite the permitting of these industrial projects, thereby promoting the scalability of specific industrial innovations with sustainability benefits.

However, it is crucial to acknowledge that the existing legal framework offers insufficient incentives for existing polluting industries to invest in advancing their operations to facilitate the industrial green transition. This limitation arises from the restricted opportunities to amend outdated permits to align with all environmental quality standards, beyond those based solely on BAT conclusions, in a cost-efficient manner. Simultaneously, first-time permit applicants are obligated to adhere to more rigorous requirements in accordance with all existing environmental quality standards emanating from various environmental legislations. In the context of a sustainable transition that emphasizes local environmental hazards under the precautionary principle, it is imperative to explore avenues that ensure that existing industrial facilities persist in effectively mitigating their on-site environmental impacts.

One objective to rule them all: Swedish wolf hunting under the legal-epistemic framework of the Habitats Directive

*Mar Ouro-Ortmark**

Abstract

This paper assesses the tensions between the legal-epistemic framework created by the Habitats Directive and its national implementation into preexistent legal paradigms. To this end, the illustrative case of the 2023 Swedish wolf hunt is analyzed under the lens of the Habitats Directive and the Tapiola case, since an infringement proceeding has been ongoing for over twelve years and numerous scholars have been critical towards the compatibility of these policies with EU law. Conclusions point towards the importance of proper EU legal transpositions, which cannot consist in a piecemeal approach where key epistemic paradigms, generally entrenched in the objectives of the law, are disregarded for the sake of avoiding controversy. If not, environmental international instruments run the risk of being circumvented, and species protection of being overshadowed by prior, arguably outdated laws in the face of a global biodiversity crisis.

Keywords: Biodiversity conservation, large carnivore conservation, epistemology, Habitats Directive, Tapiola case, wolf hunting

1. Introduction

The wolf is a strictly protected species in most Member States of the EU according to the Habitats Directive.[1] However, the same Directive has given differing results in countries with apparently similar legal systems. This dichotomy between shared legal landscapes and diverging material realities, points towards the importance of the transposing process of EU law when it crosses national boundaries. It is in the interface between these two levels, where critical nuances (mostly epistemological) trickle down or get lost in the confluence.

In this sense, I intend to analyze the 2023 Swedish wolf license hunt under the lens of this filtering process, therefore shedding some light on the grey zone of (un)transposed legal-epistemological frameworks, defined in section 1.1.1. In order to do this, the *Tapiola* case[2] offers a good starting point because it addresses tolerance hunting policies, i.e. allowing the killing of a protected species to increase public support for its conservation. Since this reasoning lies behind the hunting policies of both cases, I intend to analyze the capacity of the Directive, when read under the light of the *Tapiola* case, to frame hunting policies inside legal boundaries that are informed by sound ecological knowledge. In doing so, I explore the tensions arisen in the episte-

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[1] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora OJ L206/7 (hereafter Habitats Directive or HD).

[2] C-674/17 *Luonnonsuojeluyhdistys Tapiola* [2019] ECLI:EU:C:2019:851.

mological transposition of the Habitats Directive into the Swedish legislation with regards to the Swedish wolf.

1.1 The importance of diverging ontologies

Nature is a concept subject to varying meanings, where the boundaries between humans and wildlife are being diminished in the face of the Anthropocene.[3] Meanwhile, biodiversity conservation initiatives are deploying a broad set of ideas where law is being used as a way to drive systemic change. Indeed, species protection legislation is being enacted to abate the anthropogenic global biodiversity crisis, deemed as the Sixth global mass extinction.[4] However, these regulations[5] are being put in the place of existing legal systems with different understandings of what nature is or ought to be, hereinafter referred to as ontologies[6], and tensions have come up when the time has come to decide what is to be protected as nature.

A good example of conflicting conceptualizations of nature can be seen in large carnivore conservation: while natural sciences have demonstrated the importance of apex predators for the health of ecosystems,[7] this has collided with the idea of nature held by some communities. This is the case, for example, of Sweden, where hunters consider large carnivores as competitors for game species and a threat towards hunting traditions.[8] However, the EU counts on a single Directive to rule on biodiversity conservation for all 27 Member States, and the meaning given to biodiversity, and to Nature by extension, is set in a rather clear and unambiguous manner.

While the Habitats Directive interprets biodiversity as something worth protecting sometimes even beyond certain traditions,[9] some Member States have tried to harmonize this paradigm with that of a more old-fashioned, anthropocentric, understanding of wildlife. Though this harmonization has been successful in some instances, large carnivores have stood as a reminder of the frictions between old ontologies and new ones.[10] Meanwhile, biodiversity is declining at an unprecedented rate, and measures enacted require a shift in mindset which is not happening at the same speed everywhere, even less in those countries recently recolonized by controversial species such as the wolf. To illustrate this example, while Italy counts on 3300 wolves and does not even allow wolf hunting to protect livestock,[11] Sweden has barely 419 wolves and allows, on top of other types of lethal management, hunting quotas of up to 75 wolves for the year 2023.[12] If we consider that the Scandinavian countries have traditionally been es-

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[3] Telmo Pievani, 'The Sixth Mass Extinction: Anthropocene and the Human Impact on Biodiversity' (2014) 25 Rendiconti Lincei 85.

[4] Ibid.

[5] Habitats Directive (n. 1); Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds OJ L20/7.

[6] Johanna Parikka Altenstedt, 'Vargens plats: Gynnsam bevarandestatus lokalt, nationellt eller i hela EU?' (Master thesis, Örebro University 2020) <diva2:1458184> accessed January 1 2024 (Swedish) 4.

[7] Andrés Ordiz and others, 'Effects of Human Disturbance on Terrestrial Apex Predators' (2021) 13 Diversity 68.

[8] Ilpo Kojola and others, 'Can Only Poorer European Countries Afford Large Carnivores?' (2018) 13 PLOS ONE e0194711 <https://doi.org/10.1371/journal.pone.0194711> accessed January 1 2024.

[9] C-10-96 *LRBPO and AVES v Région Wallonne* [1996] ECR I-06775, Opinion of AG Fennelly, para. 36; C-900/19 *Association One Voice and Ligue pour la protection des oiseaux* [2021] ECLI:EU:2021:211, para. 44.

[10] *See* Mari Pohja-Mykra, 'Felony or act of justice? Illegal killing of large carnivores as defiance of authorities' [2016] Journal of Rural Studies 46, for an analysis of the legitimacy crisis of carnivore conservation policies in Finland.

[11] Large Carnivore Initiative for Europe, 'Assessment of the conservation status of the Wolf (*Canis lupus*) in Europe' (Bern Convention Standing Committee 2022) T-PVS/Inf(2022)45 (hereafter LCIE Assessment).

[12] Länsstyrelsen Dalarnas Län Case No 218-13073-2022 (Swedish) 19.

pecially hostile to the existence of the wolf,[13] we can soon realize that there is a strong ontological substratum to an apparently legal conflict.

In this article, I build on the work done by journalist and jurist Parikka Altenstedt[14], which discusses the role of the Swedish ontology in the deficient transposition of the Habitats Directive in national law with regards to the wolf's habitat. However, where Parikka Altenstedt considers the *Tapiola* ruling as a supra-national EU solution to the ontological dichotomy between EU and Swedish legislation, I consider the *Tapiola* decision as the product of a strict interpretation of the Directive's objectives, which, rather than trying to encompass other worldviews with regards to Nature, merely emphasizes the legal boundaries already present in the main Directive.

1.1.1 The epistemological framework of the Habitats Directive

First of all, I shall define what I mean by "epistemological frameworks". Laws tend to establish a set of objectives, and the Habitats Directive is not an exception, establishing the objective of conserving biodiversity in article 2. The objective/s of the law, also referred to as the goal/s, are no more than a statement of values: we establish the legal objective of conserving biodiversity because we believe this is something worth being achieved. Thus, this value (that biodiversity is worth being protected) delimitates what is legally relevant, and therefore, what knowledge is relevant as well. Ergo, the objectives of a law guide the pursuit of knowledge. This is what I refer to as epistemological frameworks, because they establish what is legally relevant under the law. The law is indifferent to certain elements of reality which are not included in its scope and, although these do not disappear because of their legal exclusion, they do become less relevant for the assessment of the judge. He or she must abstract from his or her sociological background, and apply the epistemological framework (what is legally relevant) established by the law. The objectives of the law, therefore, restrain the discretion of the judge.

As Karl Popper argued, our reality is conditioned by the object observed, which sets the perspective. According to Popper,

> Observation is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem. And its description presupposes a descriptive language, with property words; (…) 'A hungry animal', writes Katz, 'divides the environment into edible and inedible things. An animal in flight sees roads to escape and hiding places'.[15]

If we change some words from the previous quote, we can see that epistemological frameworks play an analogous role when applying the law:

> [Legislation] is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem. And its description presupposes a descriptive language [for example, the notion of Favourable Conservation Status], with property words; (…) A [species protection law], divides the world into [protected and unprotected species]. [A hunting law] sees [rights to hunt and hunting seasons].

[13] Erica Von Essen and others, 'The Radicalisation of Rural Resistance: How Hunting Counterpublics in the Nordic Countries Contribute to Illegal Hunting', (2015) 39 Journal of Rural Studies 199.

[14] Parikka Altenstedt (n. 6).

[15] Karl Popper, *Conjectures and Refutations: The Growth of Scientific knowledge* (Routledge 2002), 61–62.

Different objectives can guide the pursuit of different types of knowledge: in hunting legislations, the objective is to ensure the continuing availability of game for hunting, so the act of hunting is the 'chosen object', and, as a sociological practice, it can guide the pursuit of knowledge within the social sciences realm. Species protection legislation, such as the Habitats Directive, has the objective of conserving biodiversity, so the "chosen object" is biodiversity. Thus, the law guides relevant knowledge towards the realm of ecology, as the CJEU emphasized in the Tapiola case.[16] Moreover, while hunting legislations establish what can be killed and how, species protection regulations establish what should be protected and how. This is relevant for the Swedish case, since the Habitats Directive's wolf protection regime is transposed into hunting regulations. Thus, a paradox is constructed between these two bodies of law, one observing what is protectable and another what is killable. Whether the Habitats Directive provisions on strictly protected species can, therefore, be transposed directly in a hunting legislation with such a different epistemological framework, is what this paper will try to address.

To summarize, I argue that the Habitats Directive establishes an epistemological framework in the midst of the differing ontologies that may predominate in a specific place or courtroom. By epistemological framework I intend to describe how, and most importantly what, the legislator requires Member States to observe. The epistemological framework of the Habitats Directive is established in article 2.1 when it says that 'The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna'. This is followed by a specification in article 2.2, establishing favourable conservation status for listed habitats and species as the specific outcome that measures should pursue. Finally, article 2.3 reminds Member States to take into account socioeconomic characteristics, but these are not referred to, by any means, as the objective of the law.

1.2 Wolf hunting in Sweden

Sweden recently applied its biggest wolf hunt in modern times, with a quota of 75 wolves out of a population of approximately 420[17] which it claimed was legally backed by the Habitats Directive and the caselaw of the European Court of Justice. This has taken place in the midst of a controversy that ranges from the political arena, with an ongoing infringement proceeding of the European Commission, to the scientific field, where disagreements over the conservation status of the wolf persist.[18]

Once extirpated from the Swedish landscape, the wolf recolonized Sweden in the 1980s with 5 initial wolves and a very limited genetic pool. Since then, the species has been growing and repopulating new areas of the country, with scarce presence in the north because of its clash with Indigenous reindeer farming practices, and the vast majority of the population located in central Sweden. Despite the lack of scientific consensus surrounding the conservation status of the Scandinavian wolf, which suffers from inbreeding depression and almost null connectivity with Finnish wolves, the Swedish government decided to grant FCS to the species in the midst of the infringement proceeding with the European Commission, the latter strongly dis-

[16] *Tapiola*, para. 71.

[17] Henrik Andrén and others, 'Beräkningar av beskattning av den Skandinaviska vargpopulationen 2023' *Rapport till Naturvårdsverket, Sverige och Miljødirektoratet, Norge från SKANDULV* (2022) Grimsö forskningsstation, Institutionen för ekologi, Sveriges lantbruksuniversitet (Swedish) 21 (hereafter Skandulv Report).

[18] Linda Laikre and others, 'Planned Cull Endangers Swedish Wolf Population' (2022) 377 Science 162.

agreeing.[19] After over 12 years, with the infringement proceeding still open, Sweden just decided on its 'largest ever cull'[20], with allowable kills far exceeding those which the Commission vehemently opposed back in 2010 and subsequent years, deeming them as 'systemic practice' in breach of the HD.[21]

1.3 EU Legal background

The EU is a member to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)[22], which the Habitats Directive adapts to the specific European context with a stricter, and more effective legal framework.[23] The Habitats Directive establishes a legal framework for the conservation of biodiversity in the European Union, requiring Member States to maintain or reach Favourable Conservation Status for its listed species and habitats and enacting the overall goal of biodiversity conservation.[24] For these ends, the Directive sets a strict protection regime for Annex-IV listed species such as the Swedish wolf, and Annex V lists those species whose exploitation may be subject to management measures, such as hunting regulations. For Annex IV species, article 12 prohibits, amongst other harmful activities, all forms of deliberate capture or killing. However, article 16 permits derogations from this protection scheme when several conditions are met: that there is no other alternative, the derogation is not detrimental to the maintenance or restoration of the species at FCS, and one of the stated purposes listed from letter (a) to (d) are met; or, alternatively, the extra-conditions set in letter (e) are fulfilled: that it is done under strictly supervised conditions, on a selective basis, to a limited extent and concerning certain specimens in limited numbers specified by the competent national authorities. It is under letter (e) that both Finland in the *Tapiola* case, and Sweden in its yearly licensed hunts, frame their tolerance hunting policies.[25]

It is established case law from the CJEU that derogations from strict protection of species listed in Annex IV shall be interpreted restrictively, in order to preserve the exceptional nature of such decisions and not impair the overall objective of the Habitats Directive.[26] This objective is clarified in article 2, which sets an epistemological framework that informs the understanding of the Directive with a set of priorities that should accompany any derogating decision, and whose teleological implications set the framework for this paper. In this sense, article 2.1 states the overall objective of ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora, while article 2.2 mandates measures taken pursuant to this Directive to be designed

[19] I use the verb 'grant' to emphasize the political dimension of decisions involving FCS. *See* Guillaume Chapron, 'Challenge the Abuse of Science in Setting Policy' (2014) 516 Nature 289.

[20] Jon Henley, 'Hunters shoot dead 54 wolves in Sweden's largest ever cull' *The Guardian* (London, 7 Feb. 2023) <https://www.theguardian.com/world/2023/feb/07/swedish-hunters-shoot-dead-54-wolves-in-largest-cull-ever-in-country> accessed 11 May 2023.

[21] Jan Darpö and Yaffa Epstein, 'Thrown to the Wolves–Sweden Once Again Flouts EU Standards on Species Protection and Access to Justice' (2015) 1 Nordisk miljörättslig tidskrift 19.

[22] Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979 ETS 104.

[23] Yaffa Epstein, 'The Habitats Directive and Bern Convention: Synergy and Dysfunction in Public International and EU Law' (2014) 26/139 The Georgetown Int'l Envtl. Law Review.

[24] HD (n. 1), art. 2.

[25] Ibid. art. 16.1e) '1. Provided that there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles 12, 13, 14 and 15 (a) and (b): (e) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species listed in Annex IV in limited numbers specified by the competent national authorities'.

[26] *Tapiola*, para. 30.

in order to maintain or restore, at FCS, natural habitats and species of wild fauna and flora of Community interest. Thus, article 2.2 explains *how* article 2.1 is to be operationalized, while article 2.3 states that such measures shall *take into consideration* the economic, social and cultural requirements, as well as the regional and local characteristics. So, first of all, art. 2.1 sets the one objective of this Directive, which develops the Preamble in what can be deemed as an eco-centric approach that recognizes the intrinsic value of nature[27] or, to some, even granting rights to nature from a Hoffeldian approximation[28]. This eco-centric hierarchy is further developed in the following paragraphs of the article, which establish the epistemological framework that encases the interpretation of the whole Directive. Thus, measures shall be *designed to* maintain or restore FCS (art. 2.2), and shall *take into account* socioeconomic circumstances (art. 2.3). Therefore, art. 2.2 and 2.3 describe the *means* to achieve the *ends* of article 2.1, that is, the objective of the Directive.

In line with this epistemological framework, the CJEU has emphasized that article 2.3 does not provide a ground for derogations,[29] but rather requires that measures are not insensitive to the idiosyncrasies of the region, when several options are available none of which jeopardize the objective of the Directive. Moreover, the Court has precluded derogations from taking place on the mere basis of historical or cultural traditions.[30] As the Advocate General in C-247/85 wrote, 'The fundamental purpose of article 2 is to define the general thinking behind the directive, essentially by providing a basis for the various provisions of the directive, in particular (…) the derogations provided for therein'[31].

1.4 The *Tapiola* ruling

Finland allowed hunting for population management purposes (hereinafter licensed hunting), based on article 16.1.e, as Sweden currently does (although selectiveness and limitedness requirements were arguably stricter in the Finnish wolf hunts assessed by the CJEU).[32] Finnish authorities allowed wolf hunts as an 'experiment'[33] to assess if such hunting, added to the protection hunting done on a periodic basis, would lead to increased tolerance and, thus, to a reduction of poaching, which is a big threat for the species in the Nordic countries and is therefore within the prism of article 2.1 HD. Since it is mostly hunters who kill wolves, partly due to their tradition of hunting with loose dogs, the referring court asked if prevention of harm to their dogs could be considered in hunting decisions. Therefore, the referring court wanted to ascertain if the socioeconomic characteristics of a specific hunting practice could justify the modulation of the main objective of protecting biodiversity.

The Court reminded of the importance of article 2.1 in this respect, stating that derogations, when justified under letter (e) for reducing poaching, had to be 'in the interest of protecting

[27] Parikka Altenstedt (n. 6).

[28] Yaffa Epstein and Hendrik Schoukens, 'A Positivist Approach to Rights of Nature in the European Union' (2021) 12 Journal of Human Rights and the Environment 205.

[29] C-371/98 *First Corporate Shipping* [2000] ECR I-09235.

[30] C-182/02 *Ligue pour la protection des oiseaux and Others* [2003] ECR I-12105; C-10-96 *LRBPO and AVES v Région Wallonne* [1996] ECR I-06775.

[31] C-247/85 *Commission v Belgium* [1987] ECR I-03029, Opinion of A Vilaça. While this case involves the Birds Directive, it is applicable to the Habitats Directive because article 2 in both Directives set a similar epistemological framework, and because the CJEU jurisprudence generally applies to both of them.

[32] In the Tapiola case, Finnish authorities had specifically required permit holders to target young specimens or individuals causing nuisance, while in the Swedish hunt entire wolf groups were targeted independently of age or sex.

[33] Yaffa Epstein and Sari Kantinkoski, 'Non-Governmental Enforcement of EU Environmental Law: A Stakeholder Action for Wolf Protection in Finland' (2020) 8 Frontiers in Ecology and Evolution 101.

the species', while strong emphasis was put on the need for rigorous scientific data proving that such hunting would have a net positive effect for the population.[34] This is in line with the epistemological framework of the Directive, whose 'chosen object'[35] is biodiversity and, hence, ecological data enjoys preeminence for its direct relation to the objectives of the law. The Directive also requires that there are no satisfactory alternatives to grant a derogation. Thusly, the Court required authorities to rely on the 'best relevant scientific and technical evidence'[36], and the precautionary principle was erected as a core element of the ruling: in the Court's words, 'if, after examining the best scientific data available, there remains uncertainty as to whether or not a derogation will be detrimental to the maintenance or restoration of populations of an endangered species' at FCS, the authorities must not grant the derogation.[37]

The intrinsic value of each specimen is clarified not only in the wording of letter e of article 16, which requires derogations to take place 'on a selective basis and to a limited extent', and for these to concern 'certain specimens (…) in limited numbers specified by the competent national authorities'[38], but also in what the Court made out of this provision in the ruling. The Court developed this provision demanding that such limited number 'does not entail the risk of significant negative impact on the structure of the population in question, even if it is not, in itself, detrimental to the maintenance of the populations of species concerned at a favourable conservation status in their natural range'[39], thus emphasizing the importance of considering the complexity of social animal structures such as those existing in a pack of wolves. Based precisely on the importance of the biological characteristics of each species, the Court established that selectiveness may require for the specimens to be individually identified. Because of this, Finland was deemed to be in breach of the Directive, since several breeding individuals, and 20 alpha males, were killed in the hunts at issue despite official advice to the contrary.[40]

Finally, the referring court also asked at what level to measure FCS when deciding on a derogation. The CJEU answered that FCS had to be measured at all levels, although the local level was arguably the most relevant one to start with, due to the fact that derogations are likely to have a more immediate local impact.[41] Nonetheless, FCS had to be assessed at the other levels as well, including the national, the biogeographical 'if the natural range of the species so requires and, to the extent possible, at a cross-border level'.[42] However, the CJEU reminded that, in doing so, account could not be taken of countries not dutybound 'by an obligation of strict protection of species of interest for the European Union'[43]. This was relevant inasmuch as Finland attempted to include in the assessment of wolves' FCS the Russian populations, which arguably shared a biogeographical region. It is also relevant for the Swedish case, because FCS is, as of today, dependent on a single Norwegian wolf immigrant,[44] a country not dutybound by the HD but by its rather weaker predecessor, the Bern Convention.[45]

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34 *Tapiola*, paras. 45–46.
35 Text to n. 15.
36 *Tapiola*, para. 51.
37 Ibid., para. 66.
38 HD art. 16.1(e).
39 *Tapiola*, para. 72.
40 Ibid., para. 78.
41 *Tapiola*, para. 59.
42 Ibid., para. 61.
43 Ibid., para. 60.
44 Administrative Court in Luleå, judgment 2022-11-30, Case No 1843-22 (Swedish) 2 (hereafter C-1843-22).
45 Arie Trouwborst, Floor M Fleurke and John DC Linnell, 'Norway's Wolf Policy and the Bern Convention on European Wildlife: Avoiding the "Manifestly Absurd"'

2. Swedish legal framework and 2023 license hunt

Sweden applies, in practice, two regimes with regards to wolf hunting: one to protect livestock and other types of property, known as protection hunting, on the basis of article 16.1(b) HD and transposed into national legislation in section 23a and 23b of the Hunting Regulation (1987:905); and the one that concerns this paper, that is, licensed hunting, intended to reduce the density of the populations of the species concerned, based on article 16.1(e) HD, and transposed in section 23c of the Hunting Regulation. Indeed, the wolf is regulated as a game species and therefore is, by definition, excluded from environmental regulations or environmental courts through section 4 of the Swedish Species Protection Regulation (2007:845), the Regulation that is supposedly implementing the Habitats Directive with regards to species protection. This entails that article 2 HD is not transposed for the wolf in national legislation.

According to the Swedish predator policy, regionalized decision making increases legitimacy amongst the local populations, and thus, the Swedish Environmental Agency (SEPA) delegates the possibility to decide on license hunting to the County Administrative Boards (CABs) whenever the wolf population is above its chosen reference value, currently set at 300 individuals.[46] Although a delegation to decide on license hunting should not imply necessarily that CABs do allow hunting, this has been standard procedure for years.

The 2023 hunt originates in the Riksdag's decision, on May 18th 2022, to lower the wolf population to half its size.[47] The specific demands revolved around its decided favourable reference value, which, according to the Riksdag, needed to be lowered from 300 individuals to 170–270 individuals, keeping the population closer to the bottom level. However, this is a political decision that does not necessarily have to correspond to the legal reality of a Member State in the EU. Thus, SEPA had to justify somehow these population reductions according to EU law.

Some notes on the choice of the specific number of 170 individuals can bring some light to the issue at hand: the range of 170–270 wolves as the margin for FCS was the result of a study where a researcher was asked to calculate how many wolves would suffice in Sweden, back in 2013, for the species to be under a 10% probability of going extinct in the next 100 years, if the species had good genetic status.[48] As follows, genetic and ecological aspects legally mandated by the Directive were not present in this study.[49] From the study's results, which gave a rough number of 100 wolves, and since there was not good genetic status, the government chose the FCS level at 270 plus 2.5 immigrant wolves per generation.[50] This led the main researcher commissioned for the study to complain publicly about the manipulation of his results, since his study was based on 'a demographic measure of how close the population is to extinction, and crucially, is a separate measure from FCS, which

(2017) 20 Journal of International Wildlife Law & Policy 155.

[46] Naturvårdsverket 2015, 'Delredovisning av regeringsuppdraget att utreda gynnsam bevarandestatus för varg' (2015) M2015/1573/Nm (Swedish) 7 (hereafter SEPA Report).

[47] Sveriges riksdag, 'Naturvård och biologisk mångfald' (18 May 2022). <https://www.riksdagen.se/sv/dokument-lagar/arende/betankande/naturvard-och-biologisk- mangfald_H901MJU24> accessed 1 January 2024.

[48] Yaffa Epstein, 'Favourable Conservation Status for Species: Examining the Habitats Directive's Key Concept through a Case Study of the Swedish Wolf' (2016) 28/2 Journal of Environmental Law p. 231, <https://academic.oup.com/jel/article/28/2/221/2404189> accessed 1 January 2024.

[49] Ibid.

[50] Ibid., 231.

relates to recovery'.[51] The European Commission, in a second reasoned opinion on June 2015, pointed out the low numbers of wolves, the poor genetic health of the population and the lack of sufficient connectivity with neighbouring countries.[52] Thusly, the government tasked SEPA with running a new study on wolves' FCS in 2015.[53]

The researchers of this new study, who, this time, were asked how many wolves were necessary in Sweden to have FCS according to the Directive, were everything but unanimous, and SEPA had to choose some researchers' findings over others. Interestingly, the chosen option belonged to the subset of researchers who chose the lowest number (300 individuals plus consistent influx of immigrants to reduce inbreeding), justifying these on the necessity to disregard pure scientific results, in order to include the sociopolitical controversy in their final decision.[54] This shall contrast with how FCS is calculated in other Member States: In Spain, for example, the wolf is considered at an unfavourable conservation status despite censuses estimating a population of 2128 individuals, approximately.[55]

The new decision from the Riksdag, therefore, meant that SEPA would have to justify a political decision taken for the sake of the hunting and farming industry, and frame it inside the boundaries of the Habitats Directive's requirements on FCS, even though it was precisely the lack of consistency of this 2013 FCS decision that prompted SEPA to commission a new study on the subject. In the end, SEPA did not change the chosen reference value for wolves, but, when the hunting season arrived, CABs were allowed to establish a total quota of 75 wolves to kill through the 2023 license hunt, far exceeding the numbers of any previous wolf hunt in the country in modern times, to be added to the regular protection hunts and the estimates of cryptic poaching[56]. As examples of reasons to decide on a hunt by the CABs, SEPA exemplified the contribution to the reduction of illegal hunting, the reduction of the socio-economic and psychosocial impact that dense wolf packs can have on people living in areas with a lot of wolves, and the non-supported claim that license hunting can reduce the inbreeding coefficient.[57] Nevertheless, it has been mostly the reduction of socioeconomic consequences consisting of attacks to livestock that CABs have used to justify their hunts.[58] These reasons will be set against the backdrop of the Tapiola ruling in section 3.

2.1 Deficient transposition

Since wolves are subject to the hunting legislation, cases regarding this EU strictly protected species are not judged by Swedish Environmental Courts, but neither they are by regular Administrative Courts in their territorial adscrip-

[51] Guillaume Chapron 'Challenge the Abuse of Science in Setting Policy' (2014) 516 Nature 289.

[52] Epstein (n. 48) 224.

[53] SEPA Report (n. 46). *See* Jan Darpö, 'The Commission: a sheep in wolf's clothing?' (2016) 13/3-4 Journal for European Environmental & Planning Law, to know more about the infringement proceeding against Sweden.

[54] Liberg and others, 'An Updated Synthesis on Appropriate Science-Based Criteria for "Favourable Reference Population" of the Scandinavian Wolf (Canis lupus) Population' *Assignment from SEPA* (2015) Sveriges lantbruksuniversitet, 8,47.

[55] LCIE Assessment (n. 11).

[56] Cryptic poaching is the one that remains undetected by conventional methods, which accounts for more than two thirds of total poaching according to Olof Liberg and others, 'Shoot, shovel and shut up: cryptic poaching slows restoration of a large carnivore in Europe' (2012) 279/1730 Proceedings of the Royal Society B <https://royalsocietypublishing.org/doi/10.1098/rspb.2011.1275> accessed January 1 2024.

[57] Naturvårdsverket, 'Naturvårdsverket vägledning i samband med att möjligheten att fatta beslut om licensjakt på varg 2023 överlåts till länsstyrelserna' Bilaga 1, NV-05826-22, 2022 (Swedish) 5 (hereafter SEPA Appendix I). My trans.

[58] Länsstyrelsen Dalarnas Län Case No. 218-13046-2022 (Swedish) 11.

tion. This is because, after several wolf hunts were overturned by some administrative courts, a political decision was taken to move all cases regarding wolf hunting directly to the Administrative Court of Luleå, which was preferred by certain stakeholders and happened to have the highest record of pro-hunting rulings.[59]

The most relevant element to consider here is the lack of a full transposition of the Directive for the wolf: if the Directive requires that measures are designed to reach FCS, and that socio-economic consequences are taken into consideration, but not established as the one objective, how can Swedish license hunting be aimed at reducing the population in order to consider socio-economic consequences, as it is repeatedly said in CABs' decisions? The explanation, though, is quite straightforward: article 2 HD is nowhere transposed into the Hunting Act nor Hunting Regulation, since these are aimed at regulating a traditional activity consisting of the sustainable exploitation of a game species for the benefit of those who practice it, and thus do not participate of the eco-centric view entrenched in the Directive. Article 2 of the Directive considers the intrinsic value of specimens of protected species by and of themselves, and places biodiversity conservation beyond mere economic or recreational sectoral interests. Therefore, when license hunting decisions state that hunts should be based on the *corresponding provisions* of the Habitats Directive,[60] they are actually just talking about article 16 HD without its original legal context (article 2), because it is the only provision of the Directive that has been transposed in the Hunting Regulation.

2.2 Breach of legal precedent

The inclusion of the wolf as a game species may be in defiance of a CJEU ruling that explicitly prohibited strictly protected species from being regulated in game management regulations, since strict protection is precisely aimed at protecting these from hunting, among other human activities.[61] Although this ruling involved the Birds Directive[62], the reasoning can be extrapolated to the Swedish wolf situation, since decisions interpreting the Birds Directive can often be applied to the HD and vice versa. This case was similar to the one at hand: the Belgian government included a strictly protected bird species inside its hunting regulation, and it argued that, since hunting the species was nevertheless dependent on specific administrative decisions, the abstract inclusion of a species as game did not imply a breach of the legal protection per se. However, the mere fact that, formally, it was not included in species protection regulations but in hunting regulations, was already considered a breach of EU law by the CJEU.[63] As the Advocate General put it,

> [A]chievement of the objective pursued by the directive, namely conservation of the species in question by protecting them *from* hunters, is not effectively guaranteed by the relevant provision (…), notwithstanding the fact that it does not grant express authorization to hunt but – in formal terms – merely treats those species as game.[64]

In contrast, Swedish authorities openly admit their intention of treating the wolf as game, referring to the LCIE guidance on the matter:

[59] Gustav Stenseke, 'Entangled Law' Dissertation, Karlstad University 2021, 282–83.

[60] Länsstyrelsen Värmland Case No. 218-7033-2022 (Swedish) 10. My trans.

[61] C-247/85 (n. 31).

[62] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds OJ L20/7.

[63] C-247/85.

[64] Ibid., 3043-3044 (emphasis added).

> [F]rom a conservation point of view, there is no principled reason why the populations of large carnivores cannot tolerate certain levels of hunting management measures or to be managed under the same conditions as huntable ungulates or huntable bird species. (…) Article 16 provides, in summary, an opportunity to allow hunting, and the retention of traditional hunting methods.[65]

The CJEU ruling was aimed precisely at preserving the core epistemological framework of the Directive when transposed into national legislation, which is why it emphasizes the importance of the objective, i.e. the protection of the species. Indeed, and going back to the Swedish wolf case, article 16 should be read in relation to article 12's prohibitions, which emanate from the whole body of environmental law that holds at its core the principles of article 2 of the Directive. Instead, article 16 is transplanted inside a preexistent legal regime with a different epistemological framework. In this way, EU law is trickled down and diluted in hunting regulations that hold diverging objectives from those of species protection. Therefore, no valid transposition of the Directive can take place when the whole epistemological framework of the law is reversed for the sake of previous ontologies constructed on contradictory premises.

3. *Tapiola* requirements compared to Swedish official guidelines and decisions for the 2023 hunt

In June 2023, SEPA decided, as in previous years, to delegate the decision on wolf license hunting to the CABs in the Central Predator Management Area, to reduce the population density where it is greatest. To address the Riksdag's decision of dubious compliance with EU law, SEPA allowed bigger hunting withdrawals on the following basis:

> Considering the development of the wolf population and the possibility of, through special conditions, both aiming the hunt towards completely emptying territories and excluding territories with genetically important wolves, the Swedish Environmental Protection Agency assesses that larger extractions than before are possible without having a significant negative impact on the tribe's structure.[66]

Thus, the CABs of Gävleborg, Dalarna, Västmanland, Örebro and Värmland, all belonging to the Central Predator Management Area, decided on wolf hunting. Some representative decisions on license hunting are analyzed below against the backdrop of the *Tapiola* ruling.

3.1 Weight of article 2.3 and standard of proof

As the *Tapiola* decision clarified, Finland could not derogate under article 16.1.e HD when the objective of such derogation was not aimed at protecting the species, in that case, from poaching (art. 2.1 vs. 2.3).[67] Therefore, the premises claimed by the management agency of preventing harm to dogs and increasing the feeling of safety among the local inhabitants, could not be in themselves reason enough to derogate under article 16.1.e HD. The objective of the derogation had to be aimed at article 2.1 and 2.2 HD, and the means of reaching that objective, in this case, were identical to those of article 2.3. Thus, article 2.3 was, in the Finnish case, as in the Swedish one, the *means* to reach the *ends* of article 2.1/2. This ruling influenced the legal justifications of Swedish wolf licensed hunting, which, before the *Tapiola* case, justified derogations directly

[65] Länsstyrelsen Värmland Case No. 218-7033-2022 (Swedish) 11. My trans.

[66] SEPA Appendix I (n. 57) 8. My trans.

[67] *Tapiola*, para. 42–43.

under article 2.3 (to take into account socioeconomic circumstances), while now they claim to be using article 2.3 to achieve the objective of 2.1/2 (to conserve the wolf species by maintaining FCS), although key research proving such nexus has been rather scarce.[68]

Specifically, the Court required supporting evidence in the form of:

> rigorous scientific data including, where appropriate, comparative data on the effects of hunting for population management purposes on the conservation status of wolves, so that it can be proved that licensed hunting is capable of reducing illegal hunting to such an extent that it would have a net positive effect on the conservation status of the wolf population, whilst taking into account of the number of derogation permits envisaged and the most recent estimates of the number of wolves taken illegally.[69]

The importance of orientating the derogation towards the goal of protecting the species was further emphasized when the Court stated that, to assess the legality of the policy, the referring court would have to '*definitively* establish (…) the ability of the derogation permits issued for hunting for population management purposes to attain their objective of combating poaching *in the interest of protecting the species*'[70]. It is notable the insistence given by the Court to the strict need for more than mere research pointing to a theory, and to the importance of such derogations being aimed at article 2.1 and not at 2.3, as was referred by the national court when asking for the weight that could be given to the tradition of hunting with loose dogs in wolf hunting decisions.

In contrast, all the decisions issued by CABs constantly emphasize that the aim of these hunts is to reduce socioeconomic consequences. To illustrate this weight of the means over the ends, let it suffice to mention the formula that is repeated in all the decisions with very small variations: when discussing the absence of alternatives, they all conclude that 'in order to reduce the socio-economic impact, the impact on moose management and to facilitate the keeping of domestic animals, there is no other suitable solution than license hunting, which aims to reduce the concentration of wolves in the areas where they are most dense'.[71]

It is worth noting how most of these reasons actually belong to letter (b) of article 16, instead of letter (e). In fact, and contrary to CJEU advice,[72] license hunting is seen as a complement to overcome the limitations imposed by letter b), which may require that one tries to target the wolf responsible for the livestock attack. The fact that both protective hunting and licensed hunting aim at protecting private property is conspicuous in the decision of Dalarna and Gävleborg, when discussing the insufficiency of protective fences and other non-lethal ways to protect livestock, which is literally the content of letter (b):

> [W]ith an increased wolf population, the risk of damage and negative socio-economic consequences also increases. Without license hunting, the wolf population will grow in size, which in the long run will lead to an increased need for protective hunting as the risk of injury will increase.(…) An alternative to license hunting for wolves, to prevent damage, is protective hunting. However, the county administrative board makes the assessment that, based on its current crite-

[68] Stenseke (n. 59) 288–9.
[69] *Tapiola*, para. 44.
[70] Ibid., 46 (emphasis added).
[71] Länsstyrelsen Dalarnas Län Case No 218-13073-2022 (Swedish) 27. My trans.
[72] *Tapiola*, para. 36.

> ria structure, protective hunting should be used as a complement, not an alternative, to license hunting. (…) Unlike license hunting, the purpose of protective hunting must not be to regulate a population.[73]

Even if CABs referred exclusively to the purpose of reducing poaching with a net overall effect as the reason to apply licensed hunting, rigorous scientific data on the strict terms expressed by the CJEU would still be needed. However, even the main CABs admit that there is no conclusive evidence of such link between license hunting and an increase in tolerance that ultimately leads to a reduction in poaching rates.[74] What has been done instead, is a sort of conceptual *salami slicing*, in reference to the environmental impact assessment practice, but with the main objective and its subordinate premises. The premises that sustain the theory of tolerance hunting are twofold: on one hand, that weak trust in game management can lead to poaching, and on the other, that license hunting can increase trust in management. The CABs have only been able to rely on research pointing to the first premise, but they themselves admit that recent studies prove that trust in management does not increase because a license hunt has taken place, so the second subordinate premise is lacking at the moment. According to the CABs: 'New research (…) does not support that changes in people's attitudes towards predator management can be seen in the short term solely thanks to the opportunity to hunt wolves (Dressel, S. et al. 2021)'.[75] Then, in a clear defiance of the precautionary principle, all CABs go on to say that these hunts should be repeated in order to gain more knowledge on how these can help increase trust in management: 'The new knowledge needs to be repeated over time in order to get a clearer picture of what a license hunt for wolves can contribute and how a shift in attitude towards tolerance and trust in the administration can be made possible'.[76]

Therefore, the main objective of the license hunts appears confusing. While CABs keep mentioning that license hunting to account for socioeconomic aspects can help reducing poaching, the latter ends up being a mere complement, letting the real objective of the hunt resurface: 'Reducing the concentration of the wolves in the area aims to reduce the socio-economic consequences for accommodation, facilitate the keeping of domestic animals and, *if possible*, increase trust in the Swedish predator management'[77]. Thus, increased trust – not even the direct reduction of poaching- is seen as a complement to the assured objectives of protecting private property in some parts of the decisions. The fact that the real objective of the hunt is so elusive, changing during the decisions depending on what is being justified (in the lack of satisfactory alternatives section, for example, it gives the impression that it is article 16.1(b) they are talking about), complicates the legal analysis even more.

This is very far away from the required scientific evidence required by the *Tapiola* case, which would require not only that the first two premises were actually proven with rigorous scientific evidence beyond reasonable doubt as mandated by the precautionary principle, but that the main element under discussion was also proven under equal terms. But, by spending entire decisions focusing on the links between these two premises, that is, that low trust in management can lead to poaching and that license

[73] Länsstyrelsen Dalarnas Län Case No. 218-13073-2022 (Swedish) 25. My trans.
[74] Länsstyrelsen Värmland Case No. 218-7034-2022 (Swedish) 26.
[75] Ibid. My trans.
[76] Ibid. My trans.
[77] Länsstyrelsen Dalarnas Län Case No. 218-13073-2022 (Swedish) 10 (emphasis added). My trans.

hunting can increase trust in management, they elude the core element on whose basis tolerance hunting is justified: whether or not it can actually lead to a significant reduction of poaching with a net positive effect. This in itself is also in breach of the *Tapiola* case, because 'a derogation decision must define the objectives relied upon in support of a derogation *in a clear and precise manner* and with supporting evidence'[78], and

> [T]he objective of a derogation based on Article 16(1)(e) of the Habitats Directive cannot, in principle, be confused with the objectives of the derogations based on Article 16(1) (a) to (d) of that directive, with the result that the former provision can only serve as a basis for the grant of a derogation in cases where the latter provisions are not relevant.[79]

3.2 Other satisfactory alternative

In order to discard other satisfactory alternatives, the *Tapiola* case required national authorities to consider the 'best relevant scientific and technical evidence and in the light of the circumstances of the specific situation in question'[80]. The addition of the superlative *best* is, again, a reminder of the insufficiency of mere theories endorsed by academics, as long as these are not the *best* or are not *relevant*[81]. The requirements are, therefore, quite high for authorities to implement these policies, precisely to avoid derogations becoming grounds for experimental trials involving the killing of protected species. Indeed, the Court was quick to remind that problems with monitoring criminal activities such as poaching are not derogation grounds, since in a situation such as this, enforcing measures would have to be adopted.[82] In contrast, CAB decisions argue about the difficulty and resource-intensiveness of supervising and investigating illegal hunting, pointing instead to license hunting as a better alternative to reduce tolerance for poaching, despite the lack of sufficient scientific evidence.[83]

In line with the salami slicing analogy, no alternative solution is proposed with regards to reducing poaching because this is not even seen as the main objective in this part of the decisions, again in breach of the requirement to establish clear and precise objectives.[84] Indeed, the means to reach the ends, that is, the socioeconomic consequences that are to be eased in order to attain the objective of reducing poaching, are made an end in themselves, and so alternative measures are not assessed in relation to the objective pursued, as mandated by the CJEU, but in relation to the means to attain those ends. This is quite obvious in the statement 'there is no other suitable solution than licensed hunting to reduce the density of the wolf population'.[85] In fact, not only is the reduction of poaching completely disregarded in the assessment of alternatives, but, bordering on the absurd, the erasure of entire wolf territories is erected as the main objective, and so all decisions justify how the transportation or the sterilization of these 75 individuals would be too costly and unfeasible.[86]

As was previously mentioned, all measures considered when assessing possible alternatives revolve around predator-proof fences, protection hunting and compensation for injuries. When alternatives based on prevention are assessed, one

[78] *Tapiola*, para. 41, emphasis added.
[79] Ibid., para. 37.
[80] Ibid., para. 51.
[81] Ibid., para. 50 'relevant technical, legal and scientific reports'.
[82] Ibid., para. 48.
[83] Work with the Bergslagen police is mentioned, though, in Länsstyrelsen Dalarnas Län Case No. 218-13046-2022 (Swedish) 15.
[84] *Tapiola*, para. 41.
[85] Case 1843-22 (n. 44) 11. My trans.
[86] Länsstyrelsen Dalarnas Län Case No. 218-13073-2022 (Swedish) 26.

would expect it is prevention of poaching they refer to, yet it is prevention of damage to livestock they actually address.[87] Moreover, even if these were valid reasons under article 16.1.e, one should ask why are predator repellent measures, such as electric grids, discarded over licensed hunting on the sole grounds of its lack of complete effectiveness. If there is one thing that the decisions make clear along their justifications, is the lack of certainty of license hunting as a measure to reduce poaching, yet they claim it is worth trying in the name of adaptive management.[88] The fact that, in front of two uncertain alternative measures, uncertainty is bent in favour of killing a protected species, means in itself that there has been a reversal of the precautionary principle, of the hierarchy of article 2 and of the burden of proof.

Moreover, all decisions make it clear that no tradition will be adapted to the reality of this protected species. In this sense, the repeated formula 'Meaningful hunting should be able to be conducted even in areas with wolves, with regard to the risk of attacks on dogs and possible hunting withdrawals' is inserted in all hunting decisions,[89] which is the evermore grim if we consider the fact that there are practically no protected areas for wolves in Sweden, despite the obligations contracted under Annex II of the Directive.[90] Besides, the CJEU has ruled with regards to the clash between traditions and species protection in the past, placing the reasoning inside the epistemological framework of article 2 HD and thus prioritizing species protection. This can be seen in the Advocate General's opinion in C-10/96:

> It is in the nature of environmental protection that certain categories of persons may be required to amend their behaviour in pursuit of a general good (…). That such activities may be 'ancestral' or partake of an 'historical and cultural tradition' does not suffice to justify a derogation from the Directive.[91]

It is therefore questionable whether there is a lack of satisfactory alternatives, or rather a lack of sociopolitical will to adapt to changing times.[92]

3.3 Precautionary principle

The precautionary principle, already ingrained in art. 191(2) TFEU[93], was operationalized by the CJEU in a novel, stricter way, since

> For the first time, the Court went beyond a strict anthropocentric view (…) by recognizing the relevance of conservation measures for the non-human animals (…), applying the precautionary principle in the light of the scope of the Habitats Directive, which is to protect the natural heritage of the Union.[94]

Indeed, the strong interpretation of this principle has been distinguished by de Vido as an example of how the articulation of the principle of reasonableness can help to overcome epistemo-

[87] Ibid.
[88] Länsstyrelsen Värmland Case No. 218-7035-2022 (Swedish) 23.
[89] Ibid., 18. My trans.
[90] Parikka Altenstedt (n. 6) 103.
[91] C-10-96 *LRBPO and AVES v Région Wallonne* [1996] ECR I-06775, Opinion of AG Fennelly.
[92] For in-depth analysis of existing alternatives measures, *See* Van Eeden LM, Eklund A, Miller JRB, López-Bao JV, Chapron G, Cejtin MR, et al. (2018) Carnivore conservation needs evidence-based livestock protection. PLoS Biol 16(9): e2005577. <https://doi.org/10.1371/journal.pbio.2005577> accessed 1 January 2024.
[93] Consolidated version of the Treaty on the Functioning of the European Union (26 October 2012) OJ L32647.
[94] Sara de Vido, 'Science, Precautionary Principle and the Law in Two Recent Judgments of the Court of Justice of the European Union on Glyphosate and Hunting Management' (2020) 43/2 DPCE Online <https://www.dpceonline.it/index.php/dpceonline/article/view/964> accessed 1 January 2024, 1338.

logical challenges attached to the scientific uncertainty inherent to the precautionary principle. However, the importance of the ruling extends not only to its operationalization of legal precaution, but 'because it shows an unprecedented eco-centric move that leaves hope for the future jurisprudence of the Court on the conservation and preservation of non-human animals'.[95]

Certainly, the Court's interpretation of this key principle of environmental law narrowed the margins of available management options for national authorities. Even if this seems a rather strict interpretation of the precautionary principle, this goes in line with two elements of the Directive: first, that the burden of proof is always on the derogating authority,[96] and second, that article 2 already sets the elements that will be prioritized in case there lacks certainty. Therefore, if uncertainty was bent in favor of article 2.3, or derogating decisions were given a presumption of validity in the Court, this would entail a contradiction of the inner logic of the Directive. This explains why, in the light of the conflicting evidence put forward by the parties, the CJEU decided that the nexus between preventing harm to dogs and increasing the feeling of safety with the reduction of poaching was surrounded by uncertainty and was therefore not admissible.[97] Moreover, this strong epistemic standard of proof is justified by the existence of several other grounds for derogation in article 16, which include those of preventing serious damage to property, or in the interests of public health, public safety and other imperative reasons of overriding public interest, including socioeconomic ones. Thus, since article 16 already establishes multiple situations in which derogations may take place, it makes sense that the Court refined letter (e) so that it would not become a way to circumvent strict protection.

Two elements in the *Tapiola* case must be noted for its resemblance with the Swedish wolf hunt of 2023: one, that Finland referred to these license hunts as an 'experiment'[98] to see if these would help reduce poaching, while CABs admit in their decisions that knowledge proving the utility of licensed hunts to reduce poaching is lacking and, therefore, these should take place to gain such knowledge. Basically, it is equally an experiment. In the *Tapiola* case, this made the CJEU consider that the hunt did not comply with the precautionary principle. On the other hand, the fact that the Finnish wolf hunt concerned 15% of the population was also considered incompatible with the Directive, and was rejected by the CJEU.[99] However, in the 2023 Swedish hunt, the percentage is even higher, of almost 17% of the total wolf population. While the taxation commissioned by SEPA has been able to calculate the risk assumed by the authorities when deciding on this hunt (13% risk of falling below FCS)[100], no assessment of the possible net effect of this hunt on poaching has been developed, which is precisely what the CJEU attempted to do when it said that

> [T]he management plan estimated the annual number of wolves killed illegally at approximately 30 specimens. Further, Tapiola and the Commission claim that hunting for population management purposes led to the killing of 13 or 14 additional specimens as compared with those which, according to the estimates, would have been killed as

[95] Ibid., 1343.
[96] *Tapiola*, para. 30.
[97] *Tapiola*, para. 44.
[98] Epstein and Kantinkoski (n. 33) 7.
[99] *Tapiola*, paras. 63–65.
[100] Länsstyrelsen Dalarnas Län Case No. 218-13073-2022 (Swedish) 20.

> a result of poaching, thus resulting in a net negative effect on that population.[101]

However, the precautionary principle, while being mentioned in the decisions, seems to have been substituted, in practice, by the principles of adaptive game management. These are mentioned by CABs as the explanation for the lack of certainty, since 'this is accepted methodology in all wildlife management'.[102] In fact, Finnish courts ruled in favor of wolf hunting, based precisely on the precautionary principle, arguing that precaution meant not to stop a measure that might help to reduce poaching.[103] Although this was obviously corrected by the CJEU, it is noteworthy that CABs in Sweden are doing exactly the same, admitting that they do not have the scientific basis and using that absence as grounds to kill a protected species.[104] The argument could be summarized as follows: 'the precautionary principle dictates that, based on scientific knowledge, we should kill wolves to save the species. However, we need to kill them first to gain that scientific basis'.

3.4 Limitedness and selectiveness of the derogation

While the CJEU ruled that derogations must be so limited that, even if they do not affect FCS, these must not negatively impact the structure of the population, and that selectiveness might require in some circumstances to individually target the specimens,[105] the Swedish license hunt is mandating that all individuals in the decided wolf territories 'be killed regardless of the animal's sex and age'[106]. The Court divided the requirements of article 16.1.e, in this respect, in (i) limited and specified numbers, and in (ii) the selective and limited extent of the derogations.[107] However, in practice these two requirements can overlap in the analysis, which is why they are put together under the same subheading. Again, the Court's emphasis was located on the need to determine the number of specimens targeted by the derogation through rigorous scientific data, relating to geographic, climatic, environmental and biological factors. Indeed, no reference is made to socioeconomic elements in this respect. Moreover, the fact that such number shall not negatively impact the structure of the population, even if it does not affect the conservation status, has deep implications for wolf hunting. Since wolves are extremely complex social animals, the dynamics in a pack and of the ones nearby, who demarcate their territories in reference to the existence of other groups, are seldomly not affected by a hunt that targets them. What is definitely obvious, is that the structure of the population is altered when entire wolf packs are killed, which is what Swedish CABs are establishing in their decisions.

Regarding the requirement of derogations having a selective and limited extent, these shall cover a 'number of specimens determined in the narrowest, most specific and efficient way possible, *taking into account the objective pursued by the derogation*'[108]. This might not be applicable under the same terms to the Swedish case, inasmuch as the objective pursued by the derogation is to directly kill entire wolf territories, while the Finnish case explicitly required the avoidance of breeding pairs and alpha males when killing the

[101] *Tapiola*, para 64.
[102] Länsstyrelsen Örebro län Case No. 218-8466-2022, 20. My trans.
[103] Epstein and Kantinkoski (n. 33).
[104] Länsstyrelsen Dalarnas Län Case No. 218-13073-2022 (Swedish) 22.
[105] *Tapiola*, para. 73.
[106] Länsstyrelsen Dalarnas Län Case No. 218-13073-2022 (Swedish) 2. My trans.
[107] *Tapiola*, para. 70.
[108] Ibid., para. 73 (emphasis added).

wolves.[109] However, the Court established that, in view of the biological characteristics (and it did not mention for this purpose the relevance of the objective of the hunt, or of socioeconomic factors), it may be necessary to target individually the identified specimens. Indeed, the need to preserve the structure of the population is hardly compatible with the killing of breeding pairs or alpha males, whose killing led the Court to decide on the lack of limitedness and selectiveness of the derogations, not merely because of the breach of national guidelines in this respect, but because breeding pairs are 'particularly important for the objectives of the Directive', the Court referring to article 2's hierarchy in this respect.[110] Moreover, the killing of 20 alpha males allowed 'doubt to be cast on the selective nature of the derogation permits granted (…) and the limited nature of the taking of animals'.[111] Thus, it is only the breach of the strictly controlled conditions in the *Tapiola* case that would not be applicable in the Swedish hunt, since the strictly controlled conditions and effectiveness of the latter's monitoring did not require at any moment to protect breeding pairs or alpha males.

In the Swedish wolf hunt, there are only two limitations: geographical and genetic. However, the genetic one might not be fulfilled since only immigrants and their first-generation offspring are protected by this categorization (F1), despite CABs decisions admitting that second-generation offspring (F2) can also improve the inbreeding coefficient.[112] Since one of the reasons stated for this hunt is that it might reduce inbreeding, one wonders how is this going to be the case if F2s are killed, and immigrants are only protected for one generation more before these can be killed as well. This is even more problematic if we consider that the inbreeding coefficient of the Scandinavian wolf is extremely high (0.23), reaching the level of siblings.[113] The fact that some counties were barely beyond their minimum levels also draws attention to this *de minimis* policy: Dalarna county, for example, decided on a hunt despite there being only 8.75 wolf litters, which is essentially the established minimum level (8 litters).[114] The violation of article 2 is very clear in what Swedish authorities make of the ruling's requirement on limited and specified numbers, since the CJEU required that these numbers are in accordance with the biological characteristics of the species. Meanwhile, hunting decisions state that, based again on an extract from the LCIE, 'wolves live in family groups in territories that they claim against other wolves. In order to reduce the density of wolves, one therefore needs to reduce the density of wolf territories'[115]. So, truth be told, Swedish authorities pay attention to the biological characteristics of the wolf when deciding on its hunting. However, the goal pursued when considering the biological characteristics of the species does not seem to be its protection, but rather its reduction.

3.5 Favourable Conservation Status

The relevance of the Court's clarification of how FCS is to be accounted at all levels cannot be overestimated, since this debate has been ongoing for decades and some countries prioritize some levels over others in order to justify FCS when it might not be reached at all relevant levels. For example, while Sweden has considered for long that FCS is to be measured at a cross-county level, including countries with whom there is not even a shared natural range, such as

[109] Ibid., para. 78.
[110] Ibid., paras. 77 and 25.
[111] Ibid., para. 78.
[112] Länsstyrelsen Värmland Case No. 218-7033-2022 (Swedish) 18.
[113] Ibid.
[114] Länsstyrelsen Dalarnas Län Case No. 218-13046-2022 (Swedish) 21.
[115] Ibid., 15. My trans.

Poland and other Baltic states,[116] in other countries, such as Spain, regional authorities have argued in the courts for FCS to be evaluated at the regional level, so that, even if the population is at an unfavourable conservation status in the whole country, it might have FCS at the level of a specific region. With this ruling, less room is left for authorities' discretion when interpreting FCS, who now must account for all relevant levels instead of prioritizing one over others.

For the Swedish case, it is mainly the exclusion of non-EU countries (or, more specifically, countries not dutybound by an obligation of strict protection such as the one in the Habitats Directive), that is relevant for this analysis. Despite clear interpretation from the CJEU, the decision of FCS for the Swedish 2023 hunt relies on the sole wolf immigrant living in Norway.[117] Without this individual, SEPA would not even be able to meet the requirement of 300 individuals plus 1 immigrant per wolf generation from the report that the Agency chose over the other results, back in 2015.[118] Thus, according to this same study that Swedish authorities apply, there would need to be 1700 wolves in Sweden to have FCS at the moment.[119]

On the other hand, the impact of the Swedish hunt in local territories is quite self-evident inasmuch as it is mandated that entire wolf groups (and therefore, wolf territories) are erased, which raises questions as to how is local FCS level really accounted for. Moreover, not only did the CJEU require FCS to be primarily focused at the local level,[120] but it did require for derogations, in order to meet the requirement of ensuring FCS, to be 'based on criteria defined in such a manner as to ensure the long-term preservation of the dynamics and social stability of the species in question'.[121] Once again, no long-term dynamics nor social stability of a local population is left when entire wolf groups are killed. How this decrease in the population can amount to a net positive effect is, indeed, counterintuitive. Moreover, certain hunts were aimed at dissolving territories shared with Norway. For example, in the Värmland CAB, in the border with Norway, the hunting decisions stated that 'the conditions for license hunting in the border areas are analyzed based on the same criteria as other areas, wolf management near the Norwegian border can take place on the same terms as in other parts of Sweden'.[122] This assessment was maintained by Swedish courts, even when the Court in Oslo temporarily inhibited this same hunt on its side of the border.[123] Again, this hardly seems compatible with the CJEU statement on third countries.[124]

4. Swedish case law under the lens of the *Tapiola* ruling

Three court rulings addressing the legality of 2023's wolf license hunt are analyzed here, case number C-1827-22, C-1843-22, and C-2166-22.[125] These correspond to the CABs of Värmland (C-1827-22 and C-2166-22) and Örebro (C-1843-22) counties. However, instead of analyzing each ruling separately, the three of them are put together and divided into the previous categories of chapter 2 with regards to the *Tapiola* elements,

[116] SEPA Report (n. 46) 7.
[117] Case 1843-22 (n. 44) 2.
[118] Text to n. 54.
[119] Liberg and others (2015) (n. 54) 8.
[120] *Tapiola*, para. 59.
[121] *Tapiola*, para. 57.
[122] Länsstyrelsen Värmland Case No. 218-7033-2022 (Swedish) 9. My trans.
[123] Administrative Court in Luleå, judgment 2022-12-28, Case No. 2166-22 (Swedish) 7 (hereafter C-2166-22).
[124] *Tapiola*, para. 60.
[125] Administrative Court in Luleå, judgment 2022-11-30, Case No. 1827-22 (Swedish) (hereafter C-1827-22); Administrative Court in Luleå, judgment 2022-11-30, Case No. 1843-22 (Swedish); Administrative Court in Luleå, judgment 2022-12-28 Case No. 2166-22 (Swedish).

in order to facilitate the analysis of relevant EU law aspects. The only elements whose order has been altered correspond to limitedness, which is addressed together with FCS due to the different Luleå Court's analysis. All the requests for preliminary rulings were rejected, and so were the petitioned preliminary injunctions. In all cases, the hunt was considered valid, although with some changes in the selectivity requirements in case number C-1827-22 and in the demarcation area in case number C-2166-22.

4.1 Weight of article 2.3 and standard of proof

Although the Administrative Court of Luleå did mention, in all rulings, the *Tapiola* case with regards to the need of a purpose, and the necessity of a link between this objective and the means to attain it, all rulings left out the part where the CJEU required the objective to be aimed at article 2 HD. Moreover, only in case C-2166-22 it is mentioned that the fight against poaching is a valid reason to derogate according to *Tapiola*.[126] Regarding the needed scientific evidence, which must prove that poaching is reduced with a net positive effect, the only research they mention is that of P. Kaltenborn and M. Brainerd, that is, a paper that assesses the possibility of license hunting in Norway increasing acceptance.[127] However, this paper does not establish any conclusive evidence, but rather admits that the low levels of Norwegian policies leave minimal room for *experimentation*, and is phrased with conditionals such as that increasing legal hunting quotas *may* reduce poaching.[128] Therefore, this paper does not provide any conclusive proof whatsoever, but rather points to the possible risks of different policy choices on a theoretical level and based on a non-EU country. This is important inasmuch as this experimentation might be a valid policy option inside the Norwegian legal framework, but it definitely is not in the EU after the *Tapiola* ruling, which already articulated the precautionary principle to avoid these experimental trials from taking place with strictly protected species. Regarding the multiple parts where CABs decisions admit that current studies do not show that license hunting increases social tolerance at the moment, the Court remains completely silent, and considers that CABs have 'stated clear objectives' and 'the decision refers to scientific support for the assessments'.[129]

Although one could wonder if this lack of evidence on the effectiveness of this hunt to maintain FCS is due to the fact that, for starters, Swedish authorities do not even see that as the main objective, this is not the case in either of the three court rulings analyzed. Indeed, they all follow a similar formula, where they state that the purpose of the hunt is to account for socio-economic and psychosocial impacts, and that, in doing so, this can help with the FCS of the species.[130] However, the purpose seems elusive as it changes during the rulings depending on what needs to be justified: for example, while in the purpose section, all three rulings mention the importance of these hunts for FCS, they all seem to revolve around the motives of article 16.1.b when it comes to justifying the absence of alternatives.[131] The fact that the goal is so unclear makes it impossible to show with significant certainty that the means are appropriate for achieving the ends. Whether this unclarity is deliberate, in order to circumvent the limitations of let-

[126] C-2166-22 (n. 123) 5.
[127] Bjørn P Kaltenborn and Scott M Brainerd, 'Can Poaching Inadvertently Contribute to Increased Public Acceptance of Wolves in Scandinavia?' (2016) 62 European Journal of Wildlife Research 179, 179–188.
[128] Ibid., 179.
[129] C-1843-22 (n. 44) 5. My trans.
[130] Ibid.
[131] C-1827-22 (n. 125) 12-13.

ter (b) and letter (c) with the pretext of letter (e), is for each one to decide.

Finally, the weak standard of proof required to establish the link between license hunting and a substantial decrease in poaching can be seen in the choice of words in case C-1827-22:

> It appears that the area (…) has a high concentration of wolves and the administrative court finds no reason to question that this can be expected to lead to increased damage and, by extension, other unwanted effects that may have negative consequences for the favourable conservation status.(…) The administrative court therefore assesses that the stated purposes are acceptable and can be expected to a sufficient degree to be achieved with the decided hunt.[132]

This excerpt shows how the concept of poaching is being overshadowed by the rather more general notion of FCS, as something that can obviously be affected by socioeconomic circumstances. This is not, however, what the *Tapiola* requires, but rather rigorous scientific evidence that shows a substantial decrease in poaching with a net positive effect. The standard of proof applied in these cases, apart from being reversed, emanates from the body of administrative law, since a human activity, i.e. hunting, has implied the exclusion of a strictly protected species from the Environmental Law jurisdiction and its inclusion in the administrative one.[133] Meanwhile, other equally protected species under EU law are subjected to Environmental Courts, used to other types of standard of proof and to the developments in environmental jurisprudence. Indeed, administrative courts are arguably more used to other 'general ideas of legal equity'[134] in detriment of newer environmental legal principles such as the precautionary principle, leading to a contradictory treatment of equally protected species depending on what human activity is inflicted upon them, instead of on the Directive's legal categorization.[135] As de Vido notes with regards to the assessment of scientific evidence in environmental law,

> Courts that do not specialize in environmental law, for example, 'have struggled to apply novel legal concepts embedded in bespoke environmental law regimes, (…)' and owing to issues related to scientific knowledge, 'establishing the facts on traditional rules of evidence (…) has been difficult'. It is even more difficult when it comes to apply precaution and other environmental principles, whose content and legal nature are particularly difficult to grasp.[136]

Indeed, SEPA's and CABs' decisions have been historically not scrutinized in much detail by administrative courts with regards to wolf hunting. A clear example can be found in the precedent-setting case in 2016,[137] where SEPA's choice of FCS was brought to the Supreme Administrative Court (hereinafter, HFD), and it was expected that the Court would scrutinize the Agency's choice of a result over the others. As previously explained, the results chosen belonged to the subset of researchers who openly justified a low

[132] Ibid., 6-7.

[133] *See* Parikka Altenstedt (n. 6) 28, 'This interpretation becomes problematic because it takes into account the human activity – a social and cultural practice, i.e. an activity directed towards the animal– that defines the legal status of the animal. Thus, the protection needs of some animals are defined by the needs of humans. Different animal species are not treated equally by the Authority even though their protection needs are legally established by EU law to be equal' (my trans).

[134] Staffan Westerlund, 'Fundamentals of Environmental Law Methodology' (Uppsala University, Department of Law 2007) 518 (37.19).

[135] Parikka Altenstedt (n. 6) 101.

[136] de Vido (n. 94), 1328 (footnotes omitted).

[137] HFD 2016 ref. 89.

FCS level because of social controversies, since FCS based only on ecological grounds would require a number too high for what society could allegedly tolerate.[138] This assignment was supposed to gather the science-based criteria necessary for SEPA to, afterwards, take a decision that considered other relevant factors, such as socioeconomic ones. But, by including these external elements from the beginning in the scientific report, sociopolitical factors were likely to be given more weight in detriment of scientific grounds. Therefore, NGOs expected the HFD to assess this decision's legality. However, all that was said in this respect was that 'the Supreme Administrative Court has no reason to question the scientific basis on which the Swedish Environmental Protection Agency has based its assessment'[139]. Indeed, and as Gustav Stenseke notes in his doctoral thesis Entangled law, the approach of the Court towards the scientific research provided by SEPA was more procedural, rather than substantive. In his own words, 'they seemed to look at the reports a bit more as formalities, rather than examining their relations to the arguments again'[140]. The repeated use of the same formula in most rulings regarding wolf licensed hunting ('the administrative court finds no reason to question…'[141]) seems to shift the burden of proof to NGOs, rather than on the derogating authorities.

4.2 Other satisfactory alternative

First of all, it should be noted that nowhere whatsoever in any of the three rulings, when addressing other appropriate solutions, is poaching mentioned. Indeed, and as C-1827-22 says, 'there is no other suitable solution than license hunting to reduce the density of the wolf population, the impact on socioeconomic conditions and the impact on moose management in the selected areas'[142]. In fact, even if the purpose of protecting livestock could be subsumed in letter e), there would still be the question of how are different interests balanced in accordance with article 2 HD. The answer is very clear when the Court states, in C-2166-22, that 'the *fäbodbruken* farms referred to in the County Board's decision require domestic animals to graze freely, which is why fencing is not a suitable solution'[143]. It is self-evident that the objective has been substituted by the means, since saying that there is no alternative for reducing the population than license hunting, makes the same sense as saying that there is no alternative for derogating than to derogate. Indeed, when the objective is to derogate by and of itself, no possible alternative measures can be addressed.

4.3 Precautionary principle

Though there is not a reserved paragraph for assessing the precautionary principle, each court decision says that the principles of proportionality and precaution have been addressed in their decision regarding FCS.[144] However, it is rather questionable how a 13% risk of falling below FCS would be acceptable, unless of course one considers the precautionary principle as merely asking that one is certain about the uncertainty. Indeed, it is repeatedly mentioned in the rulings that the taxation developed by Skandulv 'ensures that all mortality parameters, including il-

138 Liberg and others (n. 54).
139 HFD 2016 ref. 89, 15. My trans.
140 Stenseke (n. 59) 285.
141 C-1827-22 p. 7. My trans; HFD 2016 ref. 89 p. 15. My trans.
142 C-1827-22, 12. My trans.
143 C-2166-22, 12 (emphasis added). My trans. 'Fäbodbruken' is a type of traditional farming, recently proposed by Sweden and Norway for the UNESCO List of Intangible Cultural Heritage, see also <https://unesco.se/sverige-och-norge-nominerar-fabodbruk-till-unescos-representativa-lista-over-immateriellt-kulturarv/> accessed 30 May 2023.
144 C-1843-22, 11.

legal hunting, are considered',[145] but the knowledge/certainty of the degree of uncertainty is not sufficient with regards to this environmental law principle, as the *Tapiola* clarified.[146]

In this case, the taxation developed by Skandulv could qualify as the best scientific data available required by the CJEU, and this puts a number on the risk that is being taken. Placing a percentage on the uncertainty does not make it go away, but rather it makes it more palpable. Thus, the acceptance of a 13% risk seems clearly contrary to the *Tapiola* case.

4.4 Selectiveness and strictly controlled conditions of the derogation

Here, as in the decisions of CABs, selectiveness is interpreted merely at the genetic and geographical level. While the court explains how the territory is specifically defined so that no wolves other than those subject to the hunt are killed,[147] and that no F1 (first generation immigrant) is located in the area, in the end, this just means that one can kill an entire wolf territory as long as there is exhaustive knowledge on the number of specimens affected and the boundaries of such territory. Like with the assessment of the precautionary principle, there seems to be a confusion between exhaustive knowledge of the risks assumed and compliance with the law. Just like knowing that the risk is of a 13% does not mean it fulfills the precautionary principle, knowing the number of animals, including F2s, breeding pairs and alpha males that will be killed and the demarcation details does not make it more selective, only more predictable and quantified.

The court did change, in C-2166-22, the demarcation of two hunting areas at the request of the CAB, so that the risk of targeting other wolves than the ones subject to the hunt was minimized.[148] In C-1827-22, the change did not concern the demarcation but the number of wolves subject to the area of Flatmossen, because 'this increases the chances that all individuals in the designated areas have the opportunity to be caught'[149]. Since this ruling concerned 18 wolves divided into 3 territories, the Court considered that the hunt would be selective if it concerned 6 specific wolves per territory.[150] This is closer to the meaning of selectiveness intended by the Directive and, arguably, by the *Tapiola* case, although the biological characteristics of the species and the identification of individuals in order to avoid targeting the breeding pairs is still not met, since this would go against the main purpose of erasing whole wolf territories. However, once again, the analysis of the legality of the hunt is trumped by the lack of clarity in its objectives.

4.5 Favourable Conservation Status and limitedness

The reason why Favourable Conservation status is assessed together with limitedness in the rulings has to do with the previous way of assessing article 16.1.e by Swedish Courts. Indeed, previous years' rulings considered the hunt limited as long as it did not affect FCS.[151] Despite the *Tapiola* ruling clarifying that more than that was required, this was standard procedure until the 2023's hunt, making the inclusion of limitedness in letter e) quite futile, since, if this is supposed to mean the same as FCS, the legislator would not have included this extra requirement in letter e). However, this approach was endorsed by the HFD in the precedent setting 2016 ruling, where it shielded SEPA's discretionary decision from judicial scrutiny. It is worth asking if this

[145] Ibid., p. 9. My trans.
[146] *Tapiola*, para 66.
[147] C-1843-22, 6.
[148] C-2166-22, 8.
[149] C-1827-22, 5. My trans.
[150] Ibid., p. 8.
[151] HFD 2016 ref. 89, p. 19–20.

would have been the case after the *Tapiola* ruling and its stricter requirements regarding scientific evidence, which put a clear legal mandate on the Court to scrutinize the rigorous scientific evidence relied on by public authorities.

The NGOs noted that FCS was not met, even according to the studies endorsed by SEPA and confirmed by the HFD, since there was not a new immigrant in the population and Sweden could not include the Norwegian immigrant according to the *Tapiola* ruling. However, the court considered that the lack of an immigrant in the Swedish population, as required by SEPA's report, was not sufficient grounds to depart from it 'as the starting point'[152]. Moreover, since 'the majority of the sub-objectives' established by a SEPA's report from 2020 in relation to genetic reinforcement of wolves were met, and there was an immigrant in Norway, the reference value of 300 wolves was upheld by the court.[153] With regards to the *Tapiola* ruling, that states that, when measuring FCS, Member States should exclude third countries not dutybound by an EU obligation of species strict protection, the courts did not even attempt to justify its departure from the EU case law. They simply stated that the reference value did not lose legitimacy because of these reasons, 'regardless of the subsequent statement of the European Court of Justice on third countries'[154], which seems an open admission of non-compliance. In C-2166-22, they added another reason why FCS could still be upheld: the court did not interpret that 'the reference value of 300 individuals loses its legitimacy when a certain number of years have passed since a wolf immigrated'[155]. Nevertheless, this was a condition sine qua non by the researchers who did this study: that one immigrant would join the genetic pool every wolf generation, that is, every 5 years.[156] Surprisingly, in C-1827-22, the court did not even address the NGO claims related to the *Tapiola* prohibition on third countries when accounting for FCS.

Regarding the claims concerning the reduction that these hunts would entail for the wolves' natural range, the court answered that it found no reason to think 'that hunting in the territories in question entails a risk that the natural range of the wolf population will be reduced in the foreseeable future'[157], which seems rather odd since the same court admitted that the purpose of the hunt was to reduce wolf territories: 'To reduce the density of wolves, you need to reduce the density of wolf territories'[158].

When it was time to assess the limitedness of the hunt, one key element that is missing is the assessment of the impact at the local level, since it seems impossible to justify that a hunt intended to dissolve entire wolf territories will not have an impact at the local level. Indeed, the court admitted that 'The decided take is at a level that is projected to result in a national reduction in the number of breeding animals and break an upward trend'[159]. How this can amount to a net positive effect is, therefore, hard to comprehend. However, and drawing again on the confusing nature of the purposes, one could argue that reducing poaching was not actually the purpose of the hunt, and so no net positive effect would need to be proven, despite the multiple times where CABs definitely mentioned this purpose. Moreover, it would then be complicated to justify the use of article 16.1.e, since letter (b) or (c) already provide for the opportunity to account for the socioeconomic measures they seem to refer

[152] C-1827-22, 11. My trans.
[153] C-1843-22, 9.
[154] Ibid., 9. My trans.
[155] C-2166-22, 10. My trans.
[156] SEPA Report (n. 46) 7.
[157] C-1843-22, 10. My trans.
[158] C-1827-22, 6. My trans.
[159] C-1843-22, 10. My trans.

to, that is, attacks to livestock and socioeconomic consequences of overriding public interest.

The fragmented nature of the hunt, judged in separate rulings corresponding to each specific CAB's decision, also led to a deficient assessment of additive effects. In this sense, from the 3 rulings, 1 on Örebro and 2 on Värmland, the Court reduced one hunt in Värmland for a total of 9 wolves on the basis that it was partly held on Norwegian territory.[160] The limited nature of the other two hunts in Örebro and Värmland was justified on the basis of this previous reduction. Thus, despite 'the percentage of the population size touches the limit of what can be considered a limited quantity'[161], the reduction of the Värmland hunt for 9 wolves meant that 'the *remaining* total hunting take can still be assessed as sufficiently limited based *on a combined assessment of all aspects now considered*',[162] according to the court in the other two rulings.

Nonetheless, that Värmland hunt was appealed to the Sundsvall Court of Appeal, who disagreed on the grounds used to reduce the hunt, and sent the case back to the Luleå Court in order to address the other legal requirements which had not been assessed in its first judgment.[163] Thus, the Luleå Court finally permitted the killing of these extra 9 wolves. This means that the basis used in the other two hunts to justify their limitedness was ultimately lacking. However, the limited nature of the hunt was also justified by the Luleå Court on the fact that a larger harvest was in line with the delegating decision of SEPA.[164] But this argument is problematic, because it seems to imply that SEPA's decision is exempt from legal scrutiny and that the court analysis is done as if SEPA's decision is another law to which CABs must obey, instead of another decision subject to the analysis of the court.

5. Conclusions

Reasons for the lack of effectiveness of the Habitats Directive have already been located in its deficient implementation by Member States.[165] However, the importance of recognizing the role that contradictory legal epistemological frameworks play in this tension has seldomly been explored in the legal doctrine.[166] While Rome's foundational story revolves around a she-wolf saving the life of Romulus and Rem, in Sweden even the real name of the wolf (ulv) has been substituted by a euphemism (varg), whose pronunciation is even taboo for some people, according to journalist Lars Berge.[167] The subsequent antithetical treatment of the species by national legislation, despite sharing the same EU framework, is self-explanatory, and these diverging ontologies transpire despite the same norm (Habitats Directive) applying in all of them. Therefore, while Member States are only dutybound by an obligation of result when transposing the Directive, it is worth being asked if such a transposition can obviate the most crucial aspect of the law: what objective, and therefore what result, should the law pursue. The previous analysis has tried to show that these paradoxical epistemic frameworks (the Directive looking at how to protect, and hunting laws looking at how to kill), have resulted in administrative and judicial

[160] Administrative Court of Luleå, judgment 2022-11-30, Case No. 1825-22 (Swedish) (overruled).
[161] C-1843-22. My trans.
[162] C-1827-22, 12 (emphasis added). My trans.
[163] C-2166-22, 2-3. My trans.
[164] C-1843-22, 8. My trans.

[165] Commission, 'Fitness Check of the EU Nature Legislation (Birds and Habitats Directives)' (2016) <https://commission.europa.eu/system/files/2017-01/swd-2016-472-final_en.pdf> accessed 29 May 2023, 96.
[166] With the exception of Parikka Altenstedt (n. 6).
[167] Lars Berge, *La Hora Del Lobo* (Alejandra Ramírez tr, Editorial Almuzara, 2022) (Spanish) 95–96; Berge, Lars, *Vargattacken* (Stockholm: Albert Bonniers förlag, 2018) (Swedish).

decisions that do not follow the jurisprudence of the CJEU.

The Habitats Directive does not set a mere list of prohibitions and exceptions to insert in each national legal regime, but rather calls for an adaptation of old anthropocentric legal paradigms to the current biodiversity crises.[168] Trying to make both views compatible seems to lead to never-ending infringement proceedings with the Commission, and the *Tapiola* case, while giving clear and sharp advice, has been completely disregarded by the Swedish authorities, who have named the case along their decisions but have not actually implemented most of its requirements. Thus, effective implementation of EU law will not happen unless the real objectives of the Directive are also transposed for large carnivores in Swedish legislation.

Meanwhile, Swedish administrative law is proving unable to hold authorities accountable for their breach of the Habitats Directive, which is noticeable in the piecemeal approach of the caselaw analyzed in section 3. Here, individual hunts in each county were analyzed by the Court, but SEPA's guidelines and decision on the 2023 hunt, rather than being subjected to judicial scrutiny, were used as a template to assess the legality of the hunts. While a regionalized system for large carnivore management is necessary to increase legitimacy, this cannot be at the expense of shielding administrative decisions from judicial scrutiny. Not only is the standard of proof in administrative courts arguably different than the one used in environmental courts, where there is specialized staff used to analyzing scientific evidence in environmental matters, but additive effects could be neglected as it happened in the 2023 hunt. This is because, through the division of the global national hunt in several ones to be analyzed separately by the court, it actually relied on a previous ruling where it had reduced the hunting quota in order to justify the limitedness of two subsequently judged hunts, but since the former ruling was appealed and the hunting quota was finally not reduced, cumulative effects were not properly accounted for.

Moreover, the conspicuous use of letter (e) in art. 16 HD to circumvent the limitations of letter (b) and (c), is done through the salami-slicing method explained in section 2. It includes, in the case at hand, the establishment of ambitious purposes such as increasing social tolerance with hunts that ultimately improve FCS, but focusing exclusively on subordinate premises to improve social tolerance when the time comes to back those statements with sufficient scientific evidence or to frame those measures inside the requirements of article 16 HD. After the legal analysis developed along these lines, it seems safe to say that the 2023 Swedish wolf hunt would hardly pass the scrutiny of the CJEU in most of its elements. The fact that Swedish courts have acknowledged the existence of contradictory CJEU caselaw with regards to the inclusion of wolves from third countries,[169] and yet have decided to disregard it with an infringement proceeding open, raises questions in terms of the Commission's role to restore the rule of law.

Recently, a complainant brought this matter to the European Ombudsman.[170] The complaint was based on the fact that 'the European Commission has not yet concluded an ongoing infringement investigation about Swedish legisla-

[168] However, some authors have criticized the Habitats Directive for its anthropocentrism, cf. Katarina Hovden, 'The Best Is Not Good Enough: Ecological (Il)Literacy and the Rights of Nature in the European Union' (2018) 15 Journal for European Environmental & Planning Law 281.

[169] C-1843-22, 9.

[170] European Ombudsman, 'Decision on the time taken by the European Commission to bring to conclusion an infringement investigation about wolf hunting in Sweden' (Decision) 163/2023/PB.

tion and practices that allegedly breach the EU's Habitats Directive by allowing for unauthorized and excessive killing of wolves'.[171] Indeed, citizens' petitions for the European Commission to move forward with the infringement procedure have not yielded results, the last Reply of the Commission on March 2019 saying that they were 'in close contact with the Swedish authorities to follow up on the situation'.[172] However, the Ombudsman closed this case on the following grounds: despite the handling time of the infringement proceeding was very long, it was not characterized by lack of attention to EU law or a strategic approach to its resolution, and the Commission had informed the Ombudsman that, 'whilst no date has been fixed for the next step in the case, there is a reasonable assumption that the next stage could take place by the end of 2023'[173]. Since 'no further inquiries were justified at this stage'[174], the Ombudsman closed the case.

The surprise came on December 20th 2023, when the Commission issued a proposal for a Council decision to lower the protection status of the wolf under the Bern Convention, which is a necessary step in order to move the wolf from Annex IV to Annex V in the Habitats Directive.[175] This comes as a surprise since just one year ago, the same proposal was put forward by Switzerland in the Standing Committee of the Bern Convention, and the EU voted against.[176] Has the Commission given up on the possibility of some Member States adapting to the comeback of large carnivores? It is precisely this system of strict protection what has allowed for the recovery and comeback of the wolf where it had been extirpated through intensive hunting.[177]

This is not definitive, though. As of now, it is only a proposal to the Council of the European Union. However, if the Council adopts it, the lowering of wolf protection in the Bern Convention's Standing Committee will likely be approved by the required two-thirds majority, since the EU counts for 27. Hence, if the change in wolf protection is consummated and the EU subsequently alters the Habitats Directive Annexes as well, there will be no point in pursuing the infringement proceeding against Sweden. The epistemological framework of the Habitats Directive, though, would still apply. A hunting regime for the wolf would still be subjected to the prerequisite of favourable conservation status as mandated in article 14, and article 2's overall epistemic hierarchy would still locate biodiversity conservation as the overarching goal of the Directive.

In the meantime, legal analysis should focus on the existing framework as this article attempts to do. An assessment of the reasons for killing wolves in Swedish law leads to the conclusion that wolves are doomed by their own predatory nature. Indeed, if wolves hunt wild animals, which is what apex predators do, hunters will kill them because they are competing for game. If, instead, they kill livestock which is left completely unfenced and unprotected in the midst of the forest,[178] they will be killed as well for attacking private property. What's more, even

[171] Ibid.
[172] European Parliament, Committee on Petitions, 'Petition No 0011/2015 Johanna Parikka Altenstedt (Swedish) on the steps taken by the Commission in a case concerning wolf hunting in Sweden (Notice to members) p. 1, PE575.008v06-00.
[173] European Ombudsman, 2 (n. 170).
[174] Ibid.
[175] Commission, 'Proposal for a Council Decision on the position to be taken on behalf of the European Union on submitting proposals for amendment of Appendices II and III of the Convention on the conservation of European wildlife and natural habitats with a view to the meeting of the Standing Committee of the Convention' COM (2023) 799 final.
[176] Ibid., p. 2.
[177] Guillaume Chapron et al., 'European Commission may gut wolf protection' [2023] 382/6668 Science p. 275.
[178] C-2166-22, 12.

if wolves did not eat anything at all, if a loose hunting dog approached their territory and the pack defended its den from intruders, since this could also lead to an attacked dog, wolves would be shot as well. Thus, biodiversity conservation appears a weak contender in the priority list of Swedish wildlife agencies. When looking at the valid law, one comes to the conclusion that national law has become a subterfuge to mask old epistemic frameworks under weak transpositions. As it is unlikely that the Commission will take further steps in this infringement proceeding, strict wolf protection, as envisaged in the Habitats Directive for the last 31 years, might be dodged by Sweden and end up being all bark and no bite.

United State's Plastic Waste Trade and International Law

Impact, the Basel Convention, and Future Prospects

*Joanna Helt**

Abstract

The global proliferation of plastic waste has reached alarming quantities, yet there are no universally acknowledged solutions in sight. This article examines how the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes has addressed the issue of plastic waste import and exports, especially in relation to the United States as a non-state party, due to its significant role in plastic waste generation. Furthermore, this article analyses regional responses to the shortcomings of the Basel Convention, as well as investigating the legal pathways currently used by the United States, including an examination into potential future trade agreements. The article emphasises on the United States as a State prone to non-engagement, and how it uses legal and political manoeuvring to avoid treaty obligations; shedding a light on the critical need for international cooperation in relation to plastic waste management.

Keywords: plastic waste trade; United States of America; Basel Convention; Bamako Convention; marine plastic pollution

1. Introduction

The world generates approximately 350 million metric tons of plastic waste on a yearly basis. Today's society bears a stamp of a 'throw away culture', where only a fraction (probably less than 20%) of plastic waste is recycled, whereas the rest is incinerated or disposed of.[1] Plastic waste management currently follows a linear structure, where single-use plastics are dominating the market, and are almost always discarded after its initial use.[2] When hazardous wastes are improperly disposed of in landfills, leakages of plastics, and other toxic chemicals leaches into the ground- and water sources, or are released into the atmosphere through incineration.[3] There are well documented negative effects arising from the huge amounts of generated plastic waste, including contributions to resource depletion and the release of greenhouse gas emissions causing harm to the ecosystems.[4]

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[1] Roland Geyer, 'Production, use, and fate of synthetic polymers' in Trevor M Letcher (ed), *Plastic Waste and Recycling: Environmental Impact, Societal Issues, Prevention and Solutions* (Elsevier 2020) 21; Eva Romée van der Marel, 'Trading Plastic Waste in a Global Economy: Soundly Regulated by the Basel Convention?' (2022) 34 Journal of Environmental Law 477.

[2] Alessio Miatto, Barbara K Reck, Jinghan Di, Thomas E Graedel 'United States plastics: Large flows, short lifetimes, and negligible recycling' (2021) 167 Resources, Conservation and Recycling 1.

[3] Zada Lipman, 'Trade in Hazardous Waste' in Carmen G Gonzalez, Jona Razzaque, Shawkat Alam and Sumudu Atapattu (eds.), '*International Environmental Law and the Global South*' (Cambridge University Press 2015).

[4] Geyer, *supra* n. (1) 24; Romée van der Marel, *supra* n. (1).

Evidently, the enormous effects the massive volumes of plastic waste have on the environment, and on human health is too broad to tackle in this article. Accordingly, this article will focus on the United States of America (U.S.), and its plastic waste trade under international law, as well as some aspects of the environmental impacts arising from plastic waste.

In a 2016 study, it was found that the U.S. generated 42 million metric tons of plastic waste – the highest number of produced plastic waste in the entire world. Furthermore, the amount of U.S. generated plastic waste ending up in the environment, especially in marine environments, was estimated to be up to five times larger than estimates made for 2010, making the U.S.'s contribution to marine plastic pollution among the highest worldwide.[5] When plastic waste is washed out to sea, wave- and wind forces, as well as solar radiation, break down the chemical bonds in plastic structures. This causes large plastics to break off into smaller components, known as micro- and nanoplastics. Fragmentation of such plastics increases the particle surface area, allowing for leakages of toxic chemicals into the environment.[6] Besides the environmental impacts, plastic pollution poses a threat to human health. The chemical additives deriving from plastic products are associated with health issues such as cancer, infertility, and neurodevelopmental disorders.[7] Accumulated micro- and nanoplastics in the environment inevitably travel up the food chain through human ingestion of food, and aquatic species.[8] Stagnant plastic waste also attracts harmful pathogens, which may be detrimental to human health.

Undoubtedly, plastic pollution is an imminent danger to the environment, as well as to human health. However, despite this, there are still neither any sound, uniformly defined goals around sustainability, in relation to plastic waste, nor any universally agreed upon approaches to tackle the issue under international law.[9] Hence, due to the growing threats of plastic pollution, this article will closely examine how the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and its Plastic Waste Amendments, adopted in 2019 to include the import and export of plastic waste, can efficiently tackle this issue. As the U.S., as aforementioned, was found to be one of the top worldwide polluters in 2016, along with the fact that the U.S. is a non-State Party to the Basel Convention, the main focal point will be the U.S.'s stance on plastic waste contribution.

In section two, key events from the 1970s and 1980s will firstly be introduced, as these lead to public outcries on the need of a uniform convention to tackle the issues of cross-border movements of hazardous wastes. Furthermore, the scope and functioning of the Basel Convention will be described, followed by the Plastic Waste Amendments, and an explanation of the Import Ban imposed by States in the Global South. Section two continues with an analysis of the current shortcomings of the Convention, and concludes with the regional, African Ba-

[5] George G Leonard, Jenna R Jambeck, Natalie Starr, Nicholas J Mallos, Theodore R Siegler, 'The United States' contribution of plastic waste to land and ocean' (2020) 6 Science Advances 1.

[6] National Academies of Sciences, Engineering, and Medicine (U.S.). Committee on the United States Contributions to Global Ocean Plastic Waste, *Reckoning with the U.S. role in global ocean plastic waste* (National Academies Press 2022) 110.

[7] 'Plastic Pollution Is a Human Health Issue' (*Plastic Health Coalition*) <https://www.plastichealthcoalition.org/> accessed 3 April 2023.

[8] Anastasia Telesetsky and Rebecca Bratspies, 'Global Plastic Pollution: Curbing single-use plastic production' in Erika Techera, Jade Lindley, Karen N. Scott and Anastasia Telesetsky (eds.), '*Routledge Handbook of International Environmental Law*' (2nd edn., Routledge 2021) 458.

[9] Romée van der Marel, *supra* n. (1).

mako Convention – created in light of the Basel Convention not imposing sufficiently strict rules on the transboundary movement of hazardous waste. In view of the Bamako Convention, the Malabo Protocol will also be introduced in this section.

In section three, the U.S.'s plastic waste generation, including the amount it seeks to export will be introduced, as well as the effects the U.S. is facing as a non-party to the Basel Convention. As an example, despite the U.S.'s contributions to the transboundary movements of hazardous wastes, it is not bound by the substantive legal obligations set out in the Basel Convention.[10] Moreover, the section includes an overview of the U.S.'s previous history as a leading player in the drafting of environmental treaties, and how it now essentially engages in active treaty avoidance; also at play in relation to the Basel Convention. Finally, the section finishes off with how the U.S. has tackled the Import Ban of plastic waste imposed by China, the U.S.'s largest plastic waste importer, pre-Plastic Waste Amendments.

In section four, explorations of the U.S.'s continuing legal possibilities to export plastic waste are analysed, where current bilateral agreements in conformity with Article 11 of the Basel Convention are highlighted, including the pending trade deal with Kenya, as well as opportunities for plastic waste export with Member States of the Organization for Economic Co-operation and Development (OECD). The section concludes with some examples of ways in which the U.S. could adopt domestic infrastructure to handle its plastic waste, and what domestic measures regarding the issue that have been proposed by the U.S.'s Environmental Protection Agency (EPA).

What this article seeks to address is what the regulatory space is for the U.S., including the legal possibilities under the Basel Convention, in view of the Plastic Waste Amendments, and the Ban Amendment, to export its plastic waste. What is more, addressing what the current legal situation is, following the Global South Import Ban, for the U.S. to legally export its plastic waste. This article will take the U.S.'s position as a non-State Party to the Basel Convention into account, and investigate legal possibilities of plastic waste export going forward. The article contributes to the existing literature as an analysis of the impact of U.S. generated plastic waste, and its regulation under international law in light of, and in relation to the Basel Convention and its recognized bilateral agreements.

2. Basel Convention

In this section, the historical background leading up to the drafting of the Basel Convention will firstly be described, followed by its scope, and objectives. Furthermore, the Plastic Waste Amendments from 2019, introduced and adopted at the 14th meeting of the Conference of State Parties to the Convention (COP14) will be discussed, including the impact of the Amendments on the relationship between Parties and non-State Parties. Additionally, the Import Ban on plastic waste, implemented by key importing States in the Global South, will be explained in connection with the U.S.'s exports of plastic waste to the area. Finally, this section concludes with current shortcomings of the Basel Convention, which will bring about the relevance of the regional, African Bamako Convention, and the Malabo Protocol.

[10] C Scott Fulton, Tseming Yang, 'The Case for U.S. Ratification of the Basel Convention on Hazardous Waste (2015) Santa Clara University Legal Studies Research Paper No. 1-15, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2688173> accessed 24 April 2023.

2.1 Historic Background

During the 1970s and the 1980s, the wealthy Global North began acknowledging the detriments of hazardous wastes, and thus, started imposing stricter disposal regulations for such wastes.[11] Consequently, the results were high cost increases, due to labour costs and environmental restrictions on the disposal of hazardous waste. According to a study conducted in the late 1980's, the costs of disposing one ton of hazardous waste in an industrialised country ranged between USD $100–$2000. Meanwhile, the cost for the same procedure in Africa was merely a fraction of that price, ranging between USD $2.50–$50.[12] The study highlights the economic incentive for waste brokers to look for low-cost options abroad to transfer their disposals. However, this transfer of responsibility from the Global North to the Global South is a forthgoing issue, which will be further elaborated on in this section.

The *Khian Sea* incident of 1986 involved a cargo ship, leaving docks from Philadelphia, U.S., loaded with 14,000 tons of toxic incinerator ash. The company handling the waste had intended to dump it in the Bahamas, after having been refused to send it to New Jersey. However, the shipment was turned away, following the Bahamian authorities learning about the true character of the cargo. *Khian Sea* spent the next 18 months at sea in search of a location to dispose of the remainder of the toxic cargo. The ship eventually ended up in Haiti, where some of the load was sold as 'fertiliser'. Once the Haitian government detected the transaction, it ordered the *Khian Sea* to remove the waste, though the ship left without a recovery operation. The rest of the cargo carried on the *Khian Sea* 'disappeared' on a route between Singapore and Sri Lanka. The cargo crew later admitted the waste had been dumped somewhere in the Indian- and Atlantic Ocean.[13]

Another notable case involving the illegal disposal of hazardous waste occurred during the *Koko* incident in Nigeria. A Nigerian businessman negotiated with an Italian contractor to store 8,000 barrels of toxic waste in the Nigerian farmland. The waste caused significant impacts on public health and caused tremendous harm until it was removed.[14] The *Khian Sea*, and the *Koko* incident sparked public debate regarding the transboundary movements of hazardous wastes, leading up to the drafting and signing of the Basel Convention in 1989.[15]

2.2 Scope of the Basel Convention

The Basel Convention has three objectives: (1) to reduce transboundary movement of hazardous wastes to a minimum, and in conformity with environmentally sound management; meaning the waste must be disposed of efficiently, in appropriate facilities, and in a safe manner; (2) to dispose of such wastes as close to the source of generation as possible; (3) to minimise hazardous waste generation as a whole.[16] The scope is extensive, and the Convention distinguishes be-

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[11] Center For Progressive Reform, *Reclaiming Global Environmental Leadership: Why the United States Should Ratify Ten Pending Environmental Treaties* (White Paper, No. 1201, 2012).

[12] Lipman, *supra* n. (3).

[13] Hao-Nhien Q Vu, 'The Law of Treaties and Export of Hazardous Waste' (1993) 12 UCLA Journal of Environmental Law and Policy 389; Center for Progressive Reform, *supra* n. (11).

[14] Ifeoma M Onyerikam, 'Achieving Compliance With the Basel Convention on Transboundary Movement of Hazardous Wastes' (LLM thesis, University of Alberta 2007).

[15] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (adopted 22 March 1989, entered into force 5 May 1992) 1673 UNTS 57.

[16] Tony George Puthucherril, 'Regulating Toxic Chemicals, Pesticides, and Hazardous Wastes: A TWAIL approach to the BRS legal regime for a detoxified future' in Erika Techera, Jade Lindley, Karen N Scott and Anasta-

tween different types of waste streams in a series of Annexes. 'Hazardous wastes', under Annex I, provides for a broad definition of wastes considered to be of a hazardous nature. 'Other wastes' requiring special circumstance, including household garbage and ashes from such wastes are covered in Annex II. Wastes presumed non-hazardous, thereby falling outside the scope of the Convention, are covered in Annex IX, and include various amounts of metals, glass, and ceramic waste.[17] Annex III expands hazardous characteristics, such as poisonous and ecotoxic, and Annex VIII list wastes presumed hazardous.[18] The intent of the Convention is neither to prohibit, nor restrict trade. Rather, it seeks to offer flexible regulatory principles to guide the operation in favour of the promotion of environmental protection, justice and sound management, as well as sustainable development and promotion of public safety, health and international cooperation.[19] Furthermore, the Convention affirms the sovereign rights of States, given the ability to unilaterally prohibit imports of hazardous wastes, and offers the opportunity to redefine non-hazardous wastes as hazardous.[20]

The Basel Convention's key provisions can be summarised in Articles 4, 6, 8, 9 and 11. Consecutively, stemming from the Plastic Waste Amendments, (further elaborated upon in the succeeding subsection) the new 'prior informed consent' (PIC) procedure is found in Article 4 and 6. Article 4(1) contains the PIC-procedure governing the waste trade between State Parties, and prohibits hazardous waste trade where explicit consent has not been obtained for the import of the waste in question. Additionally, Article 4(2)(b) emphasises the obligation of exporting States to ensure the availability of adequate disposal facilities for the environmentally sound management of the hazardous waste in the importing State, and Article 4(5) prohibits State parties from engaging in export of hazardous wastes with non-Parties to the Convention.[21] Moreover, Article 6 encompasses the specific requirement for the PIC-procedure, such as the requirement of a written confirmation from the importing State, which provides the affirmative consent, or the denial of the shipment. On top of that, Article 6 imposes a prohibition of export, prior to confirmation and finalisation of the specifications of the State's consent, and the environmentally sound waste disposal management.[22] Articles 8 and 9 incorporate the consequences provoked when the exported waste is improperly disposed of. Article 8 contains a duty of the exporting State to re-import the hazardous waste in cases where the shipment cannot be concluded in accordance with the terms of the contract, unless alternative arrangements can be made to dispose of the waste in an environmentally sound manner.[23] Meanwhile, Article 9 elaborates on what constitutes illegal traffic. These include shipments conducted without meeting the PIC-requirement, consent obtained through falsified documents, misrepresentation or fraud, or shipments performed with the intent of illegal disposal of hazardous wastes;

sia Telesetsky (eds.), '*Routledge Handbook of International Environmental Law*' (2nd edn., Routledge 2021) 191.

[17] Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal (adopted 10 December 1999, not yet in force) UN Doc UNEP/CHW.1/WG/1/9/2.

[18] Romée van der Marel, *supra* n. (1).

[19] Puthucherril, *supra* n. (16) 191.

[20] Tony George Puthucherril 'Two Decades of the Basel Convention' in Erika Techera, Jahid Hossain Bhuiyan, Shawkat Alam, and Tareq ME Chowdhury (eds.), '*Routledge Handbook of International Environmental Law*' (1st edn, Routledge 2013) 295.

[21] Basel Convention, *supra* n. (15) article 4(1), article 4(5); Fulton and Yang, *supra* n. (10).

[22] Basel Convention, *supra* n. (15) article 6; Fulton and Yang, *supra* n. (10).

[23] Basel Convention, *supra* n. (15) article 8.

contradicting the aim of the Basel Convention.[24] Another noteworthy provision to mention is Article 20 on the settlement of disputes. In the case of an arising dispute between State Parties as to the interpretation, application, or compliance with the Basel Convention, the Parties shall seek to settle the dispute through negotiation, or other peaceful means. Furthermore, if settlement is not possible, the parties shall submit the case to the International Court of Justice (ICJ) or to arbitration. Upon ratification of the Basel Convention, States accept the jurisdiction of these dispute settlement alternatives *ipso facto*.[25]

Finally, and importantly, the general obligation under Article 4(5) of the Convention declares that a Party shall not permit import or export of hazardous wastes to non-State Parties.[26] Nonetheless, Article 11 provides State Parties with the option of entering into bilateral, multilateral, regional agreements, and arrangements of transboundary movement of hazardous wastes with State Parties or non-State Parties, provided such agreements do not derogate from the required environmentally sound management of hazardous wastes set out in the Convention.[27]

2.3 Plastic Waste Amendments

By virtue of the growing awareness surrounding the negative impacts of plastic waste on sustainable development, and the pressing global issue plastic debris management has become; amendments were made to the Convention in 2019 in order to rectify plastic previously not being included in the Annexes defining what constitutes hazardous wastes. These were adopted at the COP14, with the objective to enhance control of the transboundary movements of plastic waste, in conjunction with an overarching aim to protect human health and the environment.[28] The Plastic Waste Amendments were inserted into Annex II, falling within the category of 'other wastes'. Therefore, plastic waste, including mixtures of if, was clarified as included within the scope of the Basel Convention, hence becoming subject to the obligations set out in Article 4.[29]

Furthermore, the Plastic Waste Amendments included new rules on the aforementioned PIC-procedure, where the exporting State needs explicit consent from the importing State when conducting shipments involving plastic waste.[30] The rules were introduced in order to protect developing States in the Global South from unfair exploitation from industrialised countries in the Global North, due to the historical trend of unfair export of hazardous wastes. Moreover, the meeting launched an updated version of the Technical Guidelines, first adopted in 2002, on the environmentally sound management of plastic waste. In order to endorse the prevention, or minimization of plastic generation, as well as enhancement, improvement, and promotion of environmentally sound management, the 'Plastic Waste Partnership' was established. The Plastic Waste Amendments serve a crucial part of the global plastic economy, as the Basel Convention currently has 190 State Parties, many of which rely on the trade of plastic waste.[31] Moreover, the Plastic Waste Amendments provide an important step towards addressing the 'throw away

[24] Basel Convention, *supra* n. (15) article 9.
[25] Basel Convention, *supra* n. (15) article 20.
[26] Basel Convention, *supra* n. (15) article 4(5).
[27] Basel Convention, *supra* n. (15) article 11.
[28] 'Basel Convention Plastic Waste Amendments' (*UN Environment Programme: Basel Convention: Controlling transboundary movements of hazardous wastes and their disposal*) <http://www.basel.int/Implementation/Plasticwaste/Amendments/Overview/tabid/8426/Default.aspx> accessed 23 February 2023.
[29] Romée van der Marel, *supra* n. (1).
[30] Miho Ligare 'Industry's Federal Government Ties Lead to Unjust Plastic Waste Export to Kenya' (*Surfrider Foundation*) <https://www.surfrider.org/coastal-blog/entry/industrys-federal-government-ties-lead-to-unjust-plastic-waste-export-to-kenya> accessed 6 April 2023.
[31] Romée van der Marel, *supra* n. (1).

culture' of the Global North, and highlights the consequences consumerism culture has, given the widespread use of single-use plastics.[32]

Additionally, another drastic change concluded in the Plastic Waste Amendments is the restriction on State Parties to engage in plastic waste transactions with non-State Parties. Hence, the biggest impact would, in practice, fall on non-State Parties.[33] However, despite the prohibition, opportunities still remain for the U.S. to conclude valid agreements under Article 11 of the Basel Convention, as long as the PIC-procedure is included. Notwithstanding the remaining contractual opportunities for the U.S., the State remained the only Member State within the OECD opposing the Plastic Waste Amendments; ostracising itself from the rest of the international community with regards to plastic waste.[34]

2.4 Restrictions of Plastic Waste Imports from the Global South

In 2017, China forbade the import of 24 solid waste materials, including all forms of unprocessed plastic, under an Import Ban regulation by means of a campaign against foreign garbage. Moreover, China tightened their regulations on the levels of impurities permissible in recyclable wastes.[35] These plans were finalised in 2018 when China ceased all imports of the banned waste materials, officially declaring a global 'plastic waste crisis'. Exporting countries were left with gigantic volumes of (plastic) waste at their own borders, with China having closed its doors on plastic waste imports. The Global North quickly began looking for new export markets, where countries in Southeast Asia seemed attractive. However, these countries also acknowledged the negative impacts arising from importing low-quality, chemically contaminated plastic waste, that would have nowhere to go but the environment.[36] Therefore, Thailand first followed China's footsteps in 2018, banning imports of e-waste and plastic waste; followed by India in 2019, amending its rules on hazardous waste import to prohibit solid plastic waste.[37] Furthermore, Vietnam, the Philippines and Malaysia took measures in the same year to restrict the import of wastes.[38] These decisions have come to panic the industrialised part of the world, including the U.S., heavily relying on the exportation of, in particular, plastic waste, to the Global South.[39] These restrictions on plastic waste imports are relevant given the high records held by the U.S. in terms of plastic waste exports, especially to China. This will further be elaborated upon in the next chapter.

2.5 Shortcomings of the Legal Regime of the Basel Convention

The creation of the Basel Convention was certainly a landmark Treaty to officially recognize the harmful effect arising from the transboundary movements of hazardous wastes from the developed Global North to the developing Global South. However, it must be noted that compli-

[32] Telesetsky & Bratspies, *supra* n. (8) 461.

[33] Emily Benson and Sarah Mortensen 'The Basel Convention: From Hazardous Waste to Plastic Pollution' (*The Center for Strategic and International Studies (CSIS)*, 7 October 2021) <https://www.csis.org/analysis/basel-convention-hazardous-waste-plastic-pollution> accessed 8 April 2023.

[34] Rina Li 'Scrap Collector: US stands as lone OECD opponent of Basel plastic amendment (*WasteDive*, 19 July 2019) <https://www.wastedive.com/news/scrap-collector-us-opposes-basel-plastic-amendment-oecd/559106/> accessed 8 April 2023.

[35] Shiming Yang, 'Trade for the Environment: Transboundary Hazardous Waste Movements After the Basel Convention (2020) 37 Review of Policy Research 713.

[36] Doug Woodring and Trish Hyde, 'Prepare for Round Three of the Plastic Waste Trade War' (2019) 75 Plastic Engineering Volume 32.

[37] Yang, *supra* n. (35).

[38] Yang, *supra* n. (35).

[39] Yang, *supra* n. (35).

ance with the Basel Convention is generally quite low, due to the failure of establishing reliable mechanisms for liability and compensation.[40] As there is no international structure in place to compel waste traders to pay compensation for causing damage, there is also no (economic) incentive to comply with the Basel Convention.

Two examples of deliberate non-compliance of the Basel Convention are two events of 2006, where the French ship *Clemenceau*, and *SS Norway*, transported asbestos to India, a toxic waste harmful to human health, under falsified information regarding the content of the cargo. As the shipments were refused, further attempts were made to move the waste to other developing countries.[41] Conclusively, these cases explicitly highlight how developed nations have attempted to export toxic waste to the Global South, where environmental regulations, and enforcement procedures are much lower than in the Global North. It sheds light on the vast issues of non-enforcement to the Basel Convention.

Illegal trade of hazardous wastes to the Global South abounds due to several factors. Firstly, for a long time the Basel Convention fell short by providing for a so-called 'recycling loophole'. In short, this loophole allowed traders to claim hazardous wastes as repairable, or recyclable to remain outside the scope of the Convention. The loophole was first removed with the introduction of the Ban Amendment, further elaborated on in section four. As the Basel Convention requires prior informed consent, the removal of this obligation – by remaining outside of the scope of the Convention – puts an extremely hard burden on the importing State to detect illegal hazardous waste trade, and analyse shipment paperwork at the border. It also removes the obligation of the exporting State to ensure adequate handling of the hazardous waste.[42] This is of major concern as many Southern countries lack the appropriate facilities to sufficiently dispose of the waste in a safe manner. Secondly, the import of hazardous wastes to the Global South remains due to both ignorance of the risks posed to human health, and the environment, in addition to the often economic necessity of these shipments to support a failing economy. This has specifically been an issue related to plastic waste given the fact that commercial, private actors established in countries in the Global North have disguised exported plastic waste (to the Global South) as being recyclable waste in the past.[43] This engenders a problem as much of exported plastic waste originates from single-use plastics; mainly produced with the intention to immediately be discarded i.e., it is not recyclable. Examples of such plastics include plastic bags, pallet wraps, plastic bottle caps and packaging containers.[44]

2.6 Bamako Convention

The Bamako Convention is a Treaty among African nations on the prohibition of the import of hazardous wastes into Africa. The African Union (AU) found the Basel Convention inadequate in the sense that it did not provide for a total prohibition on the transboundary movement of hazardous wastes. In the wake of several illegal dumping events on African soil, conducted by countries in the Global North, such as the aforementioned *Koko* incident, the AU demanded a total import ban on hazardous wastes from the Global North to the Global South, in order to

[40] Onyerikam, *supra* n. (14).
[41] Onyerikam, *supra* n. (14).
[42] 'Repairing the 'Repairables Loophole' in the e-Waste Technical Guideline' (*Basel Action Network*, 2017) <https://www.ban.org/2017/10/23/repairing-the-repairables-loophole-in-the-e-waste-technical-guideline/> accessed 4 April 2023.
[43] Lipman, *supra* n. (3).
[44] Telesetsky and Bratspies, *supra* n. (8) 459.

protect the continent.[45] Furthermore, the position of the AU was dictated by the feeling that African countries would be deficient in the effective control of transboundary movements of hazardous wastes, due to the lack of appropriate institutional, and technological means.[46] As the Basel Convention failed to impose such obligations at the time, the Bamako Convention was adopted in 1991 in line with Article 11 of the Basel Convention, encouraging State Parties to enter into bilateral, multilateral, or regional agreements to help achieve the overarching objectives of the Basel Convention.[47]

The formatting and language of the Bamako Convention mimics that of the Basel Convention. Like the Basel Convention, both instruments are based on the PIC-requirement. Consent must be given prior to shipments of hazardous wastes, in a written format, delivered to the relevant authority in the receiving State.[48] In the instance of an invalid consent procedure, the shipment is deemed as illegal traffic under Article 9. Moreover, Article 8 contains a duty to re-import hazardous waste shipments not concluded with the correct terms of the contract.[49] However, key differences are set out in the general obligations of the Bamako Convention. Firstly, the Bamako Convention is *de facto* prohibiting all imports of hazardous wastes into the African continent by imposing a complete import ban, including limitations on the regional transboundary movements of hazardous wastes through rigid, strict controls. Secondly, the Bamako Convention imposes significantly harsher obligations than those set out in the Basel Convention, such as strict and unlimited liability on violations. Thirdly, the Bamako Convention prohibits dumping of hazardous wastes in the ocean and inland waters, as well as prohibits incineration of hazardous wastes. Finally, the disposal of hazardous wastes must be conducted in an environmentally sound manner.[50] The outcome goal of the Bamako Convention is to promote a cleaner production of industrial waste, and to impose punitive measures on acts deemed illegal under the Convention.[51]

The Bamako Convention regards imports of hazardous wastes into Africa as illegal, criminal acts. Article 9(2) hence provides that each State Party introduces the appropriate national legislation for imposing criminal sanctions on all persons involved with illegal imports.[52] Besides, penalties are expected to be sufficiently high to punish, and deter trafficking of hazardous wastes – indicating that the Bamako Convention is regulated through domestic penal law. Moreover, State Parties are urged to cooperate

[45] Matiangai VS Sirleaf, 'Not Your Dumping Ground: Criminalization of Trafficking in Hazardous Wastes in Africa' (2018) University of Pittsburgh School of Law Working Paper No. 2018-10, 35/2 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3161739> accessed 19 May 2023.

[46] UNEP 'Conference of the Parties to the Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, Report by the Secretariat on the Implementation of the Bamako Convention' (16 Jan. 2018) UNEP/BC/COP.2/.

[47] 'The Bamako convention' (*UN Environment Programme*) <https://www.unep.org/explore-topics/environmental-rights-and-governance/what-we-do/meeting-international-environmental> accessed 19 May 2023; Basel Convention, *supra* n. (15) article 11.

[48] Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (adopted 30 January 1991, entered into force 22 April 1998) 2101 UNTS 177 article 6; Damilola S Olawuyi, 'The Emergence of International Environmental Law on Chemicals- An Appraisal of the Role of Soft Law' (2007) Hamad Bin Khalifa University College of Law <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=996430> accessed 19 May 2023.

[49] Bamako Convention, *supra* n. (48) article 8, article 9.

[50] Bamako Convention, *supra* n. (48) article 4; UN Environment Programme, *supra* n. (47).

[51] Sirleaf, *supra* n. (45); UN Environment Programme, *supra* n. (47).

[52] Bamako Convention, *supra* n. (48) article 9(2).

to ensure no imports of hazardous wastes from a non-State Party enters the territory of a State Party, and the Bamako Convention urges the use of other enforcement mechanisms to ensure these goals.[53] Nonetheless, the bare reliance of domestic enforcement for the prosecution of hazardous waste trafficking was likely viewed by State Parties as insufficient. Thus, the AU sought to create a regional forum for better, efficient prosecution of crimes related to hazardous wastes.[54] This led in 2014 to the adoption of the Malabo Protocol, which is further discussed in the next section.

Evidently, the adoption of the Bamako Convention was a distinct demonstration of the dissatisfaction of African states with the Basel Convention. However, the Bamako Convention has proven to have its limitations. One of them is the failure to attract support from the vast majority of African states, despite most of them having ratified the Basel Convention. The lack of political will for implementation stems from the economic realities faced by many African states. Illegal trade and importation of hazardous wastes are rewarded by substantial financial gain, and boosts national economies. Furthermore, the Convention lacks specific provisions on the development of adequate waste management technologies, resulting in an inability of many African states to meet the strict requirements. Another limitation is the inflexibility of international cooperation between the Secretariat of the Bamako Convention and the Basel Convention, which potentially would allow for a more successful implementation of the legal instruments.[55]

[53] Bamako Convention, *supra* n. (48) article 4(1)(b).

[54] Sirleaf, *supra* n. (45).

[55] Avitus A Agbor, 'The Ineffectiveness and Inadequacies of International Instruments in Combatting and Ending the Transboundary Movement of Hazardous Wastes and Environmental Degradation in Africa' (2016) 9 African Journal of Legal Studies 235.

2.6.1 Malabo Protocol

In 2014, the AU adopted the Protocol on Amendments to the Protocol on the Statute of the African Court of Justice and Human Rights (Malabo Protocol). The Protocol seeks to extend the jurisdiction of the yet-to-be formed African Court of Justice and Human Rights (ACJHR) to include crimes of an international, and transnational character.[56] The establishment of the Court would create an African regional criminal tribunal, and requires 15 ratifications to enter into force. At the time of writing, it currently only has 15 signatures.[57]

The relevance of the Malabo Protocol is that it criminalises the trafficking of hazardous wastes. The offence is constituted by any import, export, or failure to re-import transboundary movements of hazardous wastes, as prescribed in the Bamako Convention.[58] Furthermore, the Protocol seeks to address, and improve the current limitations to the Basel Convention on efficient regulation, including a stringent enforcement regime in the event of illegal movements of hazardous wastes.[59] Hence, the Malabo Protocol will be implemented by the nascent ACJHR as a complement to the domestic enforcement mechanisms State Parties are obliged to ensure under the Bamako Convention. Alternatively, as

[56] Sarah Nimigan, 'The Malabo Protocol, the ICC, and the Idea of 'Regional Complementarity' (2019) 17 Journal of International Criminal Justice 1005.

[57] African Union 'List of Countries Which Have Signed, Ratified/Acceded to the Protocol on Amendments to the Protocol on the Statute of the African Court of Justice and Human Rights' (20 May 2019) <https://au.int/sites/default/files/treaties/36398-sl-PROTOCOL%20ON%20AMENDMENTS%20TO%20THE%20PROTOCOL%20ON%20THE%20STATUTE%20OF%20THE%20AFRICAN%20COURT%20OF%20JUSTICE%20AND%20HUMAN%20RIGHTS.pdf> accessed 20 May 2023.

[58] Protocol on Amendments to the Protocol on the Statute of the African Court of Justice and Human Rights (Malabo Protocol) (adopted 27 June 2014, not yet in force) article 28L.

[59] Sirleaf, *supra* n. (45).

an 'other enforcement mechanism' under Article 4(1)(b), serving as a regional forum of efficient prosecution of hazardous waste trafficking.

However, implementation challenges may arise consequent to the entry into force of the Malabo Protocol. This can be explained by the exceptionally broad nature of Article 28L, criminalising the trafficking of hazardous wastes. The article presumes all violations of any rule in the Bamako Convention constitutes a criminal offence. Furthermore, as the Convention contains detailed, and technical rules in relation to the transport of hazardous wastes, it may be deemed as unreasonable to enforce criminal liability on every act that does not conform with every provision. Hence, the framework would need to be further clarified before its entry into force.

The ACJHR will only have jurisdiction with respect to crimes committed after the entry into force of the Malabo Protocol.[60] Furthermore, the Court may only exercise its jurisdiction for States having ratified the Protocol, and when one, or more of the following conditions apply: a) the conduct has occurred on State territory; b) the accused is a national of a State Party; c) the victim is a national of a State Party; or d) extraterritorial acts committed by non-nationals threaten vital interests of a State Party. A State may also accept the jurisdiction of the Court via declaration lodged with the Registrar.[61] Finally, State Parties, the Office of the Prosecutor, The Assembly of Heads of States and Government of the AU, and the Peace and Security Council of the AU are able to submit cases to the Court, allowing it to exercise its jurisdiction.[62]

Conclusively, the Malabo Protocol has the potential to provide for an alternative avenue of enforcement of hazardous waste trafficking for African States unable to domestically fulfil the objectives set out in the Bamako Convention. The prospective prosecution of hazardous waste trafficking may, furthermore, possibly establish the goals of condemnation of hazardous waste dumping, leading to better protection of the environment, and human health.[63]

3. The United States, the Non–Compliant Mega Polluter

This section will firstly introduce the amount of plastic waste generated in the U.S., including how plastic waste is typically disposed of, as well as how much U.S. generated plastic waste that typically ends up in marine environments. Furthermore, the U.S.'s plastic waste export relationship with China will be analysed. In the second subsection, the U.S.'s historical involvement in the drafting of environmental treaties will be touched upon, together with the shift into what can be considered 'treaty avoidance' in the post-modern era. The unintended effects of the U.S.'s failure to ratify the Basel Convention will also be analysed, where emphasis will be placed on the U.S.'s national interests, along with the impact that U.S. non-ratification has on, not only the Basel Convention, but to the treaty system as a whole. Finally, this chapter concludes with how the Import Ban imposed by China and other key import States in the Global South has affected U.S.'s plastic waste exports and how the U.S. has tackled this barricade.

3.1 Plastic Waste Generation and Exportation

As touched upon in the introduction, the U.S. was determined to be the largest plastic waste generator on the globe in 2016. In fact, the largest market demand for single-use plastics is

[60] Malabo Protocol, *supra* n. (58) article 46E.
[61] Malabo Protocol, *supra* n. (58) article 46E bis.
[62] Malabo Protocol, *supra* n. (58) article 46F, article 46G.
[63] Sirleaf, *supra* n. (45).

found in the U.S. at 35%,[64] where only a shy 9% of plastic waste is *de facto* recycled – a small margin showing no increasing trend in the last ten years.[65] Rather, much of the U.S. produced plastic waste is either illegally disposed of, dumped in coastal waters, or inadequately disposed of in countries having imported plastic waste from the U.S.[66] Furthermore, the U.S. falls in the top 20, out of the majority of coastal States contributing to marine debris yearly.[67] Much plastic waste entering the ocean is caused solely by littering, originating from the large coastal populations. Hence, despite the U.S. being a high-income State with robust waste management possibilities, it still manages to generate the highest collections of plastic waste in the world.[68] Additionally, owing to the status held by the U.S. as the second largest plastic waste exporter worldwide, the international impacts of U.S. generated plastic waste are extensive. Between 1988–2016, the U.S. exported 88% of its plastic waste to Hong Kong, and China.[69] In particular, China is identified as a state whose waste management system falls significantly below the adequate standards by more than 20%.[70] This implies that exported U.S. plastic waste may not have been disposed of in an environmentally sound manner, a requirement set out in the Basel Convention for State Parties. In fact, China's imported U.S. plastic waste oftentimes tends to get dumped, or otherwise ends up in ocean environments. As a result, much plastic waste finding its way to the ocean has originated from the U.S., making the State the third largest contributor to the issue on a global scale.[71]

However, on account of China's Import Ban on plastic waste, U.S. exports to China, and Hong Kong dropped by 94%.[72] Meanwhile, a single substitute market to tackle the U.S.'s heavy reliance on plastic waste exports has proved to be largely unavailable. Instead, the U.S. has expanded to various new markets, in order to make up for the consequences of the Import Ban. Furthermore, investments into a domestic adequate waste management system are still absent, where the issue seemingly is the same as in the 1970s/80s; namely, the costs for a vigorous infrastructure are considered too high in order to attract investors.[73]

3.2 Effects of being a Non-State Party to the Basel Convention

The U.S. has long been a pioneering State in the organisation of the international response to global environmental issues.[74] This is evident by the fact that virtually all successful international environmental initiatives originate from U.S. domestic legislation, where many of its national environmental policies are observable. This leading position was established following the 'environmental awakening' in the 1960s, where the U.S. took upon itself to internationalise its domestic environmental goals. Examples of successful multilateral agreements exemplifying the American leadership position include the Stockholm Declaration from 1972, and the 'Earth Summit' on Environmental Development con-

[64] Klara Lavender Law, 'Plastics in the Marine Environment' (2017) 9 Annual Review of Marine Science 205.
[65] Roland Geyer, Jenna R Jambeck, Klara Lavender Law, 'Production, use, and fate of all plastics ever made' (2017) 3 Science Advances 1.
[66] Leonard, Jambeck, Starr, Mallos, Siegler, *supra* n. (5).
[67] Autumn R Iverson, 'United States requires effective federal policy to reduce marine plastic pollution' (2019) 1 Conservation Science and Practice 1.
[68] Geyer, Jambeck, Lavender Law, *supra* n. (65).
[69] Amy L Brooks, Jenna R Jambeck, Shunli Wang, 'The Chinese import ban and its impact on global plastic waste trade' (2018) 4 Science Advances 1; Iverson, *supra* n. (67).
[70] Leonard, Jambeck, Starr, Mallos, Siegler, *supra* n. (5).
[71] Leonard, Jambeck, Starr, Mallos, Siegler, *supra* n. (5).
[72] Leonard, Jambeck, Starr, Mallos, Siegler, *supra* n. (5).
[73] Miatto, Reck, Di, Graedel, *supra* n. (2).
[74] Center for Progressive Reform, *supra* n. (11).

ducted in Rio de Janeiro, Brazil, in 1992.[75] However, post the 'Earth Summit', a steady decline in the U.S.'s involvement with environmental treaties has been detectable. In the postmodern era, the U.S. has resisted not only the development of international mega-diplomacy, but also the development of customary international law, and larger multilateral environmental treaties. The latter is of particular note, due to the U.S.'s failure to ratify the Kyoto Protocol on combating climate change, and committing State Parties to reduce greenhouse gas emissions; coupled with the temporary withdrawal from the Paris Agreement. It appears the U.S. is particularly prudent to ratify treaties where binding obligations arise, and where there may come to be economic consequences in the event of a violation.[76] Moreover, the State is conscious of treaties governed by international bodies, in fear it may threaten U.S. sovereignty. Thus, the U.S. discards international cooperation in favour of national interests. However, the scarcity of political will in the U.S. to ratify environmental treaties subsequently undermines the U.S.'s national interests, such as the ability to influence future negotiations, and taints its reputation as a State capable of delivering on its promises. Furthermore, the U.S.'s failure to commit to global issues, such as plastic pollution, has larger international repercussions in view of their position as a global leader. When refusing treaties ratified by practically the entire international community it erects barriers to reach a consensus with respect to critical issues; along with giving other countries an incentive to free ride, in the sense they may also adopt the position of purely ratifying treaties serving national interests. Additionally, the failure of a formal ratification may erode the credibility of the Basel Convention as a whole, as well as raise concerns regarding the U.S.'s own commitments to environmental matters.[77]

It may be debatable whether the Basel Convention can reach its full potential without the formal participation of such an influential State as the U.S. At worst, the U.S.'s failure to ratify the Basel Convention risks undermining the entirety of the treaty system; evident by the U.S. ability to efficiently engage in transboundary movement of hazardous wastes, regardless of its Party status.[78] The most protruding consequence of the failure of ratification is the exclusion of the U.S.'s possibilities to engage in export and import of hazardous wastes with State Parties. Although such possibilities still remain under Article 11, these *ad hoc* bilateral agreements are subject to a strenuous process, not always successful. However, the U.S. has fruitfully utilised Article 11 to avoid disruptions of their waste trade, thus circumventing the trading prohibition under Article 4(5) with non-Parties.[79] The influential nature of the U.S. is reflected in its bilateral relationships, resulting in a dynamic often characterised by a large power asymmetry. The less influential State becomes dependent on the actions taken by the U.S., which dominates decisions on compromise, and cooperation. Furthermore, bilateral agreements do not change the fact that the U.S. remains isolated from any decision-making power under the Basel Convention, despite remaining a subject to its substantive re-

[75] Sharon Mascher, 'Canada, The US and International Environmental Law' in Erika Techera, Jade Lindley, Karen N Scott and Anastasia Telesetsky (eds.), '*Routledge Handbook of International Environmental Law*' (2nd edn., Routledge 2021) 249.

[76] Mascher, *supra* n. (75) 250.

[77] Anya Wahal 'On International treaties, the United States Refuses to Play Ball' (*Council on Foreign Relations* 7 January 2022) <https://www.cfr.org/blog/international-treaties-united-states-refuses-play-ball> accessed 16 April 2023.

[78] Fulton and Yang, *supra* n. (10).

[79] Fulton and Yang, *supra* n. (10); Center For Progressive Reform, *supra* n. (11).

quirements.[80] The substantive requirements include the environmentally sound management of the hazardous wastes, and the PIC-procedure. Arguably, it appears advantageous for the U.S. to continue as merely an observer State, as it is still able to protect its national interests, even when State Parties may negotiate important amendments on international waste policies. Even though such policies are likely to impact both the U.S.'s environmental policies, as well as its foreign policy interests.[81]

Additionally, the failure of ratification undermines the U.S.'s credibility of cooperation regarding environmental matters. Consequently, this does not only affect future treaty negotiations, but it may also diminish accommodation of U.S. interests by treaty negotiating partners. In preference of opting for breach avoidance, which is widely used by the U.S. as a mechanism for treaty avoidance, a ratification of the Basel Convention would be consistent with the U.S.'s good faith commitments, as a signature to the Basel Convention, and promote a positive reputation of the U.S. abiding by its international legal obligations – something valuable to the U.S. if it seeks to hold other States accountable for international law violations.[82]

Conclusively, the U.S. is not exempted from the effects arising from plastic pollution. Hence, the U.S. does not only have self-preserving reasons to ratify the Basel Convention in order to protect state interests, but also out of concern for the environmental impact arising from the Basel Convention's inability to fully serve its purpose.

3.3 The Effects of the Import Ban on U.S.'s Plastic Waste Export

Against the backdrop of the Import Ban imposed by China, the U.S.'s exports of plastic waste decreased tremendously in 2018. Furthermore, the Import Ban fractured both China's and the U.S.'s positions as dominant players in the plastic waste import-export industry, with the U.S. being the most notable State impacted by the Import Ban. This is owing to the fact that the U.S. have exported a vast majority of its plastic waste in the past, in comparison to the domestic cut-backs of plastic waste exports following the introduction of the restrictions on plastic waste trade.[83] Arguably, the Import Ban should have sparked a national debate in the U.S. regarding the domestic abilities to adequately dispose of its plastic waste. Potential possibilities for legal reforms are firstly, the development of adequate infrastructure for waste management; secondly, investments into plastic waste recycling; and thirdly, reduced consumption of plastics.

It is vital for the U.S. to further develop its domestic solutions to deal with the growing plastic waste problem, considering the current inadequacy to recycle all of its generated plastic waste. In 2021, a study estimated that roughly 85 percent of all plastic waste (that was not exported) ends up in landfills, ten percent is incinerated, and merely five percent is recycled.[84] Nevertheless, worthy of attention is the estimated 1.13 million to 2.24 million tons of plastic waste not accounted for in these studies, due to its direct

[80] Fulton and Yang, *supra* n. (10); Mascher, *supra* n. (75) 249.
[81] Fulton and Yang, *supra* n. (10).
[82] Fulton and Yang, *supra* n. (10).

[83] Abdoulaye Boré, Bary Abdouraman, Tingzhou Lei, Wenchao Ma, Xuewei Liu, Ziyang Lou 'Evolution of global plastic waste trade flows from 2000 to 2023 and its predicted trade sinks in 2030' (2022) 376 Journal of Cleaner Production 1.
[84] Margaret Osborne, 'At Least 85 Percent of U.S. Plastic Waste Went to Landfills in 2021' (2022) Smithsonian Magazine <https://www.smithsonianmag.com/smart-news/the-us-recycled-just-5-percent-of-its-plastic-in-2021-180980052/> accessed 17 May 2023.

leakage into the environment each year, including the ocean.[85]

Europe provides an example of an area efficiently handling its plastic waste. In Europe, where all States are Parties to the Basel Convention, implementation of the Plastic Waste Amendments, and the Import Ban by China and others, has resulted in a decrease of cross-continental trade, in relation to plastic waste, whereas intra-continental trade has increased. Hence, trade within the EU has grown independent of policy formation in developing States, due to its abilities to handle its own plastic waste. This ability is most likely due to the rapid technological development of plastic waste infrastructure in Europe, showcasing the efficiency an adequate management system has on plastic waste handling.[86]

However, the U.S.'s export trade flow of plastic waste already began returning to pre-Import Ban volumes in 2019, and had almost fully recovered in 2020, due to the emergence of new channels of importing plastic waste States. The emerging importing States are developing nations in Africa, Latin America and Southeast Asia, where sufficient waste management facilities are absent.[87] As State Parties to the Basel Convention have the obligation under Article 4(2)(b) to ensure the disposal of hazardous wastes in an environmentally sound manner, in adequate waste management facilities in importing States; the emergence of new importing States lacking this vital capacity is an issue to be addressed.[88] Especially, as the handling of plastic waste in States lacking the proper infrastructure poses an increased risk to the environment, as well as to human health.

Trade relationships of plastic waste have largely become determined by geographical factors post-Import Ban, leading to trade blocs between neighbouring regions. This is also true for the U.S.; aside from disposing of its plastic waste in domestic landfills, the State has gradually formed an independent trading region in North America. The U.S. is predominantly exporting its plastic waste to Canada, and Mexico, relying on its previous existing bilateral agreements in conformity with Article 11 of the Basel Convention. Furthermore, it may be expected that the U.S. will further develop its trade relationships by 2025, with export markets in Latin America, South America, and Africa.[89] See figure 1. Additionally, the U.S. continues to export plastic waste to OECD States. This will further be elaborated on in section four.

[85] Tik Root, 'U.S. is top contributor to plastic waste, report shows' *The Washington Post* (Washington D.C., 1 December 2021) <https://www.washingtonpost.com/climate-environment/2021/12/01/plastic-waste-ocean-us/> accessed 21 May 2023.

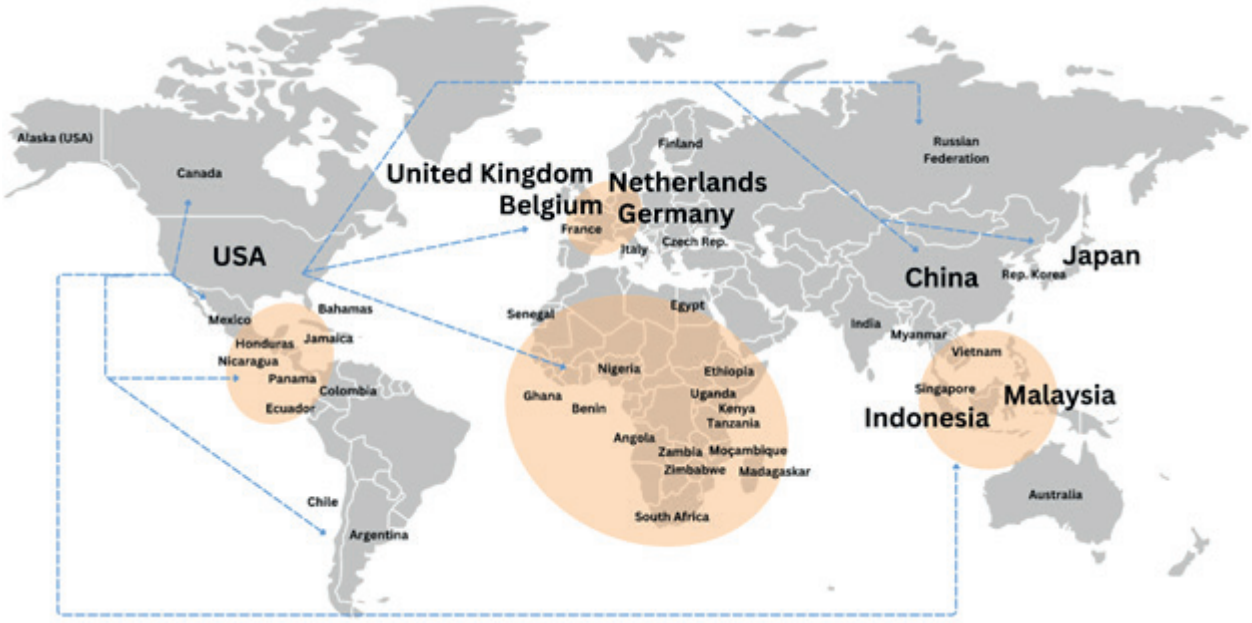
[86] Boré, Abdouraman, Lei, Ma, Liu, Lou, *supra* n. (83).

[87] Boré, Abdouraman, Lei, Ma, Liu, Lou, *supra* n. (83).

[88] Basel Convention, *supra* n. (15) article 4(2)(b).

[89] Boré, Abdouraman, Lei, Ma, Liu, Lou, *supra* n. (83).

Figure 1. *Potential plastic waste trading relationships between the U.S. and other countries by 2025.*



Based on data from: *Boré, Abdouraman, Lei, Ma, Liu, Lou, supra n. (83).*

The U.S. is noticeably looking for new markets to expand its plastic waste export, given its recent attempts to strike a trade deal with Kenya to reverse the State's strict legislation on the import of plastic waste. Such a deal could potentially come to undermine the Basel Convention, as the U.S. is still bound to conform with the obligations established when trading with State Parties. A successful trade deal with Kenya would facilitate the U.S.'s plastic waste exports to other markets in Africa, where adequate waste management facilities tend to be flawed, or absent.[90] This pending U.S.-Kenya Waste Agreement will also be expounded upon in the next section. The U.S.'s attempts at this trade deal negotiation is further shining a light on the forceful precedence set by the U.S. in its attempt at treaty avoidance, and working against the objectives of the Basel Convention. The effects are already witnessable with perhaps the most obvious example being Canada's withdrawal from the Kyoto Protocol on Climate Change. Canada accentuated the power asymmetry existing between the U.S. – one of the largest global polluters, seemingly always remaining a non-State Party to crucial environmental treaties – in relation to other States with lower carbon footprints than the U.S.[91] Consequently, the inefficiencies of such treaties become most evident when the largest global

[90] Emma Howard 'Oil-backed trade group is lobbying the Trump administration to push plastics across Africa' (*Unearthed*, 30 August 2020) <https://unearthed.greenpeace.org/2020/08/30/plastic-waste-africa-oil-kenya-us-trade-deal-trump/> accessed 1 May 2023; Carlos Mureithi, Hiroko Tabuchi, Michael Corkery, 'Big Oil Is in Trouble. Its Plan: Flood Africa With Plastic *The New York Times* (New York, 30 August 2020) <https://www.nytimes.com/2020/08/30/climate/oil-kenya-africa-plastics-trade.html> accessed 1 May 2023.

[91] Compliance Committee of the Kyoto Protocol 'Canada's withdrawal from the Kyoto Protocol and its effects on Canada's reporting obligations under the Protocol' (20 August 2014) UN Doc CC/EB/25/2014/2; 'Canada pulls out of Kyoto Protocol' *The Guardian* (London, 13 December 2011) <https://www.theguardian.com/environment/2011/dec/13/canada-pulls-out-kyoto-protocol> accessed 1 May 2023.

player may avoid conformity to otherwise universally applicable rules.

4. Continuing Legal Possibilities For U.S. Export of Plastic Waste

Throughout this article, the obstacles the U.S. has faced with regards to its plastic waste export has been emphasised and analysed. This section seeks to address the legal possibilities and options the U.S. currently has to export plastic waste, and what possibilities there are to further develop a sufficient system in the surge of the Plastic Waste Amendments. The section firstly explores the bilateral relationships the U.S. has with Canada, and Mexico, including the status of the Agreements under U.S. domestic law. Furthermore, this section seeks to address the U.S.'s attempts to strike a trade deal with Kenya, in order to facilitate trade with other African nations, and explores the legal consequences arising from such an agreement. The section continues with the U.S.'s trading possibilities with OECD Member States, followed by an elaboration of prospective options for the U.S.'s expansion of its domestic waste management infrastructure, including information on draft proposals already in place.

4.1 Bilateral & Multilateral Agreements in Conformity with Article 11 of the Basel Convention

The U.S. currently has interchangeable bilateral agreements in force with both Canada, and Mexico on the transboundary movement of hazardous wastes. Both Agreements are, like the Basel Convention, based on a system of notification and consent, and create a system allowing for transboundary shipments of wastes considered hazardous in the Agreements.[92] Hazardous waste is defined as any waste characterised as such under the national laws and regulations, which may result in damage to the environment, or to human health, if it is improperly disposed of.[93] The purposes of the Agreements are to encourage economically efficient disposal, thereby removing the Basel Convention's criteria of waste handling in an environmentally sound manner. However, Mexico, and Canada are always bound by the provisions, and obligations set out in the Basel Convention as State Parties, although trade occurs with a non-State Party. Thus, the requirement of ensuring that the handling of hazardous wastes is conducted in an environmentally sound manner still applies to Mexico, and Canada.[94] Nonetheless, the U.S. is not legally bound by the provisions; it is merely encouraged to respect the principles. The U.S. is solely subject to its own national laws, and the regulations of established Agreements with states it engages in hazardous waste trade with. Consequently, a system set out to enhance an economically efficient disposal system seems to only hold benefits for the U.S., as its trading partners must still comply with harsher requirements as State Parties to the Basel Convention.

Furthermore, an important note in relation to the Canadian, and the Mexican Agreements is the lack of treaty status, as neither Agreement has been ratified in the U.S. Senate. Consequently, both Agreements are considered to only hold the status of an international executive agreement, raising questions as to the direct enforceability of the Agreements under U.S. domestic law. The phenomenon arises due to the U.S.'s

[92] Jeffrey M Gaba 'Exporting Waste: Regulations of the Export of Hazardous Wastes from the United States' (2012) 36 William & Mary Environmental Law and Policy Review 405.

[93] Agreement of Cooperation Between the United States of America and the United Mexican States Regarding the Transboundary Shipment of Hazardous Wastes and Hazardous Substances (United States–Mexico) (14 August 1986) TIAS 99-2, article I.

[94] Basel Convention, *supra* n. (15) article 4.

constitutional laws, which only allow Agreements with a treaty status to confer domestic obligations in the country.[95] Therefore, the legal certainty whether the U.S. framework governing the proper management of hazardous wastes, the RCRA,[96] is applicable or not, may be considered low. In practice, the U.S. may essentially unrestrictedly continue its exports of plastic waste, with a low risk of potential breaches of its international obligations. Meanwhile, its trading partners are at risk of breaching the obligation to ensure that imported hazardous waste is handled in an environmentally sound manner, under the Basel Convention. The issue is seemingly coming down to the uncertainties of whether the proper domestic U.S. law applies; in the case it does not, the U.S. may disregard appropriate disposal practices, exposing its trading partners to breaches of the Basel Convention. Evidently, the power asymmetry existing between the U.S. and its less influential trading partners grows tangible in such disproportionate Agreements.

In addition to the bilateral agreements with Canada and Mexico, the U.S. has bilateral arrangements in force with Costa Rica, Malaysia and the Philippines; albeit these arrangements only concern exports from the mentioned States to the U.S.[97]

4.1.1 Pending U.S.–Kenya Waste Agreement

The U.S.'s attempts at striking a trade deal with Kenya highlights the motivation of the U.S. to branch out and reach new plastic waste export markets. A successfully negotiated trade deal with the country would open doors for U.S. trade of plastic waste on the African continent, where Kenya could serve as a central hub for its exports, against the backdrop of becoming one of the largest economies in Africa.[98] Moreover, the efforts taken by the U.S. to hamper Kenya's efforts to eventually stop importing plastic waste into the country further accentuates the issue of the U.S.'s lack of global engagement to reduce the transboundary movements of plastic waste.[99]

How a trade deal between the U.S. and Kenya would look like is an interesting aspect to consider, since Kenya ratified the Basel Convention in the 2000s.[100] As a State Party, the general obligation under Article 4(5) applies; prohibiting import or export of hazardous wastes to a non-State Party. Hence, Kenya cannot legally trade with the U.S. under the U.S.'s current status as a non-State Party to the Basel Convention.[101] Furthermore, Kenya ratified the Ban Amendment in 2009, prohibiting trade between OECD States and non-OECD States.[102] This provides for another element erecting barriers for successful, legal trade.

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[95] Gaba, *supra* n. (92).

[96] Resource Conservation and Recovery Act (RCRA) 1976 (USA).

[97] 'Text of the Bilateral Agreements or Arrangements in Force as Transmitted to the Secretariat' (*UN Environment Programme: Basel Convention: Controlling transboundary movements of hazardous wastes and their disposal*) <http://www.basel.int/Countries/Agreements/BilateralAgreements/tabid/1517/Default.aspx> accessed 1 May 2023.

[98] Hiroko Tabuchi, Michael Corkery, 'Countries Tried to Curb Trade in Plastic Waste. The U.S. Is Shipping More' *The New York Times* (New York, 12 March 2021) <https://www.nytimes.com/2021/03/12/climate/plastics-waste-export-ban.html> accessed 4 May 2023; Howard, *supra* n. (90).

[99] Mureithi, Tabuchi, Corkery, *supra* n. (90).

[100] 'Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (*UN Environment Programme: Basel Convention: Controlling transboundary movements of hazardous wastes and their disposal*) <http://www.basel.int/?tabid=4499> accessed 22 May 2023.

[101] Basel Convention, *supra* n. (15) article 4(5).

[102] 'Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (*UN Environment Programme: Basel Convention: Controlling transboundary movements of hazardous wastes and their disposal*) <http://www.basel.int/Countries/StatusofRatifications/BanAmendment/tabid/1344/Default.aspx> accessed 22 May 2023.

Kenya's relationship with the Bamako Convention is another component to take into consideration. At the time of writing, Kenya is not a State Party to the Bamako Convention. Thus, the country is not bound by the prohibition on imports of hazardous wastes into Africa; the Bamako Convention does not constitute a hindrance for hazardous waste trade between Kenya and the U.S.[103] However, the Bamako Convention would become an obstacle for Kenya's intra-African trade of hazardous wastes, given the prohibition for State Parties to accept imports of hazardous wastes from non-State Parties.[104] However, this prohibition is unlikely to constitute an issue for Kenya, due to Africa's largest economies remaining outside the scope of the Bamako Convention. These include Algeria, Ghana, Morocco, Nigeria, and South Africa.[105]

Perhaps a bilateral agreement between the two parties, in line with Article 11 of the Basel Convention, could provide for a potential legal framework. The question arising is whether such an agreement would allow for Kenya to derogate from its obligations under the Ban Amendment. Supposedly, this could be presumed to be the case, given the current bilateral agreements in force between the U.S. – Costa Rica, and the U.S. – Malaysia; both States ratifying parties to the Ban Amendment.[106] On the other hand, if such an agreement would violate Kenya's obligations outlined in the Ban Amendment, it is worth pondering over why Kenya would be willing to engage in negotiations of such an agreement. Moreover, if the agreement would contravene the legal principles established in the Ban Amendment, it prompts inquiries of how the international community would respond to the violation. Article 20 of the Basel Convention provides for the settlement of disputes between State Parties for altercations regarding the compliance with the Convention. Parties shall first try to resolve the dispute through peaceful means, such as negotiation. If unsuccessful, the Parties shall submit the case to the ICJ, or to arbitration. Other Basel Convention State Parties hence have some alternatives in the event of the completion of a trade deal contrary to the Ban Amendment. However, it also provokes considerations regarding the diplomatic consequences, and tensions allegedly arising from other State Parties possibly bringing a case against Kenya. Nevertheless, worth noting is that the ICJ has never addressed such a dispute, suggesting that presenting a case before the Court could prove unrealistic.

One final aspect to take into consideration is the jurisdiction of the ACJHR. Kenya has signed the Malabo Protocol, but is yet to ratify it.[107] In the case of Kenya not becoming a State Party to the Protocol, the Court could potentially exercise its jurisdiction based on the conditions set out in Article 46F.[108] However, the ACJHR would only have jurisdiction in relation to crimes taking place after the Malabo Protocol's entry into force. Therefore, it remains to be determined whether the Court would have jurisdiction on this hypothetical matter, depending on the timing of the completion of the Waste Agreement, and the entry into force of the Malabo Protocol.

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[103] 'Bamako Convention' (*InforMEA*) <https://www.informea.org/en/treaties/bamako-convention/treaty-parties> accessed 22 May 2023.

[104] Bamako Convention, *supra* n. (48) article 4(1)(b).

[105] Chinedu Okafor, 'Ethiopia and Kenya to become Sub-Sahara's 3rd and 4th largest economies after Nigeria and South Africa – IMF' *Business Insider Africa* (14 April 2023) <https://africa.businessinsider.com/local/markets/ethiopia-and-kenya-to-become-sub-saharas-3rd-and-4th-largest-economies-after-nigeria/hvrc4ck> accessed 22 May 2023.

[106] UN Environment Programme, *supra* n. (97); UN Environment Programme, *sup*ra n. (100).

[107] African Union, *supra* n. (57).

[108] Malabo Protocol, *supra* n. (58) article 46F.

4.2 Trade with OECD States

The OECD is an intergovernmental organisation, whose Member States consist of largely high-income countries in Europe, North America (including the U.S.), and the Pacific. The organisation was established in the 1960s, and serves as a platform for Member States to address policy issues, promote international cooperation and trade, as well as finding solutions to economic and environmental challenges.[109]

In 1992, the OECD adopted a Decision establishing rules for trade between its Member States with regards to the transboundary movement of hazardous wastes.[110] The Decision was amended in 2001 to harmonise the established requirements with those set out in the Basel Convention. Like the Basel Convention, the OECD Decision contains detailed rules on a notice and consent regime for trade of hazardous wastes, and requires specific contract documentation between the exporting and importing State.[111] Furthermore, the Decision differentiates between hazardous wastes in accordance with their toxicity levels, where plastic waste falls under the 'green list'. Wastes allocated on this level are considered comparatively harmless and non-hazardous. Thus, transactions of such wastes are merely subjected to light controls normally applied in cases of international commercial transactions. However, Member States retain the right to adopt stricter requirements under their domestic laws.[112]

A significant legal development of the Decision occurred in 1994, with the introduction of a ban prohibiting OECD States from exporting hazardous wastes to non-OECD States. The Ban was introduced due to a notion that the consent procedure under the Basel Convention was insufficient at the time, in regards to preventing States in the Global North from dumping hazardous wastes in developing countries.[113] That being said, the Ban Amendment is also recognized under the Basel Convention, and became operative during two phases.[114] In the first phase, the ban was immediately placed on transboundary movements of hazardous wastes from OECD States, to non-OECD States. The second phase prohibited export for repairable, or recycling purposes, hence removing the aforementioned 'recycling loophole'; having allowed waste traders to mask hazardous waste as such in order to fall outside the scope of the Basel Convention. The introduction of the Ban Amendment recognized the inability of the Global South to adequately handle hazardous wastes in conformity with the Basel Convention, meanwhile remaining at the receiving end with reference to hazardous waste shipments. Furthermore, the Ban Amendment shed light upon the widespread misinformation given to developing countries regarding the severity of toxicity levels of the received wastes, and how the import-export pro-

[109] 'Together, we create better policies for better lives – Who we are' (*Organization for Economic Co-operation and Development*) <https://www.oecd.org/about/> accessed 3 May 2023.

[110] Organisation for Economic Co-operation and Development 'Decision of the Council Concerning the Control of Transfrontier Movements of Wastes Destined for Recovery Operations' (30 March 1992) OECD Doc. C(92) 39/FINAL.

[111] Gaba, *supra* n. (92).

[112] Katharina Kummer, *International Management of Hazardous wastes: The Basel Convention and Related Legal Rules* (OUP 2000).

[113] Fulton and Yang, *supra* n. (10); Gaba, *supra* n. (92).

[114] 'The Basel Convention Ban Amendment' (*UN Environment Programme: Basel Convention: Controlling transboundary movements of hazardous wastes and their disposal*) <http://www.basel.int/Implementation/LegalMatters/BanAmendment/Overview/tabid/1484/Default.aspx> accessed 3 May 2023.

cedure was prone to abuse.[115] However, with the introduction of the Ban Amendment developing countries in the Global South felt unjustly deprived of the economic benefits arising from the recycling industry. Additionally, other nations, including the U.S., expressed their opposition to the introduction of the ban. Nonetheless, the Ban Amendment entered into force in 2019, 25 years after its adoption.[116] The factual legal impact of the Ban Amendment may, however, remain limited on trade between the Global North and South considering the U.S.'s remaining position as a non-State Party to the Basel Convention, and with the European Union having adopted the Ban Amendment.[117]

Accordingly, the adoption of the OECD Decision has facilitated U.S. trade of hazardous wastes among the Member States, in view of the U.S. identifying the Decision as being in conformity with the requirements set out in Article 11 of the Basel Convention. Hence, the Decision is recognized as a multilateral agreement, and the control processes of the hazardous waste trade are subjected to the national U.S. RCRA framework on adequate waste disposal facilities.[118] Furthermore, the Decision falling within Article 11 provides the U.S. with a broad market of 38 possible trade partners in the transboundary trade of hazardous wastes. However, given the Ban Amendment, it seemingly becomes evident a U.S. ratification to the Basel Convention would be disadvantageous for U.S. trade. As a non-Party to the Convention, the U.S. is not bound by its legal obligations, and may therefore export hazardous wastes to non-OECD States without violating any international obligations. Rather, it is presumably the importing State which violates its obligations under the Basel Convention to not accept exports of hazardous wastes from the U.S., as a Member State of the OECD. Moreover, there are no breaches of U.S. domestic laws, as the applicable RCRA regulation only requires a notion of consent for exports between the U.S., and non-OECD States. Clearly, it best serves U.S. interests to remain outside the scope of the Basel Convention in connection with the international control of its exports of hazardous wastes.[119]

4.3 Domestic Plastic Waste Infrastructure

As previously suggested, an efficient way for the U.S. to handle its immense amount of plastic waste would be through appropriate development of a domestic waste management system. A good way to go about tackling the plastic waste issue is through a recycling system where plastic waste processing may allow for the conversion of plastics into new products. By creating a market demand for recycled plastics, this would provide businesses with an incentive to invest, and turn recycled plastics into new developed products. Furthermore, the U.S., being the pivot of technological innovation, a market demand for recycled plastics would boost both research, and technical development. Another measure the U.S. could implement is a national policy encouraging companies to reduce the use of single-use plastics. Similarly, to the EU Directive on the reduction of certain plastic products, the U.S. could introduce a comparable ban for single-use plastics, in order to minimise plastic waste generation.[120]

The rapid development of plastic waste treatment technology in Europe is a good exam-

[115] Neha Joshi, 'Keep Your Waste! – Relevance of the Basel Ban Amendment to the Global South' (2020) Jindal Global Law School <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3635474> accessed 15 May 2023.
[116] Puthucherril, *supra* n. (16).
[117] Yang, *supra* n. (35).
[118] Fulton and Yang, *supra* n. (10).
[119] Gaba, *supra* n. (92).
[120] Council Directive (EU) 2019/904 of 5 June 2019 on the reduction of the impact of certain plastic products on the environment [2019] OJ L155/1.

ple of how to effectively shrink cross-continental trade of such wastes.[121] However, the fact that Europe consists of many small countries provides the continent with a unique opportunity to become its own trade region; the U.S. is limited in this regard by having fewer neighbouring countries. Hence, from a U.S. perspective export of plastic wastes possibly provides for better economic outcomes, rather than domestic waste disposal. It may be presumed given the U.S.'s strong drive for economic and capitalistic efficiency; the high costs involved in an adequate infrastructure is likely to result in low incentives for investments.

However, given the size of the U.S., along with its influence, and economic development, it is only fitting that the country is able to handle its generated plastic waste, rather than exporting it to the Global South, where adequate waste management is absent. Furthermore, it is irresponsible for such a strong, global player as the U.S. to have such an ignorant attitude as to where its plastic waste ends up. Moreover, as previously noted, the U.S. is not immune to the inevitable consequences of plastic pollution if no uniform legal action can be reached, with a global consensus, as to the appropriate waste disposal of global plastic waste. The U.S., in particular, has a high moral responsibility, due to the substantive volumes of plastic waste originating on U.S. soil. Especially so, when large quantities frequently end up in the environment, or face inadequate disposal as a result of irresponsible U.S. plastic waste export practices.[122]

In conclusion, the U.S.'s course of action, with regards to pressing plastic waste issues, seems to be a political question, rather than a legal one. The U.S. is faced with different sides of national interest hampering the development of successful treaty ratifications; however, there must come a point where the international community will hold the U.S. accountable for its 'slippery eel' policies, as virtually the largest global plastic polluter, refusing to acknowledge the global effects of its actions.

4.3.1 Prospective Domestic Measures

In 2021, the U.S. EPA took one step in the right direction through the finalisation of the country's first 'National Recycling Strategy'. The goal of the Strategy is increasing U.S. recycling rates to 50 percent by 2030 – a hefty goal, given the current recycling rate of five percent.[123] Furthermore, the Strategy responds to the U.S.'s recycling challenges through five post-consumer waste management objectives. These include improvements of the market for recycled materials; increased waste collection, and improvements to the waste management infrastructure; reduction of waste contamination; enhancement of programs, and policies supporting a circular economy; standardising measurements, and increased data collection. Many of the suggested measures tend to focus on the promotion of public awareness, and education with reference to the value of recycling. Notably, the EPA's National Environmental Justice Advisory Council pointed out during a consultation on the Strategy in June 2021 that the public view of recycling is adverse, along with the reasoning that inefficient plastic waste recycling is caused by public confusion.[124] Albeit, the individual consumer does have an impact on how waste is disposed of, it appears as if the EPA is partially shifting the culpableness of the U.S.'s insufficient waste management in-

[121] Boré, Abdouraman, Lei, Ma, Liu, Lou, *supra* n. (83).
[122] Leonard, Jambeck, Starr, Mallos, Siegler, *supra* n. (5).
[123] U.S. Environmental Protection Agency, *National Recycling Strategy: Part One of a Series on Building a Circular Economy for All* (November 15 2021) 2; Osborne, *supra* n. (84).
[124] U.S. Environmental Protection Agency, *supra* n. (123) 10.

frastructure from Governmental Agencies onto local communities. Further criticism against the Strategy is the inclusion of chemical recycling in its scope despite opposition from various environmental, and public health groups.[125] Chemical recycling breaks down plastics into molecular components, and the technology is largely unproven. However, a conducted study has resulted in the suggestion that the method has a higher environmental impact, in comparison to the traditional mechanical recycling method. Moreover, chemical recycling has a higher impact on the formation of ozone, acidification, and other substances caused by the high energy demand, and purification of the process.[126] It is an interesting perspective to consider the U.S.'s eagerness to implement potentially more hazardous infrastructure to combat the plastic waste predicament, rather than to further develop, and technologically advance the existing infrastructure. Finally, it remains uncertain how the EPA will efficiently implement its suggested measures.

On top of this, in April 2023, the EPA launched its Draft National Strategy to Prevent Plastic Pollution as part of its established Series on Building a Circular Economy for All.[127] The Draft consists of three main objectives: to reduce pollution caused during the production process of new plastics, further improvements of post-use management of materials, prevent micro- and nanoplastics from entering waterways, as well as manage environmental waste cleanups. Furthermore, like the 2021 Strategy the Draft contains policy conundrums raising questions on how the U.S. successfully could implement virtually idealistic measures. Especially, with regards to the ostensibly intractable dilemma of micro- and nanoplastics in the environment. Although the Draft contains potentially promising interventions, such as the suggestion to use trash-capturing technologies in waterways to capture small plastic sediments, the EPA seem to miss the overarching issue concerning micro- and nano plastics. Namely, a feasible solution to the global plastic waste pandemic could be through efficient implementation of measures aiming to reduce the generation of plastic waste. However, the Draft emphasises on the estimated increase of plastic consumption in the U.S., and seeks to address the need of U.S. policy-makers to prioritise and implement measures of intervention, in order to prevent littering rather than promoting plastic waste reductions.

5. Conclusion

Throughout this article, an analysis has been conducted into the Basel Convention on the Transboundary Movement of Hazardous Wastes, in relation to the U.S. as a non-State Party. Furthermore, the U.S.'s relationship, and contribution to global plastic pollution has been explored, along with the U.S.'s extensive plastic waste generation. Additionally, the article has sought to establish what legal opportunities have remained for the U.S. to export plastic waste, following the applied restrictions to the current legal framework, in combination with extensive import bans by Global South nations. The remaining options analysed were agreements in conformity with Article 11 of the Basel Convention, the pending trade agreement between the U.S. and Kenya, trade within the OECD community, as

[125] 'Part one of EPA's 'National Recycling Strategy' underwhelms' (*PIRG*, 17 November 2021) <https://pirg.org/media-center/part-one-of-epas-national-recycling-strategy-underwhelms/> accessed 21 May 2023.

[126] Adisa Azapagic, Christian Krüger, Florian Antony, Harish Jeswani, Maike Horlacher, Manfred Russ, Simon Hann 'Life cycle environmental impacts of chemical recycling via pyrolysis of mixed plastic waste in comparison with mechanical recycling and energy recovery' (2021) 769 Science of the Total Environment 1.

[127] U.S. Environmental Protection Agency, *Draft National Strategy to Prevent Plastic Pollution: Part of a Series on Building a Circular Economy for All* (April 2023) 1, 31.

well as suggestions to improve the U.S.'s domestic abilities to handle its plastic waste.

A conclusion which may be drawn is that it is safe to presume that despite efforts by the international community to impose harsher restrictions on non-State Parties to the Basel Convention, the U.S. tends to find loopholes to continue its practices – often through the avoidance of undertaking international obligations. The U.S. uses a system where it 'picks and chooses' which international treaties to engage itself with, often resulting in treaty avoidance, in order to avoid risking being held accountable in cases of a violation. Furthermore, the U.S. takes advantage of the fact that the Basel Convention lacks adequate enforcement mechanisms. The phenomenon makes it unlikely for a State Party violating its international obligations to not import plastic waste from the U.S. to stop engaging in the practice, as there are no foreseeable consequences. Additionally, the U.S. engagement with plastic waste exports without acknowledging its responsibility to make sure the waste is properly disposed of in an environmentally sound manner is another issue in direct conflict with the Basel Convention. It is safe to conclude that the U.S. has no intentions on changing its current path, unless the international community manages to pressure the U.S. to change its current policies, with regards to its negative impact on plastic waste pollution. It is no longer feasible that the U.S. may bend, and undermine the waste treaty system at its own convenience, somehow managing to get around virtually universally applicable rules. Especially so, when the U.S. so often seeks to hold other States to high standards, and hold them liable for potential violations of their legal commitments under international law.