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- **Environmental Impact Assessment of the deforestation plans of Ineos Manufacturing Belgium (connected to plans to build a new ethane cracker and a propane dehydrogenation plant in the Port of Antwerp)**
- **Site: Scheldelaan 460, Antwerpen, ANTWERPEN 19 AFD, sectie A, perceel 0077/00F000ⁱ**
- **Joint objection against the deforestation and the overall investment into a new ethane cracker and a propane dehydrogenation (PDH) unit (based on climate and environmental destructive fracked US gas to produce more virgin plastic in Europe)ⁱⁱ**

Dear Sir or Madam,

The undersigned organizations submit this letter in opposition to the proposed expansion of Ineos' petrochemical facilities planned for the Port of Antwerp. We justify and explain our objection as follows:

1. No deforestation permit and no decision on the Environmental Impact Assessment (EIA) before there's clarity over decisions on ethane cracker and PDH unit

Ineos' deforestation plans result in the cutting down a natural carbon-capture forest system of around 50-55 ha. Ineos intends to start deforestation in 2020 and the company wants to finish the work within 9 months. The company wants to have the PDH unit operational in 2023. The ethane cracker is intended to go online in 2024. These three projects are all addressed by Ineos collectively as Project One.ⁱⁱⁱ They are all connected with one another. The cumulative effects of these projects must be assessed together and not analyzed under separate EIAs. Any impacts analysis for the deforestation segment of Project One would be inaccurate and premature without the contemporaneous evaluation of the PDH unit and the ethane cracker.

According to Article 3 of the EU Environmental Impact Assessment Directive^{iv} ***“the environmental impact assessment shall identify, describe and assess in an appropriate manner, ... the direct and indirect significant effects of a project on the following factors:***

- a) population and human health;*
- b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;;*
- c) land, soil, water and climate;*
- d) material assets, cultural heritage and the landscape;*
- e) the interaction between the factors referred to in points a) to d).***

According to Annex IV of the EIA Directive, a description and assessment is required of the likely significant effects of the project on the environment resulting from:

- the emission of pollutants and the disposal and recovery of waste***
- the risks to human health or the environment;***
- the cumulative effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;***
- the impact of the project on climate (for example the nature and magnitude of***

greenhouse gas emissions)

The description of the likely significant effects ... should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project (Annex IV of EIA Directive).

There is still information and data lacking to allow for a competent review under the Directive for this proposed project. For example, we are still lacking detailed numbers in terms of the significant existing and ongoing virgin plastic pellet pollution in the Port of Antwerp, the real full lifecycle emissions (including emissions along the supply chain for the ethane cracker and the PDH unit), the scale of air pollution caused by the new plants as well as further technical details that are needed to do a proper Environmental Impact Assessment.

A decision over the deforestation of a natural carbon capture system in a highly industrialized zone, surrounded by high emitters, can therefore only be made after the decisions on the EIA procedures of the ethane cracker and the PDH unit have been made.

Irrespective of the above we reject the plans of Ineos on the following grounds:

2. Ongoing plastic pellet pollution on-site must be solved before any new permit can be considered

Systemic virgin plastic pellet pollution increases dramatically the plastic waste problem and contradicts directly the recently adopted new rules of the European Union on single-use plastics.^v

The Port of Antwerp already experiences ongoing, massive, virgin plastic pollution. The authorities must address this significant problem first before any decisions on new production plants can be made.

The daily pollution happens in protected international Ramsar^{vi} and European Natura 2000 sites^{vii} and it has been well documented by the Flemish media platform Mondiaal Nieuws (mo.be). According to the recently published article “The great spill of the plastics industry: mountains of nurdles on the beach” it is estimated that “*four tonnes of pellets were disposed ... in 2017 and 2.5 tonnes in 2018*” in the Port of Antwerp.^{viii}

The plastic pellet pollution was documented in the **Natura 2000 site „Schorren en Polders van de Beneden-Schelde, SiteCode: BE2301336**, near the border with the Netherlands:

Further Natura 2000 sites that could be affected:

- Schelde- en Durmeëstuarium van de Nederlandse grens tot Gent (SiteCode: BE2300006)
- Kuifeend en Blokkersdijk (SiteCode: BE2300222)
- Historische fortengordels van Antwerpen als vleermuizenhabitat (SiteCode: BE21000045)
- Westerschelde & Saeftinghe (SiteCode: NL9803061)
- Oosterschelde (SiteCode: NL3009016)
- Markiezaat (SiteCode: NL3009015)

The requested species and waste management plans for the Belgian sites (including BE2301336) contain no specific reference concerning the monitoring, documentation or prevention of plastic pellet pollution.

According to the official Ramsar description, the Schorren van de Beneden Schelde consist of *“three separate intertidal areas comprising the last remaining area of brackish, intertidal flats and marshes in Belgium. A border is shared with the Netherlands. The intertidal flats support a typical invertebrate fauna. An important area for numerous species of wintering, staging and molting waterbirds.”*



The following photos (courtesy of Andy Gheorghiu, policy advisor, Food & Water Europe) were made in July 2019 in the Port of Antwerp (Natura 2000 site „**Schelde- en Durmeëstuarium van de Nederlandse grens tot Gent**“ SiteCode: BE2300006) They undeniably show the scale of the problem.



Behind the affected Natura 2000 site is a dyke/dam. Existing and newly planned facilities of Ineos are not very far away from this dyke and the polluted Natura 2000 site.



According to Article 6 of the Natura 2000 Directive (92/43/EEC)

- ***“Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat”***
- ***„Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated,”***
- ***„Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.”***

Responding to an official request by Food & Water Europe, Vlaamse Milieumaatschappu (Flanders Environment Agency) answered on 26 July 2019 *“in the past we haven’t yet conducted any studies into the amount of microplastics in our watercourses. We have only recently started a project to monitor the presence, distribution and effects in collaboration with Ghent University. There are currently no results available.”*^{ix}

Taken this answer, the actual ongoing pollution in protected areas and the absence of plastic pellet management in the species and waste management plans of the affected sites into account, we see here a clear breach of the existing Natura 2000 legislation. This must be addressed and the current massive problem solved before a decision about the expansion plans of Ineos can be made.

We also want to highlight the fact that the plastic pellet pollution problem also occurs nearby other production sites of Ineos.

About 450,000 plastic pellets have been found in 2018 on a single beach in Scotland, not very far away from the biggest Ineos’ facility in the UK.x Endangered puffins have been found with plastic pellets in their stomachs.xi Experts believe that 15 percent of the puffin population living in the Firth of Forth (where the Grangemouth chemical complex of Ineos is located)

could suffer from ingested plastic pellets.^{xii}

According to the comprehensive „Plastic & Health“ report of the Center for International Environmental Law: *„the narrow approaches to assessing and addressing plastic impacts to date are inadequate and inappropriate. Making informed decisions that address plastic risks demands a full lifecycle approach to understand the full scope of its toxic impacts on human health. It is also required to ensure that yet more and increasingly complex environmental problems are not created in the attempt to address this one.“*^{xiii}

Bearing in mind the negative effects observed by plastic pollution, it is necessary to monitor and assess the scale of the problem first and to increase the responsibility and accountability of these spills before new production units can be permitted.

Since protected Natura 2000 sites in the Netherlands are likely to also be affected a transboundary Environmental Impact Assessment must be conducted.

3. Climate and environmentally destructive fracked US gas is critical to Ineos' proposed expansion

It has become increasingly clear that the plastics industry in the United States has quietly, and with little accountability, reaped enormous benefits from the environmentally destructive fracking boom.^{xiv} Fracking has produced an oversupply of cheap ethane in the past few years. This surge has been a boon for the plastics industry, which relies on petrochemical manufacturing to turn ethane (ie the so-called „wet gas“ component of natural gas) into plastics. According to a recently published IEA report^{xv}, the United States is home to around 40% of the global capacity to produce ethane-based petrochemicals.

Petrochemicals are also about to rapidly becoming the largest driver of global oil (including „wet gas“ or ethane) consumption – making them a significant contributor to climate change. Today, the chemical sector is already the largest industrial consumer of fossil fuels, accounting for 14% of global oil (including ethane, propane and butane) and 8% of gas primary demand.

The petrochemical company Ineos has been leading the charge to bring the environmentally destructive method of fracking to the United Kingdom (UK) and mainland Europe. The company's main and clear goal is to profit from cheap gas for its own plastics and petrochemical production^{xvi}. Their corporate vision comes at a time in history when global warming and the plastic pollution of our oceans and shorelines are the most critical issues of our generation, and the ones to come^{xvii}.

According to calculations recently published by the Center for International Environmental Law (CIEL), full plastic lifecycle emissions (including the extraction of fossil fuels, production, transport, consumption and disposal) alone will generate 56 gigatons of CO₂ by 2050. This corresponds to 10 – 13 percent of the global carbon budget we have left to stay within a 1.5 ° global warming scenario.^{xviii}

We emphasize once again the obligation to assess the direct and any indirect effects, the secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project on climate. This assessment must pay attention to the full lifecycle emissions (all along the supply chain) and the transboundary effects.

We will explain and further elaborate on this need as follows:

4. Negative climate, environmental and public health impacts of fracked gas

The gathered scientific evidence shows^{xix} that fracking's detrimental environmental and public health dangers are numerous and significant. As a brief overview, these include large scale industrialization of former rural areas, polluted groundwater, large volume freshwater use, greenhouse gas emissions (leading to increased air pollution and climate implications), exposure to toxic chemicals and induced earthquakes due to the injection of large amounts of wastewater.

As early as 2012, the UN Environment Programme (UNEP) issued a „Global Alert“ on fracking^{xx}, warned that “fracking may have environmental impacts even if done properly. The supply of cheap fracked gas for the production of cheap virgin plastic is the main driving force for the new planned investments of Ineos in the Port of Antwerp^{xxi} Ineos pushes this past-orientated investment at a time when we've internationally agreed that we need to radically tackle climate change and plastic pollution - a drastic transition that the Port of Antwerp also must achieve.

Of the 685 peer-reviewed studies, commentaries, and reviews published on fracking^{xxii}:

- 84 percent of the studies on health impacts identified potential public health risks or actual observed poor public health outcomes;
- 69 percent of the studies on water quality showed potential, positive association, or actual incidence of water contamination associated with shale gas development;
- 87 percent of the studies on air quality indicated elevated levels of air pollutant emissions and/or increased atmospheric concentration.

Since 2005, according to industry and state data, nearly 140,000 fracking wells have been drilled or permitted in more than 20 US states^{xxiii}. In Pennsylvania – one of the sacrifice zones of the fracking industry in the United States – there was no shale development before 2005. In just a decade, 10,000 wells were drilled and fracked, causing massive damage to the affected areas^{xxiv}

Pennsylvania, which includes part of the Marcellus Shale basin, is exactly the area from where Ineos gets the fracked gas. Ineos relies on a constant supply with climate hostile and environmentally destructive Pennsylvanian fracked gas to produce cheap virgin plastic in Europe – this includes the currently planned facilities in the Port of Antwerp.

The first Mariner East Pipeline, which INEOS relies upon for its supply of fracked gas, has been shut down more than once by Pennsylvanian state authorities who deemed it “*a clear and present danger to life or property*”. The second time it was shut down, INEOS pleaded with US authorities to reopen a dangerous pipeline that supplies fracking gas to its facilities, complaining that regulation was “*unpredictable and disconcerting*”^{xxv}

Construction on a controversial second Mariner East Pipeline started after two years of community pushback. However, the construction has already destroyed private water wells and opened sinkholes. In December 2018, the Chester County District Attorney launched a criminal investigation into the work of Ineos' US main partner, Sunoco, along the pipeline.^{xxvi}

Women, communities of color and the poor are especially vulnerable to environmental injustices and harm from fracking and related infrastructure facilities. These facts prompted the UN Committee on the Elimination of Discrimination against Women (CEDAW) to ask the UK Government to “*provide information on the measures being taken to mitigate and address the health, and environmental, impacts of toxic substances on women and girls, particularly rural women, due to planned fracking activities*”^{xxvii}. After examining the unsatisfying answer, UN's CEDAW urged the British Government to “consider introducing a comprehensive and complete ban on fracking” in March 2019.”

This decision is echoed elsewhere: In October 2018, the UN's CESCR issued an official warning concerning fracking for shale gas in Argentina, saying that „*The Committee is concerned that this hydraulic fracturing project contradicts the State party's commitments to the Paris Agreement, with a negative impact on global warming and the enjoyment of the economic and social rights of the world population and future generations. (Article 1 (1) and 2 ((1))*“^{xxxviii}

The Permanent People's Tribunal on Fracking, Human Rights and Climate Change concluded in May 2018^{xxxix} in its preliminary statement that the evidence demonstrates that fracking contributes substantially to climate change and global warming and involves “massive violations of a range of substantive and procedural human rights”. In the final Advisory Opinion, the PPT recommended that “*fracking be banned*” and that “*the Special Rapporteur on Human Rights and the Environment be asked to investigate the violations of the rights of humans and nature by the Unconventional Oil and Gas Extraction industry.*”^{xxxx}

In the 2014 questionnaire on the application of the EU Commission's Recommendation 2014/70/EU on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing, the Belgium Government answered as follows:

“Belgium appreciates the efforts made by the EC to screen the current EU legislation for gaps related to the exploitation of unconventional fossil fuels. This exercise revealed the current weakness in guaranteeing an environmentally safe operation. Belgium therefore asked for a clear and binding, legislative initiative. ... In particular, the Recommendation does not sufficiently take into account the precautionary principle, which is however foreseen in Article 192 (2) of the Treaty of the Functioning of the EU (TFEU), and which is one of the important principles leading the environmental legislation of the EU. ... on July 4th 2014, the Flemish Government put in place a temporary moratorium on permits for exploring and producing unconventional hydrocarbons when high-volume hydraulic fracturing is involved. This moratorium will be in place at least until the applicable legislation has been adequately adapted, the necessary administrative capacity has been positively evaluated and a strategic vision on shale gas has been developed.”^{xxxi}

In February 2016, the European Parliament adopted the following text as part of the EU's Biodiversity Strategy:

“The European Parliament urges the Member States – on the basis of the precautionary principle and the principle that preventive action should be taken, and taking into account the risks and the negative climate, environmental and biodiversity impacts involved in hydraulic fracturing for the extraction of unconventional hydrocarbons, and the gaps identified in the EU regulatory regime for shale gas activities – not to authorise any new hydraulic fracturing operations in the EU.”^{xxxii}

If that is the required and reasoned procedure for any new fracking operations in the EU, it must also apply for the import and use of fracked hydrocarbons.

On October 8th, 2018, the International Panel for Climate Change (IPCC) announced that limiting global warming to 1.5°C would require rapid, far reaching and unprecedented changes in all aspects of society. With clear benefits to people and natural ecosystems, limiting global warming to 1.5°C compared to 2°C could also go hand in hand with ensuring a more sustainable and equitable society.^{xxxiii} The report finds that limiting global warming to 1.5°C would require “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities. Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050.

On a global scale, we have a very significant, but mainly ignored, problem with fugitive methane

emissions from gas extraction in general and from shale gas in particular. Prof. Robert Howarth, a researcher from Cornell University, recently concluded that the global increase in methane over the last 10 years is largely driven by the fracking industry.^{xxxiv}

In his conclusion Prof. Howarth writes "*In October 2018, the **Intergovernmental Panel on Climate Change** issued a special report, responding to the call of the United Nations COP21 negotiations to keep the planet well below 2 °C of the pre-industrial baseline (IPCC, 2018). They **noted the need to reduce both carbon dioxide and methane emissions, and they recognized that the climate system responds more quickly to methane: reducing methane emissions offers one of the best routes for immediately slowing the rate of global warming (Shindell et al., 2012). Given our finding that natural gas (both shale gas and conventional gas) is responsible for much of the recent increases in methane emissions, we suggest that the best strategy is to move as quickly as possible away from natural gas, reducing both carbon dioxide and methane emissions. Natural gas is not a bridge.***"^{xxxv}

Since methane is at least eighty-six times more powerful a greenhouse gas than CO² over a twenty-year period, opting for business as usual or even more fracking simply means that it won't be possible to reach the climate objectives and/or the objectives of the Paris Agreement and holding "the increase in the global average temperature to well below 2°C [...] and to pursue efforts to limit the temperature increase to 1.5°C"^{xxxvi}. These crucial commitments do not leave much room to improvisation as there is little time before these thresholds are reached: We already reached the 1.1°C point in 2016^{xxxvii} and the 1.5°C point will be reached in less than 10 years with current emissions^{xxxviii}.

Between 2014 and 2017 the chemical and petrochemical industry consumed almost 22% (energy and non-energy use) of Belgium's overall fossil gas consumption.^{xxxix}

According to the Flanders federal site for climate change, the chemical industry caused the majority of emissions for industrial activity in 2017: 42% of total emissions, 45% of which exclusively for the petrochemical industry.^{xl}

In addition to climate impact, these facilities also have dire air quality consequences. Satellite data showed last year that Belgium, and especially Antwerp, has already some of the most polluted air in the world^{xli}. One key factor is the presence of the port and petrochemical cluster.

Every facility, like the proposed, expanded Port of Antwerp Ineos one, that relies on fracked gas is a direct contribution to a dramatic increase in global warming, a constant production of plastic pollution and an involvement in human rights abuses along the supply chain. Everyone involved must be held responsible according to the precautionary, preventive and polluters pays principles of the European Union.

The Port of Antwerp has already a massive transformational task to achieve. The investment plans of Ineos will torpedo every effort towards this necessary and existential process. We urge therefore to object the current deforestation request as well as the PDH plant and ethane cracker.

Sincerely

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ⁱ Official EIA website:

<https://www.omgevingsloket.be/omvPubliek/?openbaaronderzoek#openbaaronderzoekprojectdetail/projectuud=oJisJV9sQn61aQrmOly2ng>

ⁱⁱ PR. „INEOS, Europe’s largest petrochemicals company, announces Antwerp as the location for its new ground breaking 3 billion Euro petrochemical investment“. 14 January 2019. Available at: <https://www.ineos.com/news/ineos-group/ineos-announces-antwerp-as-the-location-for-new-petrochemical-investment/>

ⁱⁱⁱ Ineos. Project One. <https://www.ineos.com/gamechanger/>

^{iv} https://ec.europa.eu/environment/eia/pdf/EIA_Directive_informal.pdf

^v EU Commission press release. „Circular Economy: Commission welcomes Council final adoption of new rules on single-use plastics to reduce marine plastic litter.“ 21.05.2019. Available at: https://europa.eu/rapid/press-release_IP-19-2631_en.htm

^{vi} <https://www.ramsar.org/wetland/belgium>

Ramsar description: chorren van de Beneden Schelde

Schorren van de Beneden Schelde. 04/03/86; Vlaamse Gewest; 420 ha; 51°20'N 004°15'E. Added to the Montreux Record, 4 July 1990.

Special Protection Area EC Directive; Nature Reserves, Classified Landscape. Three separate intertidal areas comprising the last remaining area of brackish, intertidal flats and marshes in Belgium. A border is shared with the Netherlands. The intertidal flats support a typical invertebrate fauna. An important area for numerous species of wintering, staging and molting waterbirds. Human activities include recreation, sheep grazing and fishing. Surrounding areas are dominated by large industrial and port complexes and intensive agricultural land. The naturally dynamic character of the area is intensified by extensive dredging to maintain a deep-water shipping channel. Placed on the Montreux Record in 1990 because agricultural intensification led to severe nutrient-enrichment and lowering of the areas' water table. Site of the first Ramsar Advisory Mission in 1988. Ramsar site no. 327. Most recent RIS information: 1992.

^{vii} <https://natura2000.eea.europa.eu/>

http://natura2000.eea.europa.eu/?query=Natura2000Sites_9883_1,SITECODE,BE2301336

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^{viii} Tine Hens. „The great spill of the plastics industry: mountains of nurdles on the beach“. Mo Magazine. 16.07.19. Available at:

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^{ix} Email answer of Vlaamse Milieumaatschappij concerning the management plans/assessment of plastic pollution for several Natural 2000 sites (Schelde- en Durmeëstuarium van de Nederlandse grens tot Gent, SiteCode: BE2300006 and Schorren en Polders van de Beneden-Schelde, SiteCode: BE2301336). 26.07.2019. Available on request at: agheorghiu@fweurope.org

^x Keane, Kevin. „Fife beach worst for nurdle pollution“. BBC. 21 May 2018. Available at: <https://www.bbc.co.uk/news/uk-scotland-44196556>

^{xi} Rakowski, Sarah. „Scottish puffins found with plastic pellets in their stomachs“. 27 March 2015. Available at: <https://phys.org/news/2015-03-scottish-puffins-plastic-pellets-stomachs.html>

^{xii} Miller, David. „Public urged to track nurdles on Scotland's beaches“. BBC. 5 May 2016. Available at: <https://www.bbc.co.uk/news/uk-scotland-36211895>

^{xiii} CIEL. „Plastic & Health“. Available at: <https://www.ciel.org/plasticandhealth/>

^{xiv} Food & Water Watch. Issue Brief „Another Petrochemical Sacrifice Zone“. September 2018. Link:

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^{xv} IEA. „The Future of Petrochemicals“. October 2018. Link: <https://www.iea.org/petrochemicals/>

^{xvi} Ineos. „Why Shale Gas?“ Available at: <https://www.ineos.com/businesses/ineos-shale/why-shale-gas/>

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^{xviii} CIEL. „Plastic & Health – The hidden costs of a plastic planet. Available at: <https://www.ciel.org/news/plasticandhealth/>

^{xix} Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction). Link: <http://concernedhealthny.org/>

^{xx} UNEP. „Global Environment Alert Raises Concerns About Gas Fracking“. Link: <http://sdg.iisd.org/news/unep-global-environment-alert-raises-concerns-about-gas-fracking/>

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^{xxv} Rob Edwards. „Ineos plea to keep dangerous US fracking pipeline open.“ The Ferret. 19.06.2018. Available at:

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