

## MANAGEMENT SUMMARY

### TU Delft - Moral Deliberation Chamber on Collaboration with the Fossil Fuel Industry

#### 1. The message

In recent months, TU Delft's Moral Deliberation Chamber on Collaboration with the Fossil Fuel Industry (Morele Beraadkamer Samenwerking Fossiele-brandstofindustrie, MKFBI) examined five partnerships in scientific research and education with Gunvor, Saudi Aramco and Shell during nine sessions.

The process of moral deliberation led to the discovery of 10 moral principles relevant to decisions on collaborating with the fossil fuel industry. These Ten Principles of Just Science and Climate Justice provide guidance in determining whether to enter into or avoid partnerships with the fossil fuel industry.

Apart from exploring the 10 principles, the deliberation chamber also answered the question of how TU Delft could position itself towards the fossil fuel industry in the context of its goal to protect the world's population from the effects of global warming.

The question of partnerships with the fossil fuel industry is often reframed as a choice between cutting ties with the fossil fuel industry altogether or cooperating under conditions. This reductive choice puts us in the oxymoronic position of doing both too much and too little.

Too much - by radically abandoning collaboration with the fossil fuel industry, scientific insights and technological innovations may go undiscovered, while they could have potentially protected the world's population from the effects of climate change.

Too little - by focusing only on collaboration with the fossil fuel industry within a specific research or teaching programme, the university would be doing too little. The issue goes beyond collaboration alone: TU Delft needs to find a way to deal with the fossil fuel industry as the supporting industry of the *hydrocarbon economy*. TU Delft and its fellow universities must actively protect the world's population against global warming at the hands of fossil fuel industries.

This report takes a three-pronged approach to this issue, covering: (1) the principles of just science and climate justice, (2) TU Delft's relationship with the fossil fuel industry through research and education (track I) and (3) dealing with the fossil fuel industry together with other universities (track II):

- (1) The Ten Principles of Just Science and Climate Justice consist of (a) foundational principles of universities such as human rights to science, scientific education and academic freedom in relation to climate justice. They also encompass (b) principles that limit cooperation and seek to protect a sustainable earth, future generations, non-human forms of life and human rights. And (c) they concern principles that are preconditions for collaboration, such as independence of research and teaching, no greenwashing and due diligence.
- (2) Track I: Collaborating for an energy transition. Partnerships with the fossil fuel industry are permitted or even necessary if they serve the energy transition and do not violate the rights of stakeholders - including current generations, future generations, affected people and areas and non-human life forms - to a sustainable, liveable earth and do not contribute to non-climate-related human rights violations.

- (3) Track II: Universities and the fossil fuel industry. TU Delft and its fellow universities protect the world's population against global warming, harnessing scientific research and education to ensure that global warming caused by fossil fuel industries does not exceed 1.5° C compared to pre-industrial levels.

## 2. The problem

It is an undisputed scientific fact that modern climate change is caused by humans. Carbon emissions and other greenhouse gases such as methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and water vapour (H<sub>2</sub>O) play a key role in this phenomenon. After the industrial revolution, estimated carbon emissions increased from 1x10<sup>9</sup> metric tonnes per year in 1900 to 6x10<sup>9</sup> metric tonnes in 1950 and 35x10<sup>9</sup> metric tonnes in 2020 (Our World in Data, 2024). The increase in carbon emissions is considered the main cause of global warming. In its Fifth Assessment Report (IPCC, 2015), the Intergovernmental Panel on Climate Change (IPCC) estimated that global warming would reach between 1.5°C and 4.5°C compared to pre-industrial levels (PIL) at the end of the 21<sup>st</sup> century. In its Sixth Assessment Report (IPCC, 2021), the IPCC expects temperatures to rise up to 1.5°C PIL by 2030 and 2°C PIL by the middle of the 21<sup>st</sup> century if carbon emissions are not drastically reduced.

Global warming has major implications for all the world's people, future generations, the world's most affected people and areas (MAPA), non-human life forms and the survival of ecosystems, with some prominent climate scientists even speaking of an impending 'self-immolation' (*Selbstverbrennung*, in Schellnhuber, 2015).

Scientific research by the IPCC shows that limiting global warming to 1.5°C greatly increases the likelihood that climate change impacts can be mitigated (IPCC, 2019). In the Paris Agreement (2015), member countries of the United Nations Framework Convention on Climate Change (UNFCCC) accepted the shared responsibility to keep global warming below 2°C PIL and preferably below 1.5°C PIL. The widely shared and science-based consensus is that carbon emissions must be halved by 2030 compared to 1990 levels in order to somewhat limit further temperature rises. By 2050, carbon emissions from fossil fuel production and consumption should be *net-zero*. Negotiators at The COP28 UN Climate Change Conference advocate accelerated phasing out of fossil fuels and fossil energy systems "in a just, orderly and equitable manner" to achieve *net zero emissions* by 2050, as well as setting a target of tripling global renewable energy production by 2030. Dutch policy aims to achieve climate neutrality by 2050 and to reduce carbon emissions by 60% by 2030 compared to 1990.

Global warming is caused by the burning of fossil fuels: coal, oil and gas. In the *hydrocarbon economy*, energy supply is predominantly based on the use of fossil fuels. Fossil fuel industries such as ExxonMobil, Saudi Aramco, BP, Total Energies, Gasunie, Shell and others (partly) drive the production, distribution and consumption of these fossil fuels, especially oil and gas.

For TU Delft, there is also no question that modern global warming is caused by human activity. TU Delft feels responsible "to use its intellectual and innovative clout to protect the world's population from the risks of climate change, by developing technologies and methods in close cooperation with companies and organisations that need to put these measures into practice" (TU Delft, 2022).

This promise makes TU Delft's relationship with the fossil fuel industry a matter of urgency. All universities in the Netherlands have or had ties to the fossil fuel industry.

But TU Delft and other technical universities work much more closely with oil and gas companies on research and teaching. Moreover, scientific research and innovative technology, conducted and developed in cooperation with the fossil fuel industry, are important resources in reducing global warming.

Fossil fuel industries play a key role in global energy supply. They are crucial for reducing carbon emissions and thus reducing global warming. In recent years, fossil fuel industries have come under increased pressure for a perceived failure to develop alternative, sustainable energy sources in favour of focusing mainly on extracting and exploiting oil and gas. The fossil fuel industry, the criticism goes, will push global warming over 1.5°C if nothing changes.

At TU Delft, as at other universities, students and staff have asked whether collaboration with fossil fuel industries is compatible with the university's vision on climate and ambition to protect the world's population from the effects of climate change. Should TU Delft not follow the example of VU University Amsterdam and the University of Amsterdam, which have cut ties with the fossil fuel industry?

At the same time, TU Delft's partnerships with the fossil fuel industry revolve around developing knowledge and technology to serve the energy transition. Would ceasing all such collaboration not do a disservice to the world's population? Or is the university effectively complicit - intentionally or not - in pushing global warming over 1.5°C? The consultation by Populytics shows that university staff and students are more concerned about global warming and the role of the fossil fuel industry than the average Dutch citizen. Many would prefer to impose conditions on research & teaching partnerships with the fossil fuel industry and are looking for a structural way to assess current and potential partnerships.

Briefly put, the question posed to the Moral Deliberation Chamber on Collaboration with the Fossil Fuel Industry was as follows: What should the university do about its collaboration with the Fossil Fuel Industry? The deliberation chamber's investigation confirmed the concerns and questions raised within TU Delft, as well as pointing to answers on how TU Delft can responsibly deal with the fossil fuel industry.

### 3. The questions

What obligations and responsibilities does TU Delft have in dealing with the fossil fuel industry in the light of its ambition to protect the world's population from the effects of climate change and to keep global warming below 1.5°C above pre-industrial levels? How, where and when should TU Delft use its expertise - science and innovative technology - to achieve this goal? We sought to answer these questions in the moral deliberation chamber.

More specifically, we sought answers to the following four questions:

- (1) How should TU Delft deal with the fossil fuel industry in order to protect the world's population from the effects of climate change and comply with the Paris Agreement and subsequent international agreements to keep global warming below 1.5°C compared to pre-industrial times?
- (2) What moral principles and guidelines should guide collaboration with the fossil fuel industry? What moral principles support collaborating with the fossil fuel industry in the energy transition? What moral principles impose limits on this collaboration? What conditions can be attached to this collaboration?

- (3) How can a moral learning process be designed and safeguarded to support researchers, deans and administrators in considering collaboration with the fossil fuel industry?
- (4) What are important building blocks for the development of an evaluation framework that can be used in policy and decision-making on collaboration between TU Delft (and other universities) and the fossil fuel industry?

The deliberation chamber sought to answer these questions by examining five concrete projects by means of moral inquiry. Can this research or teaching programme enter into a partnership with this fossil fuel company, or should collaboration be avoided?

#### 4. The study

The deliberation chamber consisted of 12 members selected following an application procedure, ranging from professors, teaching staff and didactic experts to advisers, support staff, PhD candidates and master and bachelor students. Together, these members represent Sustainable Geoenergy, Quantum Nanoscience, Geoscience and Remote Sensing, Applied Earth Sciences, Science Engineering & Education, Impact & Innovation Centre, Campus Real Estate & Facility Management, Wind Energy, Applied Sciences, Industrial Ecology, Life Science & Technology and Mechanical Engineering.

The moral deliberation process was highly appreciated and valued by all members, who all shared concerns about climate change and the role of the fossil fuel industry in it. All took the Paris Agreement and the need to reduce global warming as key starting points in examining the cases.

However, participants did not have uniform thoughts on what this should mean for the university's relationship to with the fossil fuel industry. Still, it was much appreciated that these different insights did not stand in the way of a fruitful examination of the five cases.

In nine sessions, the moral deliberation chamber examined five cases, collected by the faculty deans. The case owners came from the faculties of Engineering and Civil Engineering & Geosciences, with all cases involving some form of collaboration with the fossil-fuel industry; Gunvor Energies, Saudi Aramco and Shell were the main players.

Following previous work by the Moral Deliberation Chamber on Knowledge Security, the Deliberation Chamber subjected the five cases to moral inquiry.

Moral inquiry is a method of determining whether an action is in accordance with justice. Justice serves as a measure to determine whether an action is morally right. An action is morally right if it does justice to the other. In other words - if the rights, interests and wishes of all involved are taken sufficiently into account.

The deliberation chamber examined the five cases to determine whether it is morally right to enter into partnerships with the fossil fuel industry or whether collaboration should be avoided. How do we properly consider the rights, interests and wishes of all stakeholders - current and future generations, affected people and areas, non-human life forms, students, staff, scientists and the fossil fuel industry?

In three cases, a majority of deliberation chamber members advised that terminating collaboration would be morally right; in two cases, a majority found that entering into or continuing the partnership was morally right.

## 5. The answers

The moral deliberation process provided an understanding of the moral principles important in decision-making on dealing with the fossil fuel industry and patterns in evaluating decision-making on partnerships (5.1). It revealed two tracks that should be followed in dealing with the fossil fuel industry (5.2, 5.3).

### 5.1 Moral principles of just science and climate justice

Right to science and climate change	<ul style="list-style-type: none"> <li>(1) Right to science and the climate transition</li> <li>(2) Right to science education and the climate transition</li> <li>(3) Academic freedom and the climate transition</li> </ul>	<p>These three moral principles relate to the three human rights that are founding principles of every university worldwide: the human rights to science, scientific education and academic freedom. In this case, these principles impose upon the university the obligation to protect the world's population from the effects of climate change. It follows that for this purpose, the university should attract as many people and resources as possible to conduct scientific research, develop innovative technology and provide education to advance the climate transition.</p>
Limits to collaboration	<ul style="list-style-type: none"> <li>(4) Liveable earth</li> <li>(5) Future generations</li> <li>(6) Most affected people and areas</li> <li>(7) Non-human life forms</li> <li>(8) Social justice</li> </ul>	<p>These five principles set limits on collaboration with the fossil fuel industry. The right to a sustainable and liveable earth for all. The right of future generations to a decent life on a liveable planet. The right to a fair and proportionate distribution of climate burdens. Recognising the duty to protect non-human life forms. The right to the protection of political, social and economic human rights.</p> <p>The university must work to ensure that these rights are not violated through collaboration with the fossil fuel industry and are actively protected through collaboration with other universities.</p>
Conditions for collaboration	<ul style="list-style-type: none"> <li>(9) Reliable and independent science</li> <li>(10) Due diligence and impact analysis</li> </ul>	<p>These two principles are the conditions for collaborating with the fossil fuel industry. First, ensuring independent science and avoiding complicity in greenwashing and deception. Second, the principle that decisions on collaboration must be made following proper due diligence.</p>

### 5.2 Track I -collaboration with the fossil fuel industry

Track I is about TU Delft's relationship with the fossil fuel industry in research and teaching. The main insights resulting from the moral deliberation chamber are summarised below.

- (1) Partnerships with the fossil fuel industry are permitted or even necessary if they serve the energy transition and do not violate the rights of stakeholders - including current generations, future generations, affected people and areas and non-human life forms - to a sustainable, liveable earth and do not contribute to non-climate-related human rights violations. Partnerships geared towards fossil fuel exploitation should be avoided, but collaboration aimed at advancing the energy transition requires bringing together as many researchers, knowledge and expertise and financial resources as possible.
- (2) Decisions on entering into partnerships are guided by the obligation to keep current and future generations, affected communities and territories and non-human life forms safe from harm and to avoid violating other human rights. Harm is taken to mean any violation of the human right to life, liberty, health, livelihood or safe and clean energy or other political, social and economic rights.
- (3) While decisions on partnerships are best made on a project-by-project basis rather than a company basis, companies may still be blacklisted. Even project-based decision-making requires company-oriented due diligence.
- (4) When deciding whether or not to enter into a partnership, TU Delft should always consider how to limit or mitigate the harm to those directly and indirectly affected. The key mitigating measure in this regard is to ensure that collaboration with the fossil fuel industry in research and education programmes does not ultimately result in the fossil fuel industry pushing global warming over 1.5°C.
- (5) A successor to the moral deliberation chamber could advise and support the Executive Board, faculties and staff in decisions on working with the fossil fuel industry. New decisions on collaboration with the fossil fuel industry should be assessed to determine whether they are morally right. Decisions on collaboration with the fossil fuel industry should be made by the Executive Board. In addition, the faculties will have to undergo a moral learning process with regard to partnerships with the fossil fuel industry. Finally, it is important to think about moral education and teaching students about the ethics of climate change.
- (6) Valid and reliable information about the fossil fuel industry is essential to make a sound judgement on whether a partnership is ethically sound or should be rejected. Furthermore, it is important to encourage the fossil fuel industry to fulfil its climate commitments. Principle-driven and science-based due diligence are indispensable, and the deliberation chamber has provided building blocks to this end.

### 5.3 Track II - Universities and the fossil fuel industry

Simply entering research and training partnerships with the fossil fuel industry to advance the climate transition and mitigate damage that may arise from collaborating with the fossil fuel industry is not enough to meet the climate goals of the Paris Agreement. The university's responsibility extends further. TU Delft must also actively protect the world's population from global warming exceeding 1.5°C above PIL due to the actions of the fossil fuel industry as a conglomerate of companies fuelling the *hydrocarbon* economy. TU Delft cannot do this alone and will have to work with other universities in the Netherlands and abroad.

By cooperating, universities have a duty to protect the world's population from the effects of climate change. Through scientific research, they can collectively ensure

that global warming caused by the fossil fuel industry does not exceed 1.5°C compared with pre-industrial levels.

It would be natural for TU Delft and other technical universities in the Netherlands and internationally to take this protective responsibility by fostering scientific research. Similar to the IPCC, an Interuniversity Panel on Climate Change and Fossil Fuel Industries could conduct a *fossil fuel industry impact analysis* at regular intervals, describing the climatic, meteorological, economic and social impact of the fossil fuel sector on climate change and global warming. It would analyse the fossil fuel industry's efforts towards complying with the Paris Agreement and subsequent international commitments to keep global warming below 1.5°C. Moreover, it would develop scenarios of what the fossil fuel industry would have to do to reduce the exploitation, distribution and consumption of fossil fuels, achieve *net-zero* emissions in 2050 and keep global warming below 1.5°C.

## 6. The work

The work of the Moral Deliberation Chamber on Collaboration with the Fossil Fuel Industry leads us to the following 10 recommendations.

### 6.1 Recommendations on the moral principles of just science and climate justice

- (1) Accept the moral principles of just science and climate justice as guiding decisions on collaboration and relationships with the fossil fuel industry and make them part of a moral learning process on the fossil fuel industry, climate transition and climate justice skills at TU Delft.

### 6.2 Recommendations for Track I: Collaboration with the fossil fuel industry

- (2) Give the moral deliberation chamber permanent status and task it with advising and supporting decisions on engaging in research and teaching partnerships with the fossil fuel industry.
- (3) Develop and improve the moral learning process of a future moral deliberation chamber, drawing on the recommendations of the current chamber on composition, training and working methods.
- (4) Identify all partnerships with the fossil fuel industry. Provide an overview of all partnerships with the fossil fuel industry and ancillary positions of staff in the fossil fuel industry.
- (5) Explore existing and new forms of collaboration with the fossil fuel industry. Subject a selection of existing partnerships with the fossil fuel industry to moral inquiry. Investigate new partnerships and determine whether they are morally right in order to advise the Executive Board.
- (6) Make climate justice and a just climate transition part of a moral learning process about academic freedom. Ensure staff have the moral competence to participate in moral deliberation on collaboration with the fossil fuel industry.

- (7) Make climate change ethics part of students' moral education. Actively prepare students for their role as responsible scientists who can contribute to protecting the world's population from global warming.
- (8) Perform due diligence on all fossil fuel industry partners. Perform science-based and development-oriented due diligence informed by the principles of just science and climate justice, possibly by joining forces with other universities.

### 6.3 Recommendations for Track II: Universities and the fossil fuel industry

- (9) Work with Dutch and foreign universities (including universities of technology) to develop a strategy aimed at keeping global warming caused by the fossil fuel industry below the 1.5°C PIL.
- (10) Work with Dutch and foreign universities of technology and scientists on a *fossil fuel industry impact analysis*, following the IPCC model.