

THE HYDROGEN HYPE:

**GAS INDUSTRY
FAIRY TALE OR**

**CLIMATE HORROR
STORY?**

The European Commission and its quest to let the gas industry write the book on hydrogen in Europe



“Hydrogen rocks, and I am committed to making it a success!”

Frans Timmermans, Executive Vice-President for the European Green Deal.¹

“A new dawn for gas in Europe... This is going to be a step change for the gas sector and one which we are embracing and leading.”

James Watson, Secretary-General of Eurogas, reacting to the EU Hydrogen Strategy.²

“The gas lobby has massive influence on the EU hydrogen strategy. While the Commission makes it clear that clean hydrogen must come from renewable energies, it still wants to invest in fossil hydrogen.”

Michael Bloss, German Greens MEP, reacting to the EU Hydrogen Strategy.³

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Executive summary

Industry's hydrogen hype machine is in full swing. An analysis of over 200 documents obtained through freedom of information rules reveals an intense and concerted lobbying campaign by the gas industry in the EU. The first goal was convincing the EU to embrace hydrogen as the 'clean' fuel of the future. Doing so has secured political, financial, and regulatory support for a hydrogen-based economy. The second task was securing support for hydrogen derived from fossil fuels as well as hydrogen made from renewable electricity. Successful lobbying means the gas industry can look forward to a lucrative future, but this spells grave danger for the climate as well as the communities and ecosystems impacted by fossil fuel extractivism.

Key findings include:

- The hydrogen lobby, whose main players are fossil gas companies, declared a combined annual expenditure of €58.6 million trying to influence Brussels policy-making, although this is suspected to be a gross underestimate.
- The hydrogen industry met with European Commissioners Timmermans, Simson, Breton, their cabinets and directors general 163 times on energy topics between December 2019 and September 2020, compared with 37 meetings on energy between high-ranking Commission officials and NGOs.
- The revolving door has been in full swing: former Deputy Director General for Energy, Klaus-Dieter Borchardt, one of the most influential officials in the Commission around gas and hydrogen, left his post to join law firm Baker McKenzie. He joined former colleague Christopher Jones who was also Deputy Director General for Energy and became a lead member of the Baker McKenzie Hydrogen Team.
- Public relations firm FTI Consulting – the same company exposed in the USA for creating fake pro-fossil fuel grassroots organisations on behalf of Big Oil and Gas – has been key in creating the hydrogen lobby. It is behind Hydrogen Europe and the Hydrogen Council, the lobby groups most responsible for creating the hydrogen hype.
- The Commission's European Hydrogen Strategy, published in July 2020, is worryingly similar to lobby group Hydrogen Europe's demands, including goals and investments needed for hydrogen both inside and outside the EU, which industry costs at €430 billion by 2030.
- The European Commission has put the gas industry in the driving seat of many new hydrogen-focused bodies, such as the 'Clean Hydrogen Alliance', tasked with drawing up a list of hydrogen projects eligible for public funds. This is a glaring conflict of interest.

- The hydrogen industry had access to over €1 billion in public funds for its projects between 2014-2020 thanks to the public-private research partnership 'Fuel Cells and Hydrogen - Joint Undertaking' between the European Commission and Hydrogen Europe. The partnership has been key in creating the hydrogen hype, as well as ensuring more public funds flow to Hydrogen Europe members in the years to come.
- Hydrogen projects will now enjoy regulatory and financial support from the EU, as outlined in the European Hydrogen Strategy and the European Commission's Industrial Strategy, among others, while also being pushed in the upcoming reviews of the Trans-European Networks for Energy (TEN-E) Regulation and the Renewable Energy Directive. Hydrogen-related projects will also enjoy access to new and existing EU funding streams such as the Sustainable Investment Plan, the Recovery and Resilience Facility, the Connecting Europe Facility, and through revised state aid rules as 'Important Projects of Common European Interest'.
- Failed 'carbon capture and storage/usage' (CCS/U) technology is being resurrected, and is receiving political, financial, and regulatory support so the EU can justify including fossil fuel-based hydrogen in its 2050 climate plans.
- The EU's oversized fossil gas network has been rebranded by industry as Europe's future 'Hydrogen Backbone', blending small amounts of hydrogen into existing gas pipelines in the short-term, and repurposing them for hydrogen in the longer-term. The European Commission appears to support industry plans, which would give a green light to companies building and operating fossil gas infrastructure to carry on as before.
- The 'Hydrogen Backbone' is being used by industry and member states to resurrect controversial mega projects like the Franco-Spanish-Portuguese MidCat fossil gas pipeline, which was refused on climate grounds.
- European member states are also joining the hydrogen hype, with many producing national strategies and substantial funding. Germany has promised €9 billion, with €2 billion to be spent on international projects, while using its EU Presidency to act as a strong gas lobby ally and promote blue hydrogen despite public opposition to fossil fuels.

The EU has jumped aboard the hydrogen hype train and is going full steam ahead, embracing hydrogen as the 'clean' fuel of the future and lavishing it with political, financial and regulatory support. Yet today less than 0.1 per cent of hydrogen produced in Europe is from renewable or 'low carbon' electricity.⁴ While hydrogen is presented as a climate panacea, concerted lobbying by the gas industry has ensured that for the next few crucial decades at least, Europe's much-hyped 'hydrogen economy' will be powered by hydrogen made from polluting fossil fuels rather than from renewable electricity. As for the promised 'green' hydrogen, industry and the EU are planning to source half of it from Ukraine and North Africa, continuing the neocolonial relationship that has characterised EU energy policy up to today, extracting resources while leaving behind the political, social, and environmental impacts.

Europe has an opportunity to transform its energy system and wrestle back control from a small cartel of fossil fuel-hungry corporations but appears too afraid or unwilling to break with the status quo. Decision-makers and industry are pushing unproven technologies such as carbon capture and storage or 'green hydrogen' which can never be sustainably delivered in the necessary quantities. Instead we need to decarbonise our gas system through a just transition, a planned phase-out of all fossil fuels and their associated infrastructure in line with climate science, while protecting communities and workers over corporate profits.

1. Introduction

The hydrogen hype machine has gone into overdrive. This so-called ‘clean’ fuel is being lauded by governments and non-governmental actors across the EU as the climate solution to all our problems. The story goes that this is the way to decarbonise transport, heavy industry, heating, the electricity sector and anything else you care to think of. But don’t believe the hype. Behind the hydrogen hype machine is the fossil gas lobby, including corporate behemoths like Total, Shell, and Snam, for whom hydrogen, in these climate- and COVID-stricken times, is a way to stay relevant and in business.

‘Green’ hydrogen is made from renewable electricity and gets all the acclaim for being climate friendly, but today makes up less than 0.1 per cent of hydrogen in the EU; more than 90 per cent is from climate-destroying fossil fuels, predominantly ‘grey’ hydrogen from fossil gas (see Infographic 1: The hydrogen rainbow).⁵ Moving the economy to green hydrogen could put the gas industry out of business. So the industry pushed for hydrogen to be the ‘transition’ fuel to get there... hydrogen made from fossil gas, that is. By claiming the emissions could be captured and stored/used by unproven and costly technology (see Box 2: Carbon capture), the gas lobby successfully relabelled hydrogen from fossil gas with CCS/U as ‘clean’ and ‘low carbon’ blue hydrogen. This supposed ‘transition’ fuel would keep the industry profits flowing while applying a ‘sustainable’ veneer.

Our research shows that the hydrogen lobby spent almost €60 million trying to influence Brussels policy-makers, and met with key hydrogen-related Commissioners and their cabinets more than 13 times a month between December 2019 and September 2020. What’s more, since 2018 two deputy directors general for energy have ended 30 year careers to go straight into jobs with law firm Baker

Mackenzie, where they work on future gases like hydrogen. PR firm FTI Consulting has also been instrumental in creating and running key hydrogen lobby groups to keep the hype machine in overdrive.

Industry’s hydrogen hype train intends to keep us on the fossil fuel track and derail real climate action. Yet the European Commission is most definitely onboard, as are national governments: hydrogen (green and blue) has been included in key strategy documents, roadmaps and funding streams (see Boxes 1: EU policies and 4: Public money). And the EU is not alone, with numerous global bodies such as the International Energy Agency calling for long-term hydrogen strategies.⁶

Creating this much hype both domestically and globally directly suits the interests of the gas industry. If it can get the whole economy demanding hydrogen, then it would be almost impossible to meet demand through green hydrogen alone (even if imported), meaning fossil fuel hydrogen would de facto keep flowing. Producing even today’s global hydrogen demand with (non-green) electricity would take “more than the total annual electricity generation of the European Union,” according to the International Energy Agency.⁷ Creating enough green hydrogen by 2050 to power Europe’s entire economy, as envisaged by industry, is a fairytale that is more likely to end up as a climate horror story. And the hydrogen hype train hasn’t even left the station – wait until it reaches full speed.

The gas industry’s hydrogen hype train has nothing to do with tackling the climate emergency and everything to do with ensuring its core model remains relevant and profitable. No wonder then, that its current approach also promotes the oversized trans-european gas pipeline network as a way to transport both fossil gas and hydrogen to continue with business as usual.⁸



► Almost all hydrogen today is generated with fossil fuels.

In short, the gas lobby intends to use the hydrogen hype to preserve the current centralised, fossil fuel-based energy model that is owned and controlled by a small handful of Big Energy corporations. There is a similar picture in the countries and regions the EU is targeting to provide green hydrogen or renewable electricity, such as North Africa (see Box 3: Neocolonial dreams). The planned mega renewable electricity and hydrogen projects, built to serve European consumers, also reinforce a model of large centralised energy more-easily controlled by big companies and authoritarian rulers. These export-oriented projects often negatively impact local communities, leading to land grabs and depleting scarce resources such as water.⁹

The hype around hydrogen has successfully shifted debate away from when and how we move away from fossil fuels towards a zero carbon, fully-electrified economy; away from what a just transition led by workers and

communities looks like and who pays for it; away from what sort of energy system we want, and who will own and control it; and away from questions of the kind of economy we want, and in the service of whom. We don't have time to be wasting another decade on failed techno-fixes that continue business as usual. Unless we step on the brakes of the gas industry's hydrogen hype train, these important debates will not take place.

**We don't have time to be
wasting another decade
on failed techno-fixes
that continue business
as usual.**

Infographic 1

The hydrogen rainbow

The gas industry is hyping hydrogen as 'clean' and 'green'. But look behind the hype and we find not all hydrogen is the same; some types are more polluting than others. Globally, almost 80 percent of hydrogen is made using fossil gas ie methane,¹⁰ a greenhouse gas more than 100 times worse for global warming than CO₂ over a ten year period.¹¹ Both drilling for and transporting methane leaks it into the atmosphere, meaning it is as bad for the climate as coal; and gas extraction also wrecks local communities and ecosystems, as we've seen for decades in the Niger Delta.¹²

Process: Gasification (adding steam and oxygen)

CO₂ emissions? Very big¹³

Verdict: ☹️ Climate and community killer

Process: Steam Methane Reformation (SMR)

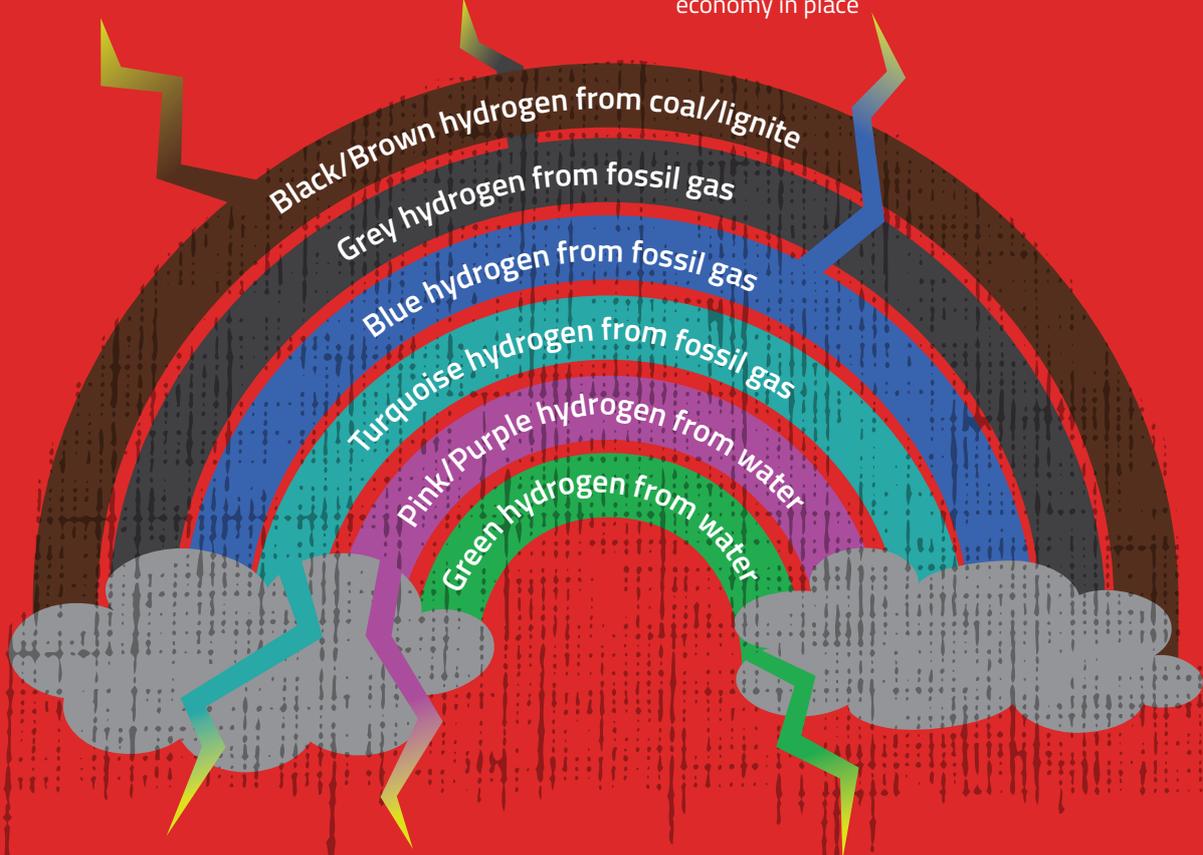
CO₂ emissions? Lots from SMR,¹⁴ as well as methane leakage all along the life-cycle of gas

Verdict: ☹️ Climate and community killer

Process: SMR but with carbon capture and storage or usage (CCS/U)

CO₂ emissions? Claims to capture CO₂ via costly, experimental technology (see Box 2: Carbon capture), but still has methane and CO₂ leakage

Verdict: ☹️ Industry's 'clean' solution is a pie in the sky techno-fix to keep the fossil fuel economy in place



Process: Pyrolysis (extreme heat without oxygen)

CO₂ emissions? Produces a solid carbon byproduct, not CO₂, but heating process could produce CO₂

Verdict: ☹️ Still based on climate and community-wrecking fossil gas

Process: Nuclear-powered electrolysis (splitting water molecules using electricity)

CO₂ emissions? The mining and processing of uranium to produce nuclear energy is carbon intensive¹⁵

Verdict: ☹️ Latest failed attempt by the nuclear industry to be relevant

Process: Renewable-powered electrolysis (like nuclear)

CO₂ emissions? Will the electricity be from wind, waves and sun, or polluting biomass/waste incineration?

Verdict: ☹️ Cleanest form, but at scale relies on neocolonial mega projects outside EU (see Box 3: Neocolonial dreams)



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2. The hydrogen lobby

Who's behind the hydrogen hype in Europe? Meet the hydrogen lobby, which is by and large the gas industry, and it has one main goal: to keep Europe hooked on fossil fuels so its business model can continue for a few more decades. With the help of an army of lobbyists, PR merchants, law firms, and trade associations to influence decision-makers, as well as revolving door appointments from the EU institutions, this lobby has reinvented itself with chilling success. This section gives a snapshot of the main players, their key demands, and the channels used to exert influence.

2.1 Hydrogen Europe

The star of the show, Hydrogen Europe is a lobbying platform with 195 industry members as well as 83 research organisations (and counting), expanding as the hype grows. It has a finger in every pie, and has become the most influential player in the hydrogen policy debate.¹⁶ Its origins are in the public-private partnership, the Fuel Cells and Hydrogen Joint Undertaking (FCH JU).¹⁷ Hydrogen Europe is a hybrid body, on one side it is the European Commission's partner in the FCH JU, and on the other is a lobby group with advocacy machinery, the trade association.¹⁸ In other words, a hybrid body with blurred lines, a public-private partnership set up by the Commission that lobbies the Commission on behalf of industry.

...a hybrid body with blurred lines, a public-private partnership set up by the Commission that lobbies the Commission on behalf of industry.

The role of the FCH JU public-private partnership has been decisive in boosting the push for hydrogen (see section 6. An obliging Commission). It used its €1.3 billion (between 2014-2020) funding stream to accelerate the market introduction of hydrogen fuel cells (ie to store energy like a battery) and hydrogen, allowing Hydrogen Europe's own members to shape the annual funding calls for proposals and in many cases deliver them.¹⁹ But it is the advocacy leg that has grown considerably in the last few years.²⁰ As is the case with other gas and hydrogen lobbies, Hydrogen Europe is very much the creation of a PR firm, in this case FTI Consulting. Hydrogen Europe's 2015 annual report states clearly how Hydrogen Europe is "managed" by the PR firm.²¹ It was set up by FTI Consulting and one man, Jorgo Chatzimarkakis, still its Secretary General but before a serving member of the European Parliament (MEP).²² The Brussels-based secretariat has now grown to 17 full-time staff and its board includes many gas heavyweights (and big gas consumers) such as Equinor, Gasunie, Vattenfall, and Toyota.²³

2.2 The Hydrogen Council

The Hydrogen Council defines itself as a "global CEO-level advisory body providing long-term vision on the important role of hydrogen technologies toward an energy transition."²⁴ It has 92 member companies, including the main oil and gas corporations, energy, aircraft, and car producers. But behind this impressive facade is also FTI Consulting, the same PR firm behind Hydrogen Europe. FTI was behind the launch of the Hydrogen Council at the 2017 World Economic Forum in Davos, with 13 chief executives of dirty energy companies including Shell, BP, Equinor, Air Liquide, Linde, and Total. The contact address for the Hydrogen Council is FTI's Brussels headquarters.²⁵

The mission of the Hydrogen Council is to increase investment in the hydrogen and fuel cell sectors and to “encourage key stakeholders to increase their backing of hydrogen as part of the future energy mix with appropriate policies and supporting schemes”.²⁶ Having well-connected chief executives making the case seems to have paid off: in 2019 the Hydrogen Council and the European Investment Bank (EIB) signed an agreement to collaborate on schemes to finance hydrogen projects.²⁷ Since 2020 the Council has had a section called the Investor Group, made up of banks and other financial institutions that are “actively pursuing the emerging hydrogen economy”.²⁸

However, this firepower is not reflected in the Hydrogen Council’s entry in the EU’s Transparency Register, where it declares a lobby spend of less than €9,999 for 2019 and only one quarter of a full time position, to influence the EU institutions.²⁹ More substantial is what the Council pays to FTI Consulting, which according to FTI’s entry in the Transparency Register is between €700,000 and €799,999 for 2019.³⁰ This means the Hydrogen Council appears to be considerably understating its lobby spend in the lobby register.



► Credit: Frida Kieninger

2.3 A constellation of other players

Besides these two dedicated hydrogen lobby groups, there’s a whole constellation of other trade associations and companies actively pushing the hydrogen hype. GasNaturally, a creation of PR firm Weber Shandwick,³¹ is a super-trade association made up of eight different sectoral trade groups spanning the supply chain and sharing many members with Hydrogen Europe.³² Since its launch in 2011 it has been trying to paint gas as a partner to renewable energy. GasNaturally’s President is Marco Alverà, current Chief Executive of Snam (see Case study 1), who also had a long history at oil and gas producer Eni. GasNaturally’s mission is a prime example of the gas industry’s deceptive language: “to highlight how, by using gas, we can make a clean future real... it is the best partner to support the integration of renewable energy, it can be renewable itself, thanks to new, cutting-edge technologies; it reduces air pollution... it is abundant, safe and secure”.³³

Also worth mentioning is Gas Infrastructure Europe (GIE),³⁴ which brings together gas infrastructure operators across Europe. Sharing many of GIE’s members is ENTSO-G, the European Network of Transmission System Operators for Gas, created by the EU in 2009 as part of the third gas package and core body in the TEN-E Regulation (which is about expanding energy infrastructure between EU countries, also see Box 1: EU policies). But ENTSO-G has always had a problem with conflicts of interest: it is tasked by the EU to predict future gas needs and to help provide a list of infrastructure projects to meet it, which its members then build. This has seen ENTSO-G consistently inflate EU gas demand and corresponding infrastructure needs.³⁵ The EU-created lobby group is a key piece of the puzzle explaining why Europe is being locked into decades of unnecessary and costly gas infrastructure.³⁶ Fossil gas pipeline operators such as Snam, Gasunie, Enagás, Fluxys, and GRTGaz are members of both lobby groups, as well as the smaller but also influential ‘Gas for Climate’ coalition. It consists of 10 gas pipeline operators and 2 biogas associations

and has gone big on blue hydrogen so its members can not only keep their pipelines in use but substantially expand them (see section 3.1 Hydrogen backbone).³⁷

Eurogas, another loud voice for the gas industry in Brussels, is enthusiastically using the hydrogen hype to push for more fossil gas. Alongside its industry allies it has successfully promoted blue hydrogen as a 'clean' fuel, which has been firmly embraced by the EU, including through regulatory and financial support (see Boxes 1: EU policies and 4: Public Money). With a board that includes major oil and gas companies such as Shell, Equinor, Eni, Naturgy, and Total, Eurogas' stated mission is "to strengthen the role of gas in the energy mix".³⁸ Current Secretary General James Watson, was from 2014 until 2019 chief executive of SolarPower Europe, the trade group for the solar energy industry. During these years, gas players infiltrated the renewables lobbies (SolarPower and WindEurope) to make them pro-gas.³⁹ Watson was previously a Director in Weber Shandwick, the same firm behind the launch of GasNaturally.

The International Association of Oil and Gas Producers' (IOGP) members produce 40 per cent of the world's oil and gas⁴⁰ and are using the hydrogen bonanza to lobby very actively for blue hydrogen made using fossil gas and carbon capture and storage.⁴¹ Its close ally ZEP, the Zero Emissions Platform, is doing likewise (for more on both, see section 3.2 Resurrecting the dead). ZEP is an all too common example of an advisory body set up by the Commission that is in reality an industry lobby group. ZEP – a European Technology and Innovation Platform⁴² – is the technical adviser to the EU on the deployment of CCS/U (see Box 2: Carbon capture), but as shown by documents disclosed via freedom of information rules, ZEP has been using the hydrogen hype to lobby for regulatory and financial support for its members such as BP, Shell, Equinor, and Total.⁴³

The infographic titled "WHAT IS HYDROGEN?" features several key points:

- A MOLECULE CONTAINING TWO HYDROGEN ATOMS (H₂)**: Accompanied by a simple diagram of two spheres representing hydrogen atoms.
- ENERGY CARRIER TO STORE, MOVE, AND DELIVER ENERGY**: Accompanied by a diagram of a power plant and a storage tank.
- HIGHEST ENERGY CONTENT OF ANY COMMON FUEL BY WEIGHT..**: Accompanied by a crown icon.
- ZERO CO₂ EMISSIONS AT POINT OF USE**: Accompanied by a cloud icon.
- ..BUT THE LOWEST BY VOLUME..**: Accompanied by a diagram showing a large volume of gas in a container.
- MOST ABUNDANT ELEMENT IN THE UNIVERSE**: Accompanied by a star icon.
- LARGE QUANTITIES NEEDED**: Accompanied by a lightning bolt icon.

 At the bottom of the infographic, two cartoon characters are shown talking, with one holding a document. The background is decorated with stars and circles.

► BP welcoming hydrogen with open arms. Source: Twitter

The tweet from GasNaturally (@GasNaturallyEU) includes a quote:

"decarbonised natural #gas, using carbon capture and storage (CCS), will be crucial to ramp up #hydrogen production in the short term" via @EURACTIV

 Below the text is a photograph of an offshore oil and gas platform in the ocean.

Norwegian scientist: 'No way' of reaching climate neutrality without hydrog... Europe has to get serious about the hydrogen economy if it really wants to reach net-zero emissions as quickly as possible, says Nils Anders Røkke. ... euractiv.com

► GasNaturally jumping on the hydrogen bandwagon. Source: Twitter

3. What does the hydrogen lobby want?

An analysis of over 200 documents obtained through freedom of information rules uncovers the intensity of the ultimately successful lobbying by the gas industry. In short, they reveal that the gas industry wants, and is on track to get, a full-scale regulatory and financial scheme

to create a 'hydrogen economy', a huge part of which will be powered by hydrogen made of fossil gas (with and without carbon removal), and will remain so for decades to come.

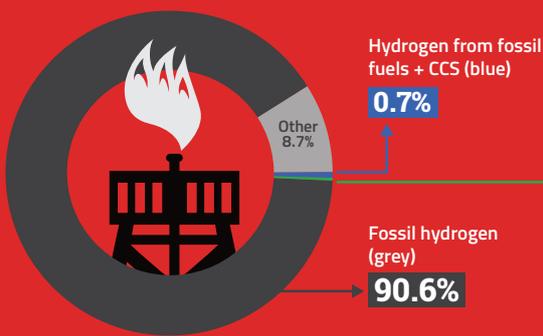
This section will explore several of the hydrogen lobby's demands: more gas infrastructure, support for carbon capture and storage, and financial support from COVID-19 recovery funds and other sources. It also zooms in on how the Commission's Hydrogen Strategy of July 2020 has taken on board many industry demands.⁴⁴

Infographic 2

Don't believe the hype! Hydrogen is another fake solution

The Hydrogen/gas lobby use the 'hydrogen hype' to.....

...give fossil gas a life-line, when it should be left in the ground...



Hydrogen from fossil fuels + CCS (blue)
0.7%

Fossil hydrogen (grey)
90.6%

Other
8.7%

Renewable hydrogen (green)

<0.1%

Less than 1%

of hydrogen is made from renewables!

...revive Carbon Capture & Storage (CCS)...



Risky technology, unproven at scale, expensive, locks us into a future fossil fuel consumption.

BP, Shell, Total, Equinor, IOGP, ZEP

...and entrench gas infrastructure.



Europe has more gas infrastructure than we need, which will either become stranded assets, or lock us into decades more of fossil fuels.

Snam, Gasunie, Fluxys, Enagás, ENTSO-G, TenneT









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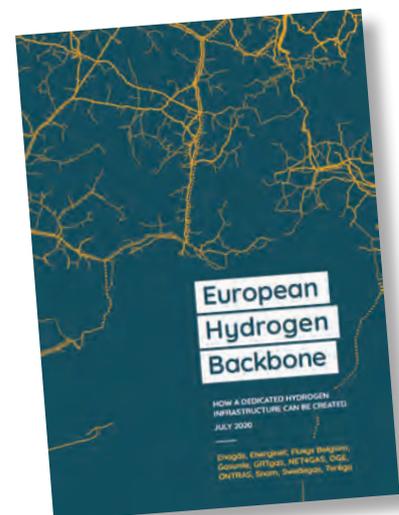
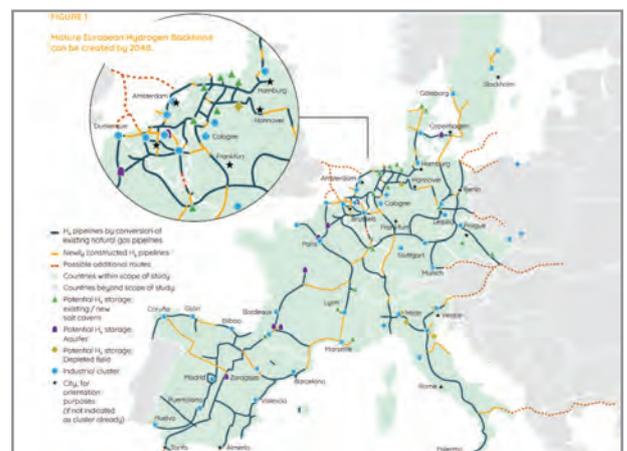
...the gas industry wants, and is on track to get, a full-scale regulatory and financial scheme to create a 'hydrogen economy', a huge part of which will be powered by hydrogen made of fossil gas (with and without carbon removal), and will remain so for decades to come.

3.1 Hydrogen backbone, yet more gas infrastructure

Those building and operating pipelines and import terminals, as well as their lobby groups GIE, ENTSO-G, and Gas for Climate, are keen to ensure gas keeps flowing through their expensive assets, so lobbying for the hydrogen backbone is a key way to make it happen. Gas for Climate member Snam is already going one step further, showcasing its hydrogen 'blending' pilot which injects small quantities of hydrogen into existing fossil gas pipelines.⁴⁵

Gas transport companies have amplified the hydrogen hype to call for yet more gas infrastructure, even when growing evidence shows that Europe actually has more gas infrastructure than needed.⁴⁶ The so-called 'Hydrogen Backbone' is their plan for a network that could cover 23,000 km of pipelines by 2040 based on 75 per cent existing pipelines which are to be repurposed i.e. made fit for transporting hydrogen, and 25 per cent new pipelines.⁴⁷ This plan was presented in July 2020 in a report by Gas for Climate but was already discussed as a demand in the months before that in meetings with Energy Commissioner Kadri Simson.⁴⁸ Hydrogen Europe, which includes all Gas for Climate members, also adopted the Hydrogen Backbone in their demands for the upcoming Trans-European Networks for Energy (TEN-E) review.⁴⁹

The TEN-E Regulation is legislation to define priority cross-border energy infrastructure projects. Its main goal is to set rules around the Projects of Common Interest (PCIs), which receive political and often financial support from the EU.⁵⁰ Energy Commissioner Kadri Simson met with the gas transport companies in May 2020 and told them that TEN-E will "address the issue of a European pipeline system to transport hydrogen from production sites to consumption points, both newly built and refurbished gas pipelines"⁵¹ (for more info, see Box 1: EU policies).



► European Hydrogen Backbone Initiative, taken from Enagás, Energinet, Fluxys Belgium, Gasunie, GRTgaz, NET4GAS, OGE, ONTRAS, Snam, Swedegas, Teréga, 'European Hydrogen Backbone: how a dedicated hydrogen infrastructure can be created', July 2020, <https://gasforclimate2050.eu/publications/>

Proponents of the Hydrogen Backbone claim that repurposing all existing pipelines will avoid stranded assets (which refers here to infrastructure that could become worthless as fossil fuels are phased out), but this ignores the fact that over the past few years the gas transport industry has built an oversized grid which could become obsolete if no other use for it is (artificially) created. Moreover, a close look at their proposal shows that not all the infrastructure they present as existing is already built, meaning more conventional gas pipelines will be constructed, only to be repurposed in the future – and all paid for with public money, while private companies pocket the profit.⁵² Hydrogen is even being used as an excuse to revive already-defeated useless mega gas infrastructure projects such as the MidCat pipeline connecting the Iberian peninsula to France (see section 7. National governments).⁵³ Presenting them as suitable pipelines for transporting hydrogen cannot justify the construction of unneeded and contested projects.

Hydrogen is even being used as an excuse to revive already-defeated useless mega gas infrastructure projects such as the MidCat pipeline connecting the Iberian peninsula to France.



► Failed gas pipeline projects like the MidCat pipeline risk being revived thanks to the hydrogen hype. Credit: Plataforma Reposta al MidCAT

Box 1: EU policies hyping hydrogen

Many EU policy documents published in 2020 deal with hydrogen, as will upcoming legislative proposals. Below is a non-exhaustive overview of the main policies at stake, all subject to fierce industry lobbying.

The **European Hydrogen Strategy** is a centrepiece of the EU's hydrogen hype.⁵⁴ It was published by the European Commission on 8 July 2020, kickstarting the European Clean Hydrogen Alliance (see section 6. An obliging Commission) and outlining the general approach towards the novel gas. It considers⁵⁵ and picks up a lot of industry demands (see section 3.4 What Hydrogen Europe wants, Hydrogen Europe gets).

The **EU Strategy on Energy System Integration** is closely linked to the EU Hydrogen Strategy and focuses on integrating different energy value chains into a more holistic energy system, eg integrating the electricity and gas sector by using electricity to generate a gas, hydrogen. It includes "low-carbon" blue hydrogen in a "transitional phase".⁵⁶

The **European Commission's Industrial Strategy**, published in March 2020, is central to putting the research and development of hydrogen in the hands of industry.⁵⁷ It is the origin of the industry-dominated European Clean Hydrogen Alliance (see section 6. An obliging Commission).

The **Methane Strategy** attempts to deal with the problem of methane leakage, including from the fossil gas sector.⁵⁸ While bringing methane emissions down is crucial for the climate (see Infographic 1: The hydrogen rainbow), this legislation risks helping fossil gas look like a suitable source for generating "clean hydrogen".

Future legislative proposals such as the revised **Renewable Energy Directive**, planned for 2021, could also play an important role in supporting the hydrogen hype.⁵⁹ It defines criteria for "sustainable" fuels for heating, cooling, transport, and power. The 2018 version of the directive established a renewable energy target of at least 32 per cent by 2030. It already includes support for renewable hydrogen as a contribution to meeting the renewables target in the transport sector but gas lobby groups including ENTSO-G are pushing for fossil-based hydrogen to be included in the revised directive.⁶⁰

The revision of EU legislation on energy infrastructure, the **TEN-E Regulation**, has also been subject to heavy pro-hydrogen lobbying in recent months.⁶¹ The TEN-E outlines how EU priority energy infrastructure is selected and which benefits they enjoy, including public financial support from the EU. Hydrogen projects are currently not eligible to become priority projects (Projects of Common Interest, PCIs), but if industry gets its way, the revision could open the door to a number of hydrogen-related PCIs in the future.

Undoubtedly the fossil gas lobby has been and will continue pushing for fossil hydrogen and CCS/U anywhere it can, including but not limited to the Taxonomy Regulation (ie what gets considered green), and the State Aid Guidelines (ie what is eligible for public funding).

3.2 Resurrecting the dead: support for carbon capture and storage/usage

The gas lobby has ultimately been successful in ensuring blue hydrogen was included in the European Hydrogen Strategy (see Box 1: EU policies). This means CCS/U, once thought dead, is now well and truly resuscitated. The failed techno-fix is being held up as the silver bullet to reduce emissions from fossil hydrogen and make it compliant with EU climate targets. Oil and gas companies (and industrial users such as the steel sector) have been particularly vocal in their demands for blue hydrogen and CCS/U.

The failed techno-fix is being held up as the silver bullet to reduce emissions from fossil hydrogen and make it compliant with EU climate targets.



Already in 2018 the oil and gas producers lobby IOGP complained that the Linz Hydrogen Initiative (see section 7. National governments) – which was the first high-profile initiative on hydrogen involving many EU governments – focused only on green hydrogen and “pays insufficient attention to the large potential of sustainable hydrogen produced from natural gas with CCS”. IOGP’s director for EU Affairs, François-Régis Mouton, explained, “We have and will continue to share our vision at the highest level of the Commission, and to Ministers. If Europe is serious about hydrogen, it needs to consider all sustainable ways of producing it.”⁶²

Since then the lobbying has intensified and blue hydrogen is indeed mentioned in key EU policy documents (such as the EU Hydrogen Strategy) as necessary in the transition to renewable hydrogen. When a draft version of the Hydrogen Strategy was leaked, GasNaturally led a concerted industry push for blue hydrogen to have a greater role at the expense of green hydrogen.⁶³

The increased support for blue hydrogen has meant an inevitable revival for CCS/U (see Box 2: Carbon capture), but it is worth remembering that many EU-funded CCS projects were previously cancelled and labelled a waste of money.⁶⁴ “CCS failed to live up to its potential during the previous investment cycle (2009–2015)” admits IOGP in correspondence with the Commission, but tries to remain optimistic, reassuring them that this time will be different.⁶⁵

Industry pressure from groups like the Zero Emissions Platform, ZEP, who has been calling for priority status and public money for CO₂ transport and CCS/U,⁶⁶ appears to have worked. In October 2020 the Commission obliged by putting €130 million from its Connecting Europe Facility towards CO₂ transport projects.⁶⁷ This is in addition to two CCS/U projects already funded through the facility via their inclusion on the PCI list⁶⁸ (see Box 4: Public money) with many more expected to follow under the guise of blue hydrogen. Ultimately, this expensive, risky, and failed technology is being used to provide a sustainable veneer on the continued extraction of fossil fuels (see Box 2: Carbon capture).

Box 2: Carbon capture: unrealistic and wildly expensive

Technologies to capture carbon dioxide and then store it (CCS) or utilise it (CCU) have long been held up by industry as a way to remove climate warming emissions from their industrial processes while they continue with business as usual. The European Commission's Hydrogen Strategy is banking on CCS/U to capture the carbon emissions from producing hydrogen from fossil fuels (blue hydrogen, see Infographic 1: The hydrogen rainbow), therefore allowing it to claim they are 'low carbon' and pleasing industry, while claiming to comply with its own 2050 climate targets.

However, this costly, experimental technology has failed to deliver despite decades of wasted public subsidies. Not only have CO₂ capture rates been poor, but leaks can occur once stored, and vast amounts of (dirty) energy are used to capture and store CO₂ in the first place.⁶⁹ CCS is simply not compatible with keeping temperature rise below 1.5°C. Ironically, the main use for CCU is to pump the captured carbon dioxide into old oil wells to enhance oil recovery, increasing the availability of fossil fuels.⁷⁰ The technology's failure has led the European Court of Auditors to criticise the EU's channelling of €424 million into unsuccessful CCS projects, concluding "that neither of the programmes succeeded to deploy CCS in the EU."⁷¹

According to Green MEP Michael Bloss, banking on blue hydrogen "makes no sense" and "means that money is being sunk into a fossil billion-euro grave."⁷² Channelling money into unproven CCS/U and the accompanying transport infrastructure only allows industry to continue to extract and transport fossil fuels. That's great for their bottom line, but devastating for local communities and their ecosystems along the supply chain, such as in Mozambique where new fossil projects from Shell and Total are forcibly removing communities from their lands and destroying their livelihoods.⁷³ That is not to mention the climate impacts of methane leakage from extracting and transporting gas.⁷⁴

By supporting blue hydrogen, the European Commission and member states are locking Europe and its neighbours into a future of fossil-fuelled disaster, delaying the inevitable move to a clean energy system and giving in once more to gas industry demands.

3.3 Money, money, money: never waste a good crisis!

Before the pandemic public money was already flying into hydrogen and this trend has only increased since.

While the first wave of COVID-19 was hitting Europe hard, the hydrogen lobby wasted no time in launching an even more intensive lobby campaign than usual in the months of the lockdown. During that period the Commission officials in charge of climate and energy policymaking logged an average of three meetings per week with big polluters such

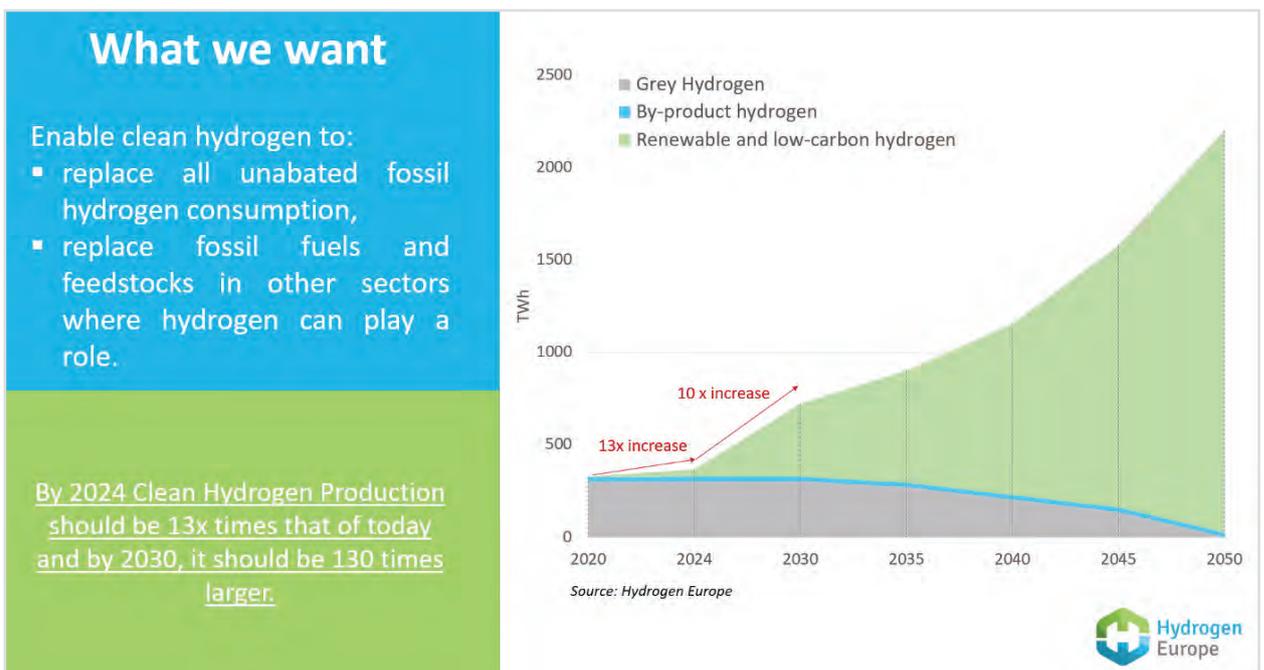
as Total, Shell, FuelsEurope, and Hydrogen Europe.⁷⁵ In June 2020 Hydrogen Europe prepared its report on the role of hydrogen in the EU's Economic Recovery Plan and EU leaders were sent a myriad of letters, papers, emails and calls with a unified message: 'clean' hydrogen is the green way out of the crisis. 'Clean' hydrogen also means blue hydrogen, ie fossil fuels with CCS/U.⁷⁶ In a May 2020 letter to Frans Timmermans, Executive Vice President for the European Green Deal, the Zero Emissions Platform, claimed that "development of shared CO₂ transport and storage infrastructure is the ultimate European project" and asked "the green recovery to kick-start projects along the whole value chain of CCS and clean hydrogen now."⁷⁷

EU leaders were sent a myriad of letters, papers, emails and calls with a unified message: 'clean' hydrogen is the green way out of the crisis. 'Clean' hydrogen also means blue hydrogen, ie fossil fuels with CCS/U.⁷⁶

The International Association of Oil and Gas Producers, IOGP, wrote to the Commission's top officials claiming that, "Alongside coal-to-gas switching and use of gas and renewables in power, heat generation and transport, CCS and hydrogen technologies should receive a central attention in the stimulus package."⁷⁸ Sure enough, national recovery plans include money for hydrogen, such as Italy (see section 7. National governments).

Meanwhile the lobby battle continues over the EU's vast Recovery and Resilience Facility worth €672.5 billion. The gas industry wants to keep the door open in this fund for fossil gas projects.⁷⁹ As such EU leaders received a letter on 19 October 2020 from over 50 industry leaders (including from BP, Enagas, Fluxys, Total, Repsol, Eurogas, Gasnaturally, IOGP, and Gas Infrastructure Europe) to "support ambitious and pragmatic policy tools that will enable the scaling-up of all decarbonisation options which will be needed to achieve carbon neutrality by 2050, including natural, renewable and decarbonised gases and CCUS technologies."⁸⁰

Blue and green hydrogen have both been given the go-ahead to receive funds from the Recovery and Resilience Facility when they start flowing in April, touted as a 'clean' way out of the crisis by industry and decision-makers alike. Hydrogen Europe has been understandably extremely pleased. Before the European Hydrogen Strategy was announced it wrote to its members, encouraging them to prepare well because a "massive plan will be presented in June/July", with "huge ("never seen") amounts of money" for which the "Hydrogen sector needs to be ready!"⁸¹



► Hydrogen Europe plans to super-size the hydrogen economy.
Source: Hydrogen Europe, launch event of the European Clean Hydrogen Monitor 2020

3.4 What Hydrogen Europe wants, Hydrogen Europe gets

The EU Hydrogen Strategy is not much more than an echo of the industry wish list. It envisages huge volumes of hydrogen in the future, repeats the mantra of ‘technology neutrality’ (ie not picking one hydrogen

technology over another, thus leaving the door open for fossil-based blue hydrogen), banks on importing hydrogen from outside the EU, and sees the oversized fossil gas grid as useful for future hydrogen transport. (See Infographic 1: The hydrogen rainbow for further explanation of the different hydrogen ‘colours’).

Industry wish list	INDUSTRY DEMANDS Hydrogen Europe proposal ⁸²	Commission proposal – EU Hydrogen Strategy ⁸³	Industry vs climate: our score	Consequences
Get support for blue hydrogen, which relies on unproven CCS/U technology.	<i>“As such, clean [i.e. blue] hydrogen and hydrogen-based solutions are set to play a systemic role in the transition to renewable sources”.</i>	<i>“An incentivising, supportive policy framework needs to enable renewable and, in a transitional period, low-carbon [blue] hydrogen to contribute to decarbonisation at the lowest possible cost”.</i>	1-0	‘Blue hydrogen’ (made using fossil gas + CCS/U) is considered a bridge fuel to cleaner hydrogen in the distant future, de facto allowing for the continuation of gas expansion and public financing for it.
Massive amounts of green hydrogen can be imported because we can’t produce it in the EU.	<i>“Establish hydrogen as key component of the ongoing EU-Ukraine energy cooperation as well as the EU-Africa and Euro-Mediterranean partnerships.”</i>	<i>“For example Africa, due to its abundant renewables potential and in particular North Africa due to geographic proximity, is a potential supplier of cost-competitive renewable hydrogen to the EU... the Eastern Neighbourhood, in particular Ukraine, and the Southern Neighbourhood countries should be priority partners”.</i>	2-0	EU will exploit the resources of poorer neighbouring countries to meet its own needs, expanding its neo-colonial fossil fuel energy import system to include hydrogen. This creates huge problems for local populations who will face the social and environmental consequences of this extractivism, such as increased water scarcity. ⁸⁴

Industry wish list	INDUSTRY DEMANDS Hydrogen Europe proposal ⁸²	Commission proposal – EU Hydrogen Strategy ⁸³	Industry vs climate: our score	Consequences
Repurpose fossil gas grid for hydrogen.	"Support the retrofitting of existing cross border gas infrastructure to transport clean hydrogen [...and] recognise the evolving role of infrastructure companies, and to recognise their role in operating natural gas pipelines but also their plans to retrofit/convert existing natural gas pipelines with a view to operating them as clean hydrogen pipelines."	"[E]lements of the existing pan-European gas infrastructure could be repurposed to provide the necessary infrastructure for large-scale cross-border transport of hydrogen ".	3-0	A much-needed discussion around decommissioning of the oversized, costly EU gas grid is avoided; stranded assets are reframed as potential hydrogen assets and relabelled as 'clean'.
Maintain dependence on fossil gas, with a small volume of hydrogen to greenwash it.	"The development of guidelines for the EU wide harmonisation of regulations, uniform standards, definitions and technical rules that govern hydrogen blending should be supported. "	"The blending of hydrogen in the natural gas network at a limited percentage may enable decentralised renewable hydrogen production in local networks in a transitional phase ".	4-0	Blending huge amounts of fossil gas with a low percentage of hydrogen (currently in many EU countries less than 1% of hydrogen can be blended in the gas grid) ensures business-almost-as-usual is maintained.
Get EU support for members' ambitious green hydrogen infrastructure plans inside and outside the EU.	" Promote the endorsement of the 2x40 GW Green Hydrogen Initiative roadmap by the Clean Hydrogen Alliance as the basis for enabling scale up and mass deployment of hydrogen by 2030."	" EU industry is rising to the challenge and has developed an ambitious plan to reach 2x40 GW of electrolyzers by 2030 (40 GW in Europe and 40 GW in Europe's neighbourhood with export to the EU)".	5-0	Create expectations of high levels of green hydrogen, to be met with blue or grey hydrogen until other options are available; exposes EU reliance on its neighbourhood and underlines the geopolitical importance of hydrogen.
Super-size the hydrogen hype.	"Achieving all this will require... clean hydrogen (renewable and low carbon hydrogen) at large scale . Without it, the EU will not achieve its decarbonisation targets ."	" Large-scale deployment of clean hydrogen at a fast pace is key for the EU to achieve a higher climate ambition ".	6-0	Large-scale deployment will mean mega hydrogen infrastructure and the continuation of our centralised energy system dominated by fossil fuel corporations, rather than a just transition away from it.

Box 3: Neocolonial dreams

Although 'green' hydrogen made with renewable energy sounds far more desirable than the dirtier options (see Infographic 1: The hydrogen rainbow), both the European Hydrogen Strategy and Hydrogen Europe's roadmap rely on massive importation of green hydrogen or renewable electricity from outside the EU as it cannot produce enough domestically. This repeats the same neocolonial relationship that already exists with fossil fuels, where the EU exploits the resources of its poorer neighbours to meet its own energy needs. Indeed, the Commission has already endorsed Hydrogen Europe's plan of a massive increase of electrolyser production needed to transform renewable energy (solar and wind) into green hydrogen, the '2x40 GW Green Hydrogen Initiative'.⁸⁵ This vision involves half of the electrolysers deployed inside the EU, and the other half in Ukraine and Northern Africa.

For North Africa and Ukraine, this would mean by 2030 "7.5 GW hydrogen production for the domestic market and a 32.5 GW hydrogen production capacity for export" to the EU, with three times as much coming from North Africa as Ukraine.⁸⁶ Not by coincidence, industry has sought authoritarian regimes with which to broker deals that will keep these regions exploited to serve the EU energy model. Hydrogen Europe goes on, "Crucial is the design and realisation of new, unique and long-lasting mutual cooperation mechanisms on political, societal and economic levels between the EU and North Africa, Ukraine and other neighbouring countries".⁸⁷ In Ukraine, gas company Naftogaz and nuclear power plant operator Energoatom have already signed a memorandum to cooperate on hydrogen production.⁸⁸ Will this 'pink' hydrogen (see Infographic 1: The hydrogen rainbow) be a future source of EU hydrogen?



► Inga dam, Democratic Republic of Congo
Credit: Elena Gerebizza, Re:Common.

Hydrogen Europe envisages huge related infrastructure: "For Africa and Europe it would be very interesting to unlock the renewable energy export potential in North Africa, with North African countries converting this electricity to hydrogen and transport the energy via pipelines to Europe. Part of the natural gas grid could be converted to accommodate hydrogen.... But also, the construction of new hydrogen pipelines would be a cost-effective option."⁸⁹

These mega-projects serve the European market without questioning the energy needs of the people living in the host countries, the social and environmental costs (such as increased water scarcity and land grabs),⁹⁰ nor the debt burden that multi-million financial schemes may generate and at whose expense. In sum, the Hydrogen Strategy perpetuates the same neocolonial centralized model in Europe and in the rest of the world, blocking the transition towards a more democratic, sustainable energy system.

CASE STUDY 1: SNAM, THE (NOT SO) GREEN GAS GIANT

The Italian gas pipeline builder and operator Snam is one of Europe's biggest, and like its industry bedfellows, is a major advocate of hydrogen. Owning a sprawling network of pipelines and Liquid Natural Gas terminals across Europe either directly or through subsidiaries,⁹¹ it is keen to paint the hydrogen future as one involving fossil gas infrastructure, and not just existing assets.

The company continues to build new gas pipelines, such as the controversial Trans Adriatic Pipeline (TAP), still under construction but being fought on the ground and through the courts (the main project promoter is currently on trial for allegedly creating an environmental disaster).⁹² Snam justifies this ongoing expansion through small pilot projects to inject limited amounts of hydrogen into the existing grid, a process known as 'blending', while promising to fully repurpose the infrastructure to transport hydrogen in the future – subsidised by taxpayers, of course.

Influence in Brussels

In July 2020, one week after the Commission launched its European Hydrogen Strategy, Snam and its lobby group of pipeline operators, the Gas for Climate coalition, presented their 'European Hydrogen Backbone' report to show exactly how their existing pipelines could be repurposed for hydrogen. The Italian gas giant has been a key player in the coalition since its creation in 2017, using it to push for so-called

'renewable' gases such as hydrogen as a cover for more fossil gas.⁹³ Snam is also a member of Gas Infrastructure Europe (GIE), Hydrogen Europe, and the Hydrogen Council, while its chief executive, Marco Alverà, is President of super trade association GasNaturally (see section 2. The hydrogen lobby). Alverà is a regular in the Brussels corridors of power and a heavyweight in the gas lobby, having spent 10 years at Italian oil and gas major Eni, as well as a previous role as Vice President of Eurogas.

Alverà is an ardent personal advocate for hydrogen, even publishing a book in 2019 titled *Generation H: Healing the Climate with Hydrogen*.⁹⁴ He ensured a copy was sent to incoming EU Energy Commissioner, Kadri Simson, as a way to introduce himself and ask for a meeting.⁹⁵

Also included in his correspondence to Simson and other Commission top officials was an op-ed he published in the *Financial Times*, calling for a 'technology neutral' hydrogen strategy, asking the Commission to not choose one technology over another, ie not preferring green hydrogen to blue hydrogen.⁹⁶ This formed part of a concerted effort between Snam and its trade associations to lobby the EU into embracing clean hydrogen, ie not just green hydrogen from renewable electricity but also supposedly clean blue hydrogen from fossil gas with CCS/U. This included a letter writing campaign as well as face to face meetings with top officials.⁹⁷ When GasNaturally met Commissioner Frans Timmermans the call for "a Hydrogen Strategy inclusive of all clean hydrogen pathways"⁹⁸ was loud and clear.

Influence in Rome

Snam has always been a key actor in shaping Italian gas policy – conventional and hydrogen⁹⁹ – and this role has only increased in the pandemic. Snam and Confindustria Energia, the Italian business association, produced a joint report arguing that investments in energy infrastructure would drive the economic recovery. They also estimate that half of investments until 2030 will be in fossil fuels, mostly fossil gas infrastructure.¹⁰⁰

In August 2020 Snam and other fossil fuel corporations, including Eni and Enel, met the Italian Minister of Economic Development to discuss projects that could be included in the country's recovery and resilience plan, which would access the European Commission's NextGenerationEU funding.¹⁰¹ Subsequently, many elements of Snam's joint report such as retrofitting of gas pipelines and CCS,¹⁰² appeared prominently among the list of projects for the recovery plan being discussed by the Italian Government, grouped under the banner of full decarbonisation of the economy and blue hydrogen production.¹⁰³ Then in September 2020 the Italian Government announced investments in hydrogen of "at least €3 billion" to a crowd of enthusiastic Italian fossil fuel majors.¹⁰⁴

The Italian government holds a 31 per cent share in Snam,¹⁰⁵ and enjoys annual dividends of several hundred million euros. Little wonder, then, that it has been sympathetic to Snam's overtures as the company seeks to ensure its pipelines don't become stranded assets in a zero carbon future.



► Protests around the Trans Adriatic Pipeline.
Photo: Paolo Zuccotti / 350.org



► German anti-gas protesters. Credit: Gastivists Berlin

**...in September 2020
the Italian Government
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fuel majors.**

4. Channels of influence

The hydrogen lobby makes extensive use of lobbying tools and tricks, including a few scandalous ones. And it puts its money where its mouth is. According to the EU's transparency register, the hydrogen lobby declared a combined annual expenditure of €58.6 million trying to influence Brussels policy-making.

Trade associations in the hydrogen lobby are constantly collaborating and finding synergies in their messaging (which are full of deceptive language that usefully blur the lines between green, renewables-based hydrogen and fossil-based blue hydrogen with and without CCS/U), their demands (which suit all their members), and their lobbying activities (more gas please, renewable if and when possible). They have created an echo chamber in Brussels for their messages to reverberate, making them difficult

for policy-makers to ignore. However, not all companies lobbying on hydrogen are transparent about the money they spend on influencing the EU; some are absent from the EU's Transparency Register, others fail to declare their true lobby budget.¹⁰⁶ Overall the true financial firepower of the hydrogen lobby can be assumed to be higher than the figures produced here.

...the hydrogen lobby declared a combined annual expenditure of €58.6 million trying to influence Brussels policy-making.

Infographic 3

Spending on EU lobbying by the hydrogen lobby in 1 year:



The hydrogen lobby's combined annual spend to lobby the EU is €58.6 million in the last financial year as declared in the EU transparency register by Hydrogen Europe and its 90 industry members registered, Hydrogen Council, Eurogas, Gas Naturally, Gas Infrastructure Europe, ENTSO-G, ZEP, IOGP and Gas for Climate



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4.1 PR firms

PR firms play a key role in engineering the hydrogen hype and constructing the hydrogen lobby itself. FTI Consulting – notorious on both sides of the Atlantic for its involvement with the fossil fuel industry – is the mastermind behind the two most powerful hydrogen lobby groups, Hydrogen Europe and the Hydrogen Council (see section 2. The hydrogen lobby). Helping design, staff, and run organizations funded by energy companies is nothing new for FTI, which was recently caught in the US setting up front groups for energy companies that purport to show grassroots support for destructive fossil-fuel initiatives.¹⁰⁷ The PR firm set up groups with names such as ‘Texans for Natural Gas’ which supported fracking, and the ‘Arctic Energy Center’, which advocates drilling in Alaskan

waters and the Arctic wildlife refuge. In Europe, FTI’s clients include Gas Naturally, Eurogas, the Trans-Adriatic Pipeline (TAP), and ExxonMobil, which paid it up to €900,000 in 2019.¹⁰⁸ The Hydrogen Council is not just a client but is directly run by FTI, which banks up to €800,000 each year for its role.

Weber Shandwick, the PR firm behind GasNaturally – a ‘super trade association’ which was set up to ensure gas was not dropped when the EU was planning its 2050 decarbonisation strategy¹⁰⁹ – includes among its clients the Zero Emission Platform, Repsol, Shell, Toyota, ENI, Neste Oil, Gas Natural Fenosa, Snam, and Statoil.¹¹⁰ Fleishman Hillard is another PR firm with many clients lobbying for hydrogen, such as ENTSO-G, Fuels Europe, IOGP, Air Liquide, and Tata steel.¹¹¹

FTI Consulting – notorious on both sides of the Atlantic for its involvement with the fossil fuel industry – is the mastermind behind the two most powerful hydrogen lobby groups, Hydrogen Europe and the Hydrogen Council

4.2 Revolving doors

Gas players and their advisers favour hiring ex-officials from the EU institutions and national governments, surely benefiting from the profile and know-how of these former insiders. While it is not surprising that the gas industry makes good use of this revolving door, it is reproachable that the European Commission's ethics rules and enforcement are not enough to mitigate this.

Take the case of Klaus-Dieter Borchardt, who had been arguably one of the most influential EU officials in energy policy-making. He was the architect of the EU's gas strategy to 2050, championing 'low carbon' gases, and was omnipresent in the renewable gas debate, attending every meeting on renewable gas between DG Energy and industry between May 2017 and March 2018!¹¹² After more than 30 years in the European Commission, the last few as Deputy Director General for Energy, he left his role and joined law firm Baker McKenzie as Senior Energy Consultant in October 2020.¹¹³

Take the case of Klaus-Dieter Borchardt, who had been arguably one of the most influential EU officials in energy policy-making.

At Baker McKenzie Borchardt has joined former colleague Christopher Jones, who was also Deputy Director General for Energy between 2014 and 2018. Jones joined the law firm in 2018 straight after a 30 year career at the Commission, where he had been responsible for the coordination of gas markets.¹¹⁴ Commenting on the law firm's report 'Shaping Tomorrow's Global Hydrogen Market', Jones, listed as Co-Chair of the Oil and Gas Sub Industry group

and a lead member of the Hydrogen Team at Baker McKenzie, said "Whilst still in at [sic] early stages in its development, change is coming and much sooner than many think today. Companies that make smart use of government support in the form of public funding and public-private partnerships will lead this revolution."¹¹⁵

When asked about the perceived conflict of interest from his move, Jones told Corporate Europe Observatory that he was not involved in "'lobbying' Commission officials on behalf of clients."¹¹⁶ Borchardt also denied any conflict of interest, arguing that "Baker McKenzie is a law firm and not a consultancy". Nonetheless, his role for Baker McKenzie sees Borchardt moderating a gas lobby event where his panelists included his former European Commission colleagues and gas industry lobbyists.¹¹⁷ Baker McKenzie appears to be building a profile on gas and hydrogen, and recruiting Borchardt and Jones undoubtedly helps.

Constantine Levoyannis, Head of Policy at Hydrogen Europe since May 2020, has also crossed through the revolving door. Before joining Hydrogen Europe he worked for the French gas infrastructure company GRTgaz, and before that he was a Director at FTI Consulting, advising clients from the energy industry. He joined FTI a month after he stopped working at the European Parliament where he was active in gas issues as a political advisor to Greek MEP Niki Tzavela.¹¹⁸ Constantine Levoyannis also has another hat, as Head of the Brussels branch of the Greek Energy Forum (GEF) and as such a promoter of the highly controversial Trans Adriatic Pipeline.¹¹⁹ GEF is a think tank, not registered in the EU's Transparency Register, created to develop the fossil fuel industry in Greece and south-eastern Europe with a leadership dominated by companies such as Shell, BP, and ENI.¹²⁰ The region is increasingly becoming a gas hotspot with new fossil gas discoveries and controversial pipelines like the EastMed, meaning Levoyannis' multiple hats and professional history are of great value to Hydrogen Europe.

4.3 Lobby bombardment and events

An extensive analysis of hundreds of documents obtained via freedom of information requests show the gas industry's massive bombardment of Commission officials with letters and mails, attaching position papers, reports, and studies that all push for hydrogen.¹²¹ Pre-pandemic, gas lobby groups were also organising a multitude of events in which to present their 'gas is clean', 'love blue hydrogen' messages on podiums or round dinner tables with policy-makers and politicians. In February 2020 the IOGP hosted a dinner debate at the European Parliament under the banner of the European Energy Forum, which brings together MEPs and Big Energy. Almost 50 representatives from energy companies and groups such as FuelsEurope, ENI, ENTSO-G, GIE, Total, Shell, and Equinor discussed the role of oil and gas in the Green Deal, hydrogen, and CCS/U with the then Croatian Presidency of the EU Council and numerous MEPs and Commission officials.¹²² Since lockdown, the number of events has increased but they are now held online.

4.4 Lending 'expertise'

One of the key ways industry influences European decision-making is through participation in European Commission advisory groups, High-Level Groups, and similar fora. These groups to varying degrees provide (industry) 'expertise' to make up for the Commission's lack; and they can have a great deal of influence over policy, particularly at early stages of development. The March 2020 European Industrial Strategy, which gives a central role to hydrogen among other things, proposed creating the Clean Hydrogen Alliance as a body to provide expertise, (see section 5: The European Clean Hydrogen Alliance), building on the work already done by another advisory body, the Strategic Forum on Important Projects of Common European Interest.¹²³

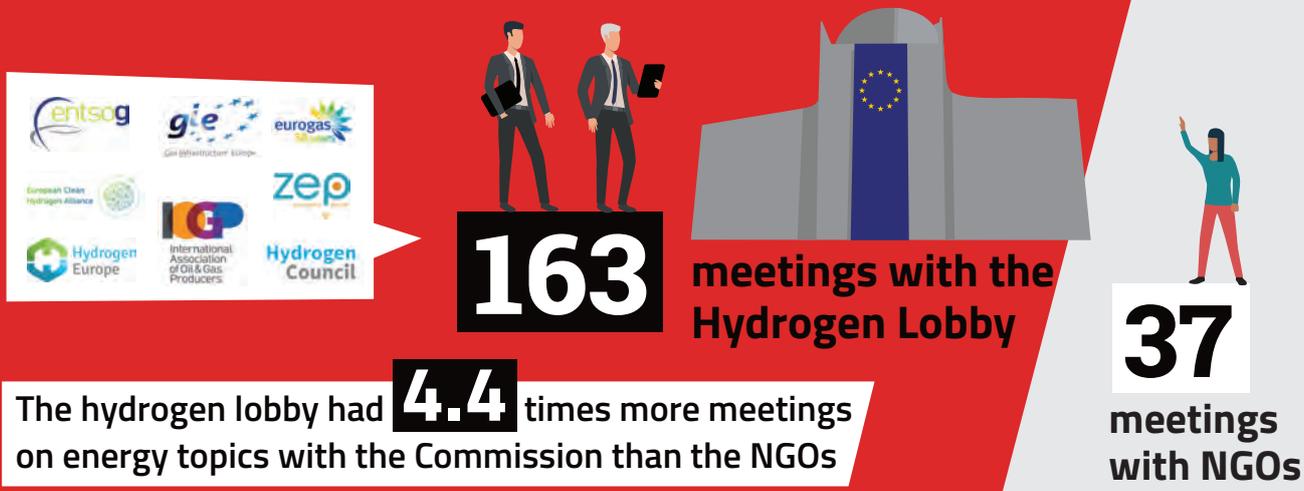
Established in March 2018, the Strategic Forum on Important Projects of Common European Interest (IPCEI) is a high-level expert group tasked with identifying "key strategic value chains" in Europe and proposing a common vision for joint actions and investments between EU, member states, and industry.¹²⁴ It is hugely dominated by industry and with Hydrogen Europe and other trade groups such as Eurofer (steel), BusinessEurope (employers), Cembureau (cement), CEFIC (chemicals), and Confindustria (Italian employers' federation), driving things, it unsurprisingly selected hydrogen as one of the strategic value chains.¹²⁵

4.5 Privileged access

Last but not least one of the most important assets for the hydrogen lobby is privileged access to key decision-makers. The disclosed documents obtained with freedom of information requests show the industry's remarkably easy path to get meetings and conference calls with commissioners and other high-level officials. An analysis of the lobby meetings held since the beginning of this Commission in December 2019 until the end of September 2020 reveals how the hydrogen lobby greatly outnumbers NGOs in its dealings with the Commission elite. It secured 163 meetings with the top three commissioners and their cabinets to discuss energy policy, more than four times the number held with civil society groups.¹²⁶

Infographic 4

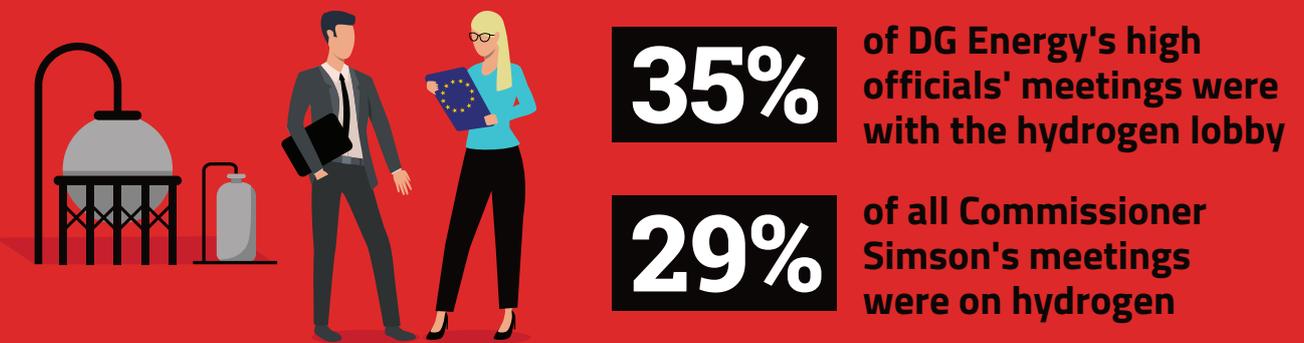
The hydrogen lobby's easy access to the Commission



Lobby meetings on energy topics registered since the start of this Commission (09/12/19 - 30/09/20) between commissioners Frans Timmermans (European Green Deal), Kadri Simson (Energy), Thierry Breton (GROW), their cabinets and directors general of DG Clima, Energy, and Grow, with a> corporate members of Hydrogen Europe, the Hydrogen Council, and the Clean Hydrogen Alliance (as listed on 13/10/2020), as well as with the trade associations Eurogas, Gas Infrastructure Europe, ENTSO-G, ZEP, IOGP; versus b> NGOs.

Infographic 5

Love affair between DG Energy and the hydrogen lobby



The hydrogen lobby is the sector that sought most meetings with DG Energy top officials. These officials are in charge of key hydrogen regulations eg. the "Hydrogen strategy for a climate-neutral Europe", the "EU Strategy for Energy System Integration", and the upcoming revision of the "Trans-European Networks for Energy" (TEN-E).

Lobby meetings registered since the start of this Commission (09/12/19 - 30/09/20), for Energy Commissioner Kadri Simson, her cabinet and director general of DG Energy. 49 out of 139 meetings were with the hydrogen lobby (corporate members of Hydrogen Europe, Hydrogen Council, and the Clean Hydrogen Alliance as listed on 13/10/2020, as well as with the trade associations Eurogas, Gas Naturally, Gas Infrastructure Europe, ENTSO-G, ZEP, and IOGP). Of a total of 55 meetings by Commissioner Simson, 16 dealt specifically with hydrogen



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5. The European Clean Hydrogen Alliance

The European Clean Hydrogen Alliance worries climate campaigners just as much as it excites hydrogen industry lobbyists. Although officially launched by the European Commission in July 2020, alongside its European Hydrogen Strategy, the Alliance was outlined in March by industry-friendly DG GROW (Directorate General for the Internal Market, Industry, Entrepreneurship, and SMEs) as an important plank of its European Industrial Strategy, “bringing investors together with governmental, institutional and industrial partners”.¹²⁷ As of 19 November 2020, the Alliance membership included 538 companies, 140 trade groups, (including Hydrogen Europe, the Hydrogen Council, Eurogas, IOGP, and ZEP), 7 civil society groups, and numerous other public authorities and research organisations.¹²⁸ The Alliance will keep growing, as the Commission wants to reach 1000 companies by 2024.¹²⁹

The European Clean Hydrogen Alliance worries climate campaigners just as much as it excites hydrogen industry lobbyists.

According to the European Hydrogen Strategy, the Alliance will “identify and build up a clear pipeline of viable investment projects. This will facilitate coordinated investments and policies along the hydrogen value chain, and cooperation across private and public stakeholders with the EU, providing public support where appropriate and crowding in private investment.”¹³⁰ It will introduce more of the EU’s infamous ‘public-private partnerships’ (see section 6. An obliging

Commission), which have seen huge financial transfers from public to private hands as well as allowing private commercial interests to set the political and financial agenda. The Alliance is intended to also play a crucial role “in facilitating and implementing the actions of the new European Hydrogen Strategy and in particular its investment agenda”.¹³¹ Worryingly, the EU’s investment agenda was lifted straight from lobby group Hydrogen Europe’s 2030 roadmap, which they estimate will cost €430 billion over the next ten years (see section 3.4 What Hydrogen Europe wants).¹³²

One way the European Clean Hydrogen Alliance can ensure public funds flow to hydrogen projects is by recommending them to be classified as ‘Important Projects of Common European Interest’ (IPCEIs). These cross-border projects are exempt from the EU’s strict State aid rules that ordinarily limit government subsidies to industry (see Box 4: Public money).

Identifying which hydrogen projects will receive public funds is a tantalising prospect for industry. Therefore, it is no wonder lobby group Hydrogen Europe was quick off the mark, rushing to secure the running of the secretariat as soon as the Alliance was announced in March 2020. An email obtained through freedom of information requests reveals the group telling the Commission two days after the announcement that “We are about to ramp up our capacities and can offer our services to prepare and run the ‘Hydrogen Alliance.’”¹³³ Three months before its official launch, Hydrogen Europe had already organised a high-level video conference for

...lobby group Hydrogen Europe was quick off the mark, rushing to secure the running of the secretariat as soon as the Alliance was announced...



► Fossil gas compressor station

its chief executives alongside Executive Vice President for the European Green Deal Frans Timmermans and other key commissioners, and claimed it should be “regarded as the first meeting of the Clean Hydrogen Alliance, as this initiative will engage actively CEOs as industrial partners to boost the hydrogen market”.¹³⁴

In fact, Hydrogen Europe may have been too quick off the mark, setting alarm bells ringing among civil society groups. NGOs in Brussels saw the European Clean Hydrogen Alliance as another instance of the gas industry being allowed to create inflated infrastructure wishlists which would then be funded by the Commission (for the previous instance, see ENTSO-G in section 2.3 constellation of other players).¹³⁵ The Commission has now said that instead of giving the secretariat to one group, it will allow chairs from the six thematic roundtables to give organisational support (among them Hydrogen Europe, ENTSO-G, and

chemical lobby group CEFIC). The Commission has attempted to ward off criticism by saying it will hold on to decision-making on projects and funding, but past experience suggests this should be taken with a grain of salt. Particularly when the Commission’s own Clean Hydrogen Alliance materials state it wants to have “Industry in the driving seat, especially companies with significant investment potential into clean hydrogen” (and remember, ‘clean’ doesn’t mean green or renewable, but is used also for hydrogen made of fossil gas!)¹³⁶

**...the Commission’s own
Clean Hydrogen Alliance
materials state it wants
to have “Industry in the
driving seat...**

6. An obliging Commission

The European Commission is providing a united front to roll out the red carpet for the hydrogen lobby. Usual tensions between Europe's climate goals and its industrial competitiveness have been put to one side to pursue a hydrogen economy and industry's roadmap to deliver it.

Underpinning the hydrogen push is DG GROW's European Industrial Strategy, which focuses heavily on hydrogen and forms a key part of the European Green Deal. Unsurprisingly, given the department that wrote it, the strategy places industry interests above other concerns and relies heavily on public-private partnerships: "Industrial sectors should be invited and incentivised to define their own roadmaps for climate neutrality", while the "co-design and entrepreneurial spirit" of the strategy "should be supported through Public Private Partnerships".¹³⁷ In early 2019 DG GROW organised a conference alongside Hydrogen Europe to encourage industry to present more hydrogen projects and to "bring together the relevant industrial actors in the EU as well as the relevant financing sources from all the regions of the EU".¹³⁸

Multiple public funds and billions of euros have been mobilised to deliver this strategy, but rather than the public interest, industrial competitiveness and private commercial interests remain the driving force behind the EU's push for a hydrogen economy.¹³⁹ This approach has failed so far to tackle climate change.

Behind much of the EU's hydrogen hype is a public-private partnership, the Fuel Cells and Hydrogen Joint Undertaking. A long-standing collaboration between the European Commission and Hydrogen Europe, the FCH-JU has been promoting the hydrogen agenda for the past fifteen years (see section 2. The

hydrogen lobby).¹⁴⁰ It enjoyed a budget of €1.33 billion through the EU's 2014–2020 research programme, Horizon2020, while its 2019 *Hydrogen Roadmap Europe*¹⁴¹ became the basis of much of Hydrogen Europe's lobbying efforts.

The Commission is readying FCH-JU's successor, the 'Clean Hydrogen Partnership', proposed under the Horizon Europe research programme which replaces Horizon2020.¹⁴² Distinct from the European Clean Hydrogen Alliance, it will "support research, development and demonstration of technologies to bring them to market readiness", while the Alliance "will pool resources to bring scale and impact to industrialisation efforts".¹⁴³ Both are public-private partnerships.

It is also scaling up the European Innovation Council to be fully launched in 2021. Its advisors include the Chair of Siemens alongside various venture capitalists.¹⁴⁴ In sum, the Commission is creating several structures to fast-track the hydrogen economy and is putting them in the hands of the gas industry, whose main goal is to continue our reliance on fossil fuels for years to come.

The Commission also appears to be yielding to lobby pressure to shape ongoing and upcoming regulations and funding opportunities to the gas industry's hydrogen agenda. This includes the TEN-E Regulation as well as post-COVID recovery funds (see Boxes 1: EU policies and 4: Public money). Energy Commissioner Kadri Simson told the Hydrogen Europe high-level video conference that, "The proposed recovery package, Next Generation EU, like the general budget, will have earmarked funds for delivering the climate goals of the European Green Deal."¹⁴⁵

"You do not have to convince us on the role and benefits of hydrogen

;-)" Email from DG CLIMA

At the same industry conference, Vice-President Frans Timmermans, in charge of delivering the Deal, announced that “hydrogen could be a key solution to our energy challenges, especially in the post-Covid situation”.¹⁴⁶ Timmermans’ department even lobbied Hydrogen Europe to be more ambitious in what it was asking for in the build up to the conference. “You do not have to convince us

on the role and benefits of hydrogen ;-)”, read an email from DG CLIMA in preparation for the video conference. Wink wink. “We would like to suggest therefore to reorient the focus more towards the immediate priority of possible recovery plans,” and goes on to advise that industry answer questions such as which types of measures (loan, equity, regulatory, other) they would consider most useful.

Box 4: Public money financing hydrogen

The European Commission has bought the hydrogen hype and is pledging to back this push with public funds. But while it has fully embraced Hydrogen Europe’s 2030 investment agenda (the lobby group itself puts the cost at €430 billion),¹⁴⁷ where will the money come from, and how much of it will be public funds?

Sustainable Europe Investment Plan: The investment arm of the European Green Deal (EGD) is due to mobilise “at least €1 trillion of private and public sustainable investments over the upcoming decade” through the EU budget and its associated instruments.¹⁴⁸ The Plan also includes InvestEU, the continuation of the so-called Juncker Plan, which used the EU budget to guarantee investments from the European Investment Bank (EIB) and other national public banks.¹⁴⁹ This budget will fund hydrogen and CCS/U under the EGD, as well as through the EIB, which has an agreement with the Hydrogen Council to finance projects.¹⁵⁰

ETS Innovation Fund: More funding comes as dedicated revenues from the auctioning of Emissions Trading Scheme (ETS) allowances between 2020 to 2030 to “technology innovation” projects.¹⁵¹ It will have €10 billion available between now and 2030, and CCS/U and hydrogen are both eligible.¹⁵²

The Recovery and Resilience Facility: The centrepiece of the broader European response plan to the coronavirus pandemic is NextGenerationEU,¹⁵³ with €672.5 billion available in loans and grants to support member state actions.¹⁵⁴ The European Commission has set a 37 per cent minimum climate-related spending target for each national plan that will have to contribute to the European Green Deal objectives. Detailed member state proposals are to be discussed in the next few months¹⁵⁵ but funding promises to hydrogen have already been made (see section 7. National governments).

Important Projects of Common European Interest: IPCEIs are approved by the European Commission and let member states support innovative and disruptive technologies. From 2021 hydrogen projects jointly-implemented by several member states will enjoy ‘special State aid rules’, allowing them to receive state subsidies without falling foul of EU competition policy. (See section 7. National governments.)

Connecting Europe Facility: This is envisaged to have a budget of €5.2 billion for its ‘Projects of Common Interest’, or PCIs, which aim to strengthen Trans-European Networks for Energy (TEN-E). Currently defined as oil, gas, electricity, and CO₂ transport and storage, hydrogen could soon be included. The gas lobby has been applying heavy pressure around the upcoming revision of the TEN-E Regulation for hydrogen’s inclusion (see Box 3: EU policies), which if successful would see significant sums go towards new hydrogen infrastructure projects.¹⁵⁶

7. National governments join in the hype

European member states have got on board the hydrogen hype train, ably assisted by the European Commission. This has led to a veritable hydrogen race to see who will move the furthest the fastest, with industry taking full advantage.

7.1 Ably assisted by the Commission

Energy Commissioner Simson told an industry conference that, “The Commission will closely work with Member States to ensure that there is a strong emphasis on hydrogen related projects in the national measures.”¹⁵⁷ And she has been true to her word, also ensuring industry is able to participate as much as possible.

The Commission has created the Hydrogen Energy Network, or HyENet, specifically to coordinate with member states. According to its website, it is an “informal group of experts, composed of representatives from the ministries in charge of energy policy in EU Member States”.¹⁵⁸ Like the rest of the Commission’s hydrogen agenda, its meetings have been turned into an opportunity to offer industry privileged access to decision-makers.¹⁵⁹ Beginning in 2021, the Commission will also revise the state aid rules for hydrogen projects considered Important Projects of Common European Interest (IPCEI). This will allow national governments to fund hydrogen infrastructure even up to 100 per cent of project costs (as asked for by industry)¹⁶⁰ without falling foul of EU single market rules (see Box 4: Public money).¹⁶¹

7.2 Promise of big money sets the hype machine into overdrive

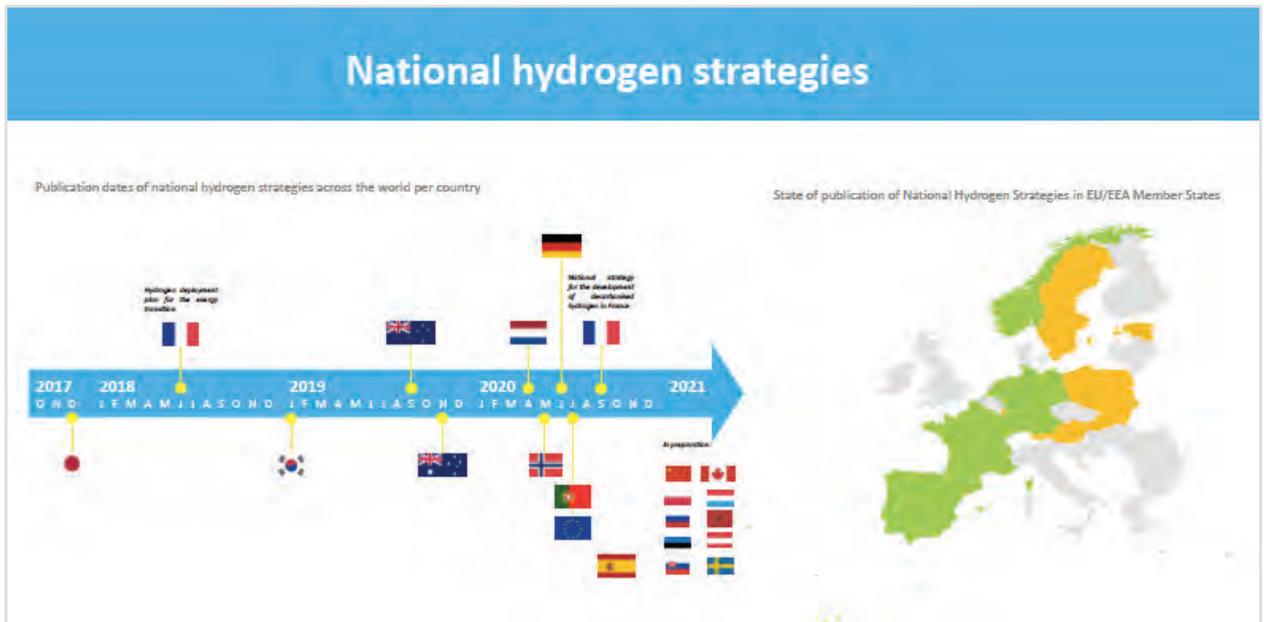
The eligibility of hydrogen projects under IPCEI rules has led to a hydrogen rush from national governments and industry. After putting out calls for IPCEI projects to be funded, Belgium and France received 20 and 200 applications respectively.¹⁶²

Hydrogen strategies are being drawn up in national capitals, with serious funding commitments to match: Spain is promising €8.9 billion towards its hydrogen strategy, French Economy Minister Bruno Le Maire has put forward €7 billion, Italy €3 billion and Germany has pledged €7 billion domestically and a further €2 billion for international hydrogen projects, including Morocco (see Case study 2: The German Presidency).¹⁶³

While this money will come from member state governments under IPCEI State aid rules, much of it will originate in other EU funds (see Box 4: Public money).



► Hydrogen Europe is ecstatic with the flow of money. Source: Hydrogen Europe, launch event of the European Clean Hydrogen Monitor 2020

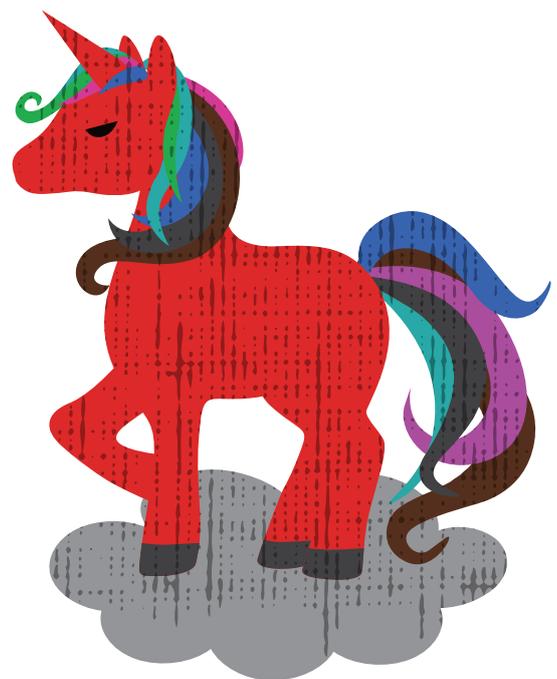


► Existing and upcoming national Hydrogen strategies. Source: Hydrogen Europe, launch event of the European Clean Hydrogen Monitor 2020

7.3 A pipeline of rainbow unicorns and green flamingos

The Commission and national governments will be hoping for many more hydrogen projects, but there are already eight in the pipeline, colourfully named things like Black Horse, Green Flamingo, White Dragon, and even Rainbow Unicorn.¹⁶⁴ No White Elephant though... or at least not yet. These are being developed between the gas industry and national governments, for example the Green Spider project between Spanish pipeline operator Enagás and Madrid will blend hydrogen with fossil gas.¹⁶⁵

Many involved multiple gas companies in joint projects, such as the Green Octopus, a cross-border collaboration between French Engie, Dutch Gasunie, Belgian Fluxys and German Saltzgitter aimed at all parts of the hydrogen production, transportation and use chain.¹⁶⁶



7.4 Funding fossil fuels?

While some projects will be 'green' hydrogen, others will definitely not be. At the third HyENet meeting in May 2020, the Dutch Government made a special plea "not to write off blue hydrogen".¹⁶⁷ The hydrogen hype is also being used to justify existing fossil gas infrastructure plans as well as those that have already been binned. Under the new guise of hydrogen, Portugal wants Spain and France to revive the controversial MidCat pipeline project, ditched in 2019 from the PCI list of infrastructure projects by regulators partially on climate grounds.¹⁶⁸

7.5 Germany keeping hydrogen high up the agenda

The German Government has used its EU Presidency in the second half of 2020 to ensure hydrogen stays high up the EU Council agenda (see Case study 2: The German Presidency). As President, it has been preparing the ground for December's Energy Council meeting where energy ministers from across Europe gather. How can it use the occasion to give hydrogen an extra push? In the second half of 2018 the Austrian Presidency, alongside Hydrogen Europe, organised the signing of the Hydrogen Initiative Declaration, with 25 member states putting pen to paper to promote green hydrogen in all areas of the economy.¹⁶⁹

While not expecting a high-level signing ceremony and declaration, several leaked draft conclusions prepared by the Presidency do show that Germany has favoured leaving the door wide open to fossil-based hydrogen, calling for "an enhanced framework for carbon capture use and storage".¹⁷⁰ The draft conclusions also push the European Commission to use the existing fossil gas networks to "potentially provide the basis for a trans-European backbone infrastructure for hydrogen",¹⁷¹ the same demands made by gas transport companies. More recently leaked draft conclusions also show support for "different sustainable and low-carbon technologies" up until 2050, which would grant public money for fossil fuels - as well as nuclear energy - for another 30 years.

CASE STUDY 2: THE GERMAN PRESIDENCY: HYDROGEN AT ALL COSTS

“We want there to be a big joint European project on hydrogen, we offered to coordinate this project as the German Presidency. This met with a lot of approval.”

Federal Minister for Economic Affairs and Energy, Peter Altmaier, ahead of a High-Level Conference on Hydrogen, 5 October 2020.¹⁷²

Germany was once world famous for its *Energiewende*, but its energy transition is now in a “serious crisis”¹⁷³ as installation of renewable energy capacity slows down, and uncertainty grows around the country’s coal phase-out. In this context, the German Government’s appetite for hydrogen could risk smuggling fossil fuels into its energy plans for decades to come.

Germany’s presidency of the EU Council over the second half of 2020 has given it a special opportunity to push the hydrogen agenda, including as part of the revision of the TEN-E Regulation (see Box 1: EU policies). At a High-Level Conference on Hydrogen in October,¹⁷⁴ in the presence of pro-hydrogen fossil fuel firms including Total and Air Liquide, German Minister Peter Altmaier set out an agenda to “starting from Europe, make hydrogen a worldwide success story”.¹⁷⁵

The Federal Economy and Energy Ministry: a love affair with gas

In June 2020, just before officially taking the presidency and after months of delay, the German Government finalised its own National Hydrogen Strategy. Just like the EU Hydrogen Strategy it sees a place for hydrogen in many

sectors and highlights the potential of the huge existing gas grid to support hydrogen transport. The strategy envisages hydrogen development even beyond Europe, with €7 billion to roll out hydrogen in Germany, and another €2 billion for international partnerships.¹⁷⁶

Soon after announcing its National Hydrogen Strategy, Germany signed an agreement with Morocco for a pilot green hydrogen deal.¹⁷⁷ Similar projects, such as the Desertec initiative that aimed to bring solar energy from North African to Europe, never succeeded, and were shrouded in accusations of neocolonialism and resource grabbing (see also Box 3: Neocolonial dreams).¹⁷⁸ In September 2020, Germany also struck a deal with Australia: a mind-boggling agreement to start a feasibility study assessing a hydrogen supply chain between the two countries on opposite sides of the globe.¹⁷⁹

The German Government has consistently shown itself to be supportive of the gas industry, granting its infrastructure wish-list of pipelines and other large projects,¹⁸⁰ opposing an exclusion on financing gas as a fossil energy,¹⁸¹ and seeking to reassure gas transport industry firms such as Thyssengas, with whom it is in regular correspondence, that investments in gas infrastructure will be needed well into the future.¹⁸²

While the Environment Ministry and others undoubtedly had a say in the drafting of the German hydrogen strategy, as German NGO Deutsche Umwelthilfe describes in its report ‘Love is in the air. Germany and the gas lobby’,¹⁸³ the Economy and Energy Ministry (BMWi) and associated industry interests dominated the final result.

During the drafting of the hydrogen strategy, the BMWi organised only one stakeholder event with civil society (but also industry) representatives.¹⁸⁴ However, exchanges with the fossil fuel lobby on the topic were particularly lively. A number of documents from the Ministry illustrate lobby attempts to push for hydrogen generation that's "free from ideology and open to all technologies"¹⁸⁵ and the need for continued gas infrastructure. The ministry's willingness to speak at gas industry events about hydrogen¹⁸⁶ and revolving door cases, such as BMWi official Marion Scheller who went to lobby for mega gas pipeline project Nord Stream II, further complete the picture.¹⁸⁷

A willing target of hydrogen lobbying

The position of the BMWi, then, is clear with several draft versions of speeches revealing that gas is "for BMWi part of the solution".¹⁸⁸ Public support for gas, on the other hand, is fragile. A speech draft of a high-ranking ministry official mentions the risk that discussions around gas infrastructure could undermine that support, particularly because of the "critical stance vis-a-vis fossils".¹⁸⁹ This is where hydrogen as an alleged solution comes in handy. BMWi representatives deem fossil-based blue hydrogen indispensable for an "energy transition"¹⁹⁰ and push for its inclusion in the German hydrogen strategy.¹⁹¹ Yet a comment in a BMWi representative's draft speech suggests that even within the government, not all ministries accept blue hydrogen, with the Environment Ministry opposed to using the fossil-based gas in a transitional phase.¹⁹²

As a result of these tensions, the final hydrogen strategy text is more careful with its words but leaves important doors open for fossil fuel-based hydrogen in Germany¹⁹³ And the BMWi still implements policies to support fossil hydrogen, claiming that "German industry needs, next to green hydrogen, also blue hydrogen"¹⁹⁴

Yet to reach the EU's ambitious "renewables" quota, as a BMWi official's speech notes suggest, the inclusion of "low-carbon" hydrogen from fossil fuels should be allowed. ¹⁹⁵

Elsewhere the BMWi seems to be suggesting that fossil-based hydrogen should be included in an EU directive describing renewable energy sources. This directive (the EU renewables directive (RED II) which will be revised soon (see Box 1: EU policies) should set an ambitious quota for renewable energy. Yet to reach the EU's ambitious "renewables" quota, as a BMWi official's speech notes suggest, the inclusion of "low-carbon" hydrogen from fossil fuels should be allowed.¹⁹⁵ This echoes the demands of gas lobby groups, such as the European Federation of Energy Traders, who have made the same arguments to the German Government.¹⁹⁶

As to the National Hydrogen Strategy, the steps taken so far hardly inspire confidence. To help implement the strategy, a National Hydrogen Council was established with only two NGOs among its many industry and research members.¹⁹⁷ In its first opinion, the Council recommended that electricity used to run electrolyzers which generate hydrogen be exempt from a levy under the German Renewable Energies Act ('EEG-Umlage') – even if this electricity is generated from fossil fuels.¹⁹⁸ Clearly, vigilance on what 'green' hydrogen will finally be comprised of will continue to be necessary.

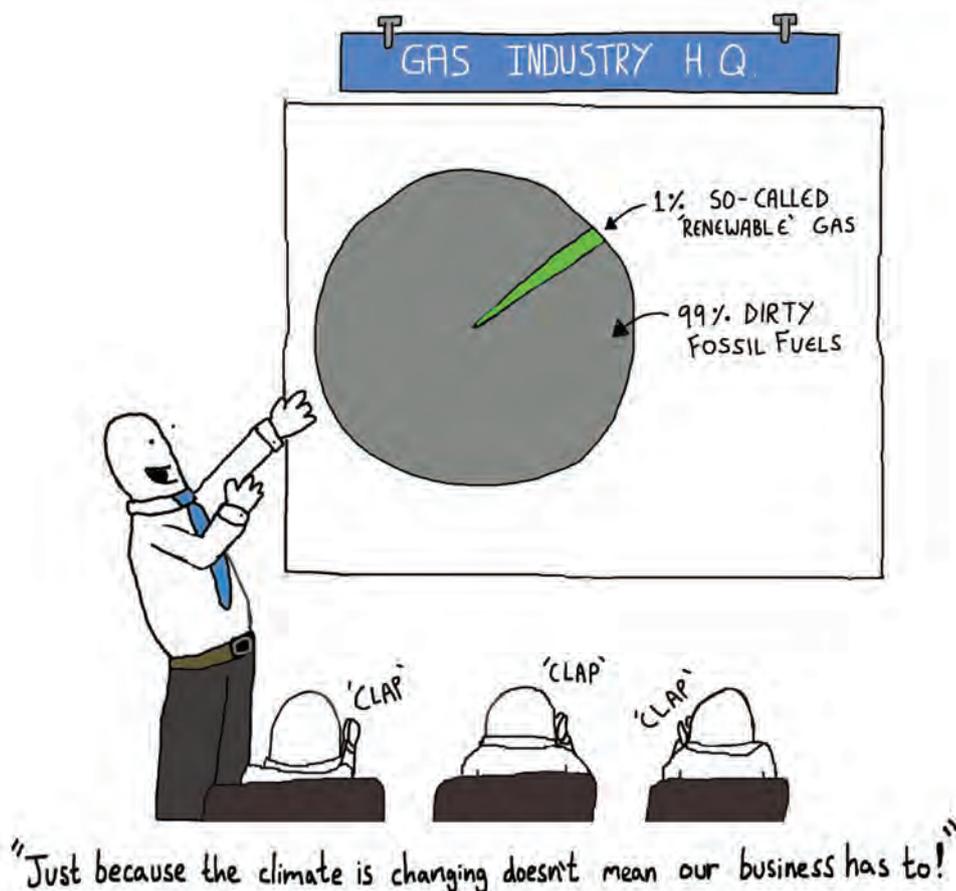
Conclusion: Don't believe the hype!

This report has shown how the gas industry is currently hyping 'renewable hydrogen' together with supposedly 'low-carbon', 'clean', and 'decarbonised' hydrogen. Don't believe the hype! The result of falling for this dangerous distraction will be to keep fossil gas on the energy menu for decades to come, with dramatic consequences. There is only one way to address climate change, and that is to leave fossil fuels in the ground, including gas. Gas companies are fully aware of this, yet their core vision remains pumping fossil gas for the foreseeable future, with some small renewable gas capacity giving them the cover of 'sustainability'.

The European Commission and national governments are also aware of this, yet they have still embarked on a regulatory and financial frenzy to smooth the way for industry ambitions and further inflate the hydrogen hype.

Despite all the futuristic-sounding technology and language, the hydrogen hype seeks not to transform but to accommodate and reinforce the status quo. Buying into the hype would maintain our centralised energy model based on big infrastructure, centralised production, and concentrated in the hands of a few powerful companies. It is also rooted in a colonial model that divides the world into 'privileged', and 'service' areas ie. those that provide the resources that fuel Europe's economy.

Large scale projects such as the mega-solar developments in the Sahara region or the Inga Dam in the Democratic Republic of Congo are built to serve European consumers without questioning the energy needs of the people living in the hosting countries, the social and environmental costs, and the debt burden that multi-million financial schemes may generate – and at whose expense? The hydrogen model will only deepen Europe's dependency on importing energy sources from outside European borders, be it fossil gas or large scale renewable energy. It spells more of the same (see Box 3: Neocolonial dreams).





► Anti-gas demonstration in Portugal. Source: Climáximo

This report lays bare the tricks and tactics deployed by the hydrogen lobby, their spending power, access, and influence. It is this, combined with proactive and eager government officials at both the national and the European level, that have pushed the hydrogen hype machine into overdrive. So far it has managed to hide behind a green veneer, but even the cover of green hydrogen is not exempt from severe consequences if produced at the scale needed to become a substantial part of the energy mix.

Rather than trying to decarbonise our gas system by putting our faith in unproven technologies such as carbon capture and storage or 'green hydrogen', which can never be sustainably delivered in the necessary quantities, we need a just transition to plan a phase-out of all fossil fuels and their associated infrastructure in line with climate science, while protecting communities and workers over corporate profits.

The hydrogen hype has been created hand-in-hand with the gas industry. It is being used to narrow the space for a participative, political discussion on how we move away from fossil fuels. Industry's focus on large-scale renewable electricity to produce hydrogen aims at cutting off public support for small-scale decentralised community renewable projects, for energy efficiency and demand reduction, for solutions that would challenge the current energy model. Yet it is that very same industry that opposes full electrification, and even green hydrogen.¹⁹⁹ It is not surprising that the only solution on the table is one that chimes with its profits. So can the gas industry, whose primary product is the very thing driving climate change, really be trusted to lead us to the solution?

**The answer is no.
Don't believe the hype.**

Recommendations

A transfer of political and financial

support: The support currently enjoyed by hydrogen should be put into wind, solar, wave energy, and energy reduction plans, with a focus on community- and publicly/people's -owned small scale infrastructure and projects, given the failure of the market and the big players to transform our economy and energy system away from fossil fuels.

An end to the privileged access

enjoyed by the gas industry: As with the tobacco industry, the inclusion of industry in the policy-making process is severely stunting ambition. A firewall is needed between policy-makers and the fossil fuel industry at the national, regional, and UN level, and the EU needs to stop blocking and start supporting this process. The Fossil Free Politics campaign has developed a series of demands along these lines.²⁰⁰

A shift in culture towards lobbyists:

As a first step we need full transparency with a legally-binding and fully-enforced lobby register, as well as active and substantial transparency from all EU institutions and national governments, which is essential to know the true scale of influence of industry. The culture within the European institutions means that even when transparency highlights clear cases of privileged access for industry, such as around revolving doors or expert groups, the political will to fix the problem

is lacking. Policy-making in the public interest rather than that of industry will require a fundamental shift in culture in the Commission and across EU capitals.

Stop placing public funded research into corporate hands:

The Commission must stop financing big business research interests through the multiple vehicles created for that purpose over the years (eg. European Technology Platforms, Joint Undertaking Initiatives, public-private partnerships) and rather, use taxpayers' money for research that adequately tackles societal challenges, such as the climate emergency. Real grassroots and independent science, as well as traditional practices, should be at the forefront of tackling such a huge crisis.

No more fossil infrastructure projects:

Financial and regulatory back-up such as that provided by the EU and national governments through the list of PCI and IPCEI projects needs to be strictly limited only to those needed for a genuine energy transition, and in no case involve fossil fuels. Given the exponential costs and the public funding for such projects, the Commission and member states should guarantee independent monitoring (excluding industry) and give clear information about these projects, including the total public financial support given, and the environmental, social, and climate impacts of each project.

Annex: Methodology and disclaimer

This content is the sole responsibility of Corporate Europe Observatory, Food and Water Action Europe, and Re:Common and should not be regarded as reflecting the position of any of the more than 200 organisations supporting the call for fossil-free politics, including the founders.

For the calculations of how much the hydrogen lobby spends influencing the EU we included the lobby spending of the 90 industry members of Hydrogen Europe that are inscribed in the EU's Transparency Register.²⁰¹ It also includes the lobby spending of the nine groups covered in the report: Hydrogen Europe, the Hydrogen Council, Eurogas, Gas Naturally, the ZEP, ENTSO-G, IOGP, Gas for Climate, and GIE. All amounts are from the lobbying declarations of the last available year (unless older than 2015) as they appear in www.lobbyfacts.eu.²⁰² The report uses the highest bracket for declared spending (eg €200,000 when a range of €100,000-€200,000 is given). Given many organisations lobby on other issues besides hydrogen, with the data available it is impossible to disaggregate spending on lobbying related to hydrogen compared to other topics.

When a company does not appear in the EU Transparency Register but its parent company or subsidiary company does, the lobby spending of the latter was counted, eg Hyundai Motor Europe is the Hydrogen Europe member but Hyundai Motor Company Brussels Office is the one registered. Companies and trade groups sometimes declare a number lower than the actual spending eg the Hydrogen Council declares less than €10,000 in lobbying the EU, but in 2019 it paid FTI Consulting between €700,000 and €799,999 for its services.

We have not counted the additional money the hydrogen lobby pays to consultancies and PR or law firms, so it can be assumed that the amount spent by the hydrogen lobby is actually higher than our numbers suggest. That is just one reason why full compliance and real transparency through a legally-binding EU lobby register is of such importance.

To calculate the number of lobby meetings, we used the online calendars of commissioners Kadri Simson and Thierry Breton, as well as Vice-President Frans Timmermans, and those of their cabinets and directors general, between the period 9 December 2019 until 30 September 2020.²⁰³

To calculate meetings with the hydrogen lobby, we looked at the meetings/video conferences with corporate members of the European Clean Hydrogen Alliance, the Hydrogen Council, and Hydrogen Europe,²⁰⁴ as well as the trade associations Eurogas, ZEP, ENTSO-G, IOGP, and GIE. Meetings with parent companies or subsidiary companies of the corporate members were also counted. Meetings where the listed topic was specific enough to rule out that hydrogen was discussed were excluded. To calculate meetings with NGOs, we recorded all meetings/video conferences with the mentioned commissioners. We excluded NGOs that are also think-tanks or foundations (such as the European Climate Foundation) or industry-NGO bodies (such as the Renewable Grid Initiative). We counted all NGO meetings on energy topics, unless the subject was specific enough to rule out that hydrogen was discussed (eg about biodiversity and forests). If several industry representatives or NGOs met Commission representatives in the same meeting, the meeting was only counted once. All numbers in the report are subject to a reasonable margin of error.

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