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**WHITE PAPER**

# A Global Registry of Fossil Fuels

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# TABLE OF CONTENTS

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Introduction	3
Proposal for a <i>Global Registry of Fossil Fuels</i>	5
The current landscape	5
Why is it needed?	5
A set of guiding principles	6
Pioneering countries	7
Developing a prototype registry	8
Proposed reporting and institutional arrangements	9
1) Reporting requirements	9
Minimum reporting requirements	9
Fossil fuel related policies	11
Infrastructure	11
Extra-territorial reserves	12
2) Hosting arrangements	12
Lessons learned from historic experience	13
Conclusion	14
References	15
Annex A: Existing fossil fuel databases	17
Annex B: Hosting arrangements for other international registries	19

# INTRODUCTION

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In 2018 the IPCC presented the world with a stark warning: greenhouse gas emissions must be halved within the next decade to avert major climate disruption.<sup>1</sup> Climate action failure is now seen as the biggest threat facing humanity.<sup>2</sup> Fossil fuels account for more than 75 percent of global greenhouse gas emissions.<sup>3</sup> Yet governments around the world plan to produce 50 percent more fossil fuels than consistent with a 2°C pathway and 120 percent more than consistent with keeping warming within 1.5°C over this timeframe.

There is increasing recognition of the importance of tackling this challenge at its source through policies aimed at limiting and phasing out the supply of fossil fuels – such as moratoria, quotas, permitting limits and requirements, removal of fossil fuel subsidies, imposition of taxes, divestment and disclosure requirements – in addition to demand-side policies such as carbon pricing or renewable energy support. This recognition has begun to translate into policy action in a small group of countries with Spain, Belize, Costa Rica, France, New Zealand and Ireland having implemented, or announced plans to implement regulations to limit the expansion of new fossil fuels.<sup>4</sup> Lessons from domestic and international policy efforts to tackle global threats, including the nuclear non-proliferation movement, highlight the importance of government transparency and accountability as a vital component of building on this momentum towards a global plan for fossil fuel phase out.

A *Global Registry of Fossil Fuels* will allow governments, financial institutions and other stakeholders to set a baseline of current fossil fuel extraction, clarify what is in the production pipeline, and assess this against the amount of unburnable carbon in the context of the IPCC's stark warnings. It will promote government buy-in to transparency around fossil fuels as a key component of a suite of national and global actions to equitably phase out fossil fuels in line with the Paris Agreement's temperature goals. By obliging governments to account for fossil fuels it will also empower them to recognise their ability to intervene in the sector and to plan now for a more diversified, sustainable and prosperous future.

At this critical juncture of major global change and uncertainty, it is vital for governments

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1 IPCC, "Summary for Policymakers," in *Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty* (World Meteorological Organization, Geneva, Switzerland, 2018), <http://www.ipcc.ch/report/sr15/>.

2 World Economic Forum, "The Global Risks Report 2020," Insight Report (World Economic Forum; Marsh & McLennan; Zurich Insurance Group; National University of Singapore; Oxford Martin School; Wharton Risk Management and Decision Processes Center, University of Pennsylvania, 2020).

3 SEI et al., "The Production Gap: The Discrepancy between Countries' Planned Fossil Fuel Production and Global Production Levels Consistent with Limiting Warming to 1.5°C or 2°C," 2019, <http://productiongap.org/>; International Energy Agency, *CO2 Emissions from Fuel Combustion 2018, CO2 Emissions from Fuel Combustion* (OECD, 2018), [https://doi.org/10.1787/co2\\_fuel-2018-en](https://doi.org/10.1787/co2_fuel-2018-en).

4 Romain Ioualalen, "Spain to Join Group of First Movers off Oil and Gas," Oil Change International (blog), May 26, 2020, <http://priceofoil.org/2020/05/26/spain-to-join-group-of-first-movers-off-oil-and-gas/>.

and the fossil fuel industry to provide clarity on plans for fossil fuel extraction and to develop national strategies to avoid future continued expansion beyond what can safely be extracted under the Paris Agreement temperature goals, creating major risks both to the economy and the climate. Negative oil prices in April 2020 – in part as a result of the COVID-19 pandemic – have highlighted the sector’s underlying volatility and risk. UN Development Programme head Achim Steiner is among many now publicly recognising the risks inherent in depending on fossil fuels for our energy system and calling for a transition to cleaner energy sources.<sup>5</sup> Fatih Birol, Executive Director of the International Energy Agency, has described the COVID-19 economic recovery packages being rolled out around the world as a ‘once in a lifetime’ opportunity to stimulate a clean energy transition and end global reliance on fossil fuels.<sup>6</sup>

With the postponement of COP26 creating space to rethink and reset progress on the context of the global climate policy agenda and post COVID-19 recovery efforts providing an opportunity for countries to shift to a more economically, environmentally and socially sustainable paradigm, 2020-21 represents a pivotal moment in time to put in place the ingredients for an ambitious and equitable shift away from fossil fuels.

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5 Alister Doyle, “UN Development Chief Calls for Green Shift Away from ‘irrational’ Oil Dependence,” Climate Home News, April 24, 2020, <https://www.climatechangenews.com/2020/04/24/un-development-chief-calls-green-shift-away-irrational-oil-dependence/>.

6 Fatih Birol, “How to Make the Economic Recovery from Coronavirus an Environmentally Sustainable One,” International Energy Agency, March 31, 2020, <https://www.iea.org/commentaries/how-to-make-the-economic-recovery-from-coronavirus-an-environmentally-sustainable-one>; Dunn Katherine, “Historic Opportunity: Why Governments Are Facing a Once-in-a-Lifetime Chance to Transition to Clean Energy,” Fortune, July 25, 2020, <https://fortune.com/2020/07/25/historic-opportunity-fatih-birol-iea-covid-recovery-clean-energy/>.



# PROPOSAL FOR A GLOBAL REGISTRY OF FOSSIL FUELS

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## **The current landscape**

While data on fossil fuel projects, reserves and resources does exist, it is not reported systematically in any publicly accessible, easily comparable manner. What data does exist is reported for distinct purposes such as disclosure in annual reports for stock exchange listed corporations but no single reporting framework exists that provides the full picture of reserves, resources and planned future extraction. Further, standards for how to classify and disclose physical fossil fuel reserves come from a variety of sources and differ between countries.<sup>7</sup> Several useful records of fossil fuel reserves, resources and production have been compiled by private organisations, but these are only available on a fee basis, making them inaccessible for some civil society organisations and governments. Several NGOs have also developed useful databases which track different aspects of the global fossil fuel energy system, but these are not comprehensive (see Annexes A and B).

## **Why is it needed?**

Existing efforts to track fossil fuels are important and useful, however a systematic, global, equitable plan to phase out fossil fuels that has involvement from governments is what is called for. A *Global Registry of Fossil Fuels* will serve several vital functions:

**Promote government buy-in:** National governments carry the responsibility of protecting their citizens from the impacts of climate change and ensuring the transition to a zero-carbon world is an equitable one. Governments already possess much of the data that would be reported as part of the global registry. Requiring this data to be reported publicly and transparently will encourage greater government oversight of the potential future emissions arising from within and beyond their territories as a result of government and corporate extraction activities.

**Set a global baseline:** While reporting on greenhouse gases emitted is vital to an understanding of historical and ongoing causes of climate change, reporting on fossil fuel reserves reveals how much the world would emit in the future from the biggest source of greenhouse gas emissions if production is unconstrained.<sup>8</sup> Accounting for current and planned fossil fuel extraction also facilitates a different picture of responsibility for climate change compared to traditional territorial and consumption-based emissions accounting methods, which do not focus on upstream producers.

**Assess progress towards aligning fossil fuel production with climate goals:** Regular reporting on fossil fuel production will enable tracking of the trajectory of fossil fuel phase out, to assess whether production is being managed in such a way as to decline in line with climate goals.

**Promote strategic and equitable planning:** Having an accurate picture of the baseline

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7 Jan Bebbington et al., "Fossil Fuel Reserves and Resources Reporting and Unburnable Carbon: Investigating Conflicting Accounts," *Critical Perspectives on Accounting* 66 (January 2020): 102083, <https://doi.org/10.1016/j.cpa.2019.04.004>.

8 SEI et al., "The Production Gap: The Discrepancy between Countries' Planned Fossil Fuel Production and Global Production Levels Consistent with Limiting Warming to 1.5°C or 2°C."

amount of fossil fuels that are known, estimated and planned for extraction can help to identify the disparity between fossil fuel extraction plans and ambitious Paris Agreement-aligned global fossil fuel phase-out plans. This information can help producer countries to develop rapid and strategic plans for a domestic phase out of fossil fuel production based on principles of equity and a just transition. It can also empower countries to identify the role that they and other nation states play in fossil fuel supply globally, providing essential data to underpin global coordination towards a fossil fuel phase out based on the same principles of equity, leading to a global just transition.

**Ensure public transparency:** A *Global Registry of Fossil Fuels* will ensure fossil fuel information is available for all, not just a select few able to pay for and analyse privately hosted databases. This will help to ensure public accountability and empower civil society organisations to be part of the conversation about the management of the fossil fuel industry.

**Economic and investor certainty:** A *Global Registry of Fossil Fuels* will also provide a comprehensive source of government verified data with clear signals about future expected fossil fuel production by which investors can assess the economic value of fossil fuel reserves, and therefore make decisions with respect to the long-term future of their assets and investment strategies.<sup>9</sup> This aligns with the approach championed by outgoing Governor of the Bank of England Mark Carney and other high-profile economists, who highlight the risks climate change poses for oil investment.<sup>10</sup> For countries that currently depend on fossil fuel extraction for part of their national income and employment, it is important to understand where they fit in the global picture and how future vulnerability of the fossil fuel industry might impact their economy so they can begin to diversify for a more prosperous future for their citizens.

## A SET OF GUIDING PRINCIPLES

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To achieve the objectives set out above, a *Global Registry of Fossil Fuels* should be guided by the following principles:

**Verifiability:** This is a core principle of accounting. For reasons of transparency and certainty, it is important for the data countries report to be verifiable and reproducible. Much can be learned from existing monitoring and verification processes such as those relating to greenhouse gas emissions accounting. The upstream nature of resources, reserves and associated infrastructure means fewer stakeholders and fossil fuel sources

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<sup>9</sup> Bevis Longstreth, Jane B Adams, and James Leaton, "Carbon Tracker's Letter to FASB – December 2013" (Carbon Tracker, December 10, 2013); Mary Robinson, "Industry Must Commit to Halt All Future Fossil Fuel Extraction," The Elders, June 14, 2019, <https://www.theelders.org/news/industry-must-commit-halt-all-future-fossil-fuel-extraction>.

<sup>10</sup> Andy Gregory, "Climate Change Could Render Assets 'Worthless', Bank of England Governor Warns," The Independent, December 30, 2019, <https://www.independent.co.uk/environment/climate-change-finance-assets-worthless-mark-carney-bio-divestment-a9263861.html>; Andrew Sparrow, "Firms Must Justify Investment in Fossil Fuels, Warns Mark Carney," the Guardian, December 30, 2019, <http://www.theguardian.com/business/2019/dec/30/firms-must-justify-investment-in-fossil-fuels-warns-mark-carney>.

will need to be tracked compared to the multitude of end-use sources and consumers that feed into emissions accounting. In addition, the fact that much of the data already exists through a patchwork of existing open source and privately hosted databases presents many independent checks against which country-reported data can be verified.

**Comparability:** To the extent national governments already report on fossil fuel reserves, resources and production, it is not done in a systematic and uniform manner therefore making it difficult to compare reports from different countries. A simple, common tabular format where each country fills in the same template would enable easy reference and comparison between jurisdictions.

**Buy-in from national governments:** While much fossil fuel data is already available from private databases, the purpose of the registry goes beyond the mere production of this data to ensuring government acknowledgment, verification and publication of this data as a key contribution to domestic fossil fuel planning and international diplomacy.

**Low reporting burden:** It is important that the benefits of reporting regimes are proportionate to the effort involved in tracking and reporting. As outlined above, reporting on fossil fuel supply involves low transaction costs due to the relatively low number of stakeholders and upstream sources to be tracked. It complements existing reporting requirements under the UNFCCC, Kyoto Protocol and Paris Agreement by offering a vision of potential future emissions without adding a significant reporting burden.

**Scalability:** The database should be designed with room for scalability, so that as more countries engage with the data and are empowered by it to develop their own phase out plans, additional data points could be added to the database focused on areas such as fossil fuel related policies and infrastructure.

## PIONEERING COUNTRIES

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*A Global Registry of Fossil Fuels* provides an opportunity for countries to increase transparency on planned fossil fuel production as a critical component of a wider effort to align fossil fuel production with the Paris Agreement temperature goals.

A global registry on fossil fuels could be championed initially by a small group of countries, composed of regions and countries leading on policies and efforts to begin a planned phase-out and just transition away from fossil fuel production. Within a broader initiative that embeds the registry as a clear step towards a managed phase out of fossil fuel production, the establishment of the registry might include, for example:

- › Initial diplomatic outreach and convening a 'group of friends' around the idea of a transparency framework for fossil fuels.
- › Voluntary reporting of developed reserves in Nationally Determined Contributions under the Paris Agreement to begin building the norm around the need for transparency on fossil fuel reserves, as a precursor to more comprehensive and systematic reporting under a formal fossil fuel registry;
- › Convening an initial meeting of willing countries to develop a set of principles for the registry, agree a host organisation and design the common standard for reporting to



ensure comparability across countries;

- › Diplomatic efforts to widen the reach of the registry and bring other countries on board; and
- › Continued multilateral engagement among member countries to link the transparency efforts under the registry with broader efforts focused on the equitable phase out of fossil fuels.

Emerging initiatives such as the Beyond Oil and Gas Alliance could serve as a venue for advancing these discussions.<sup>11</sup>

### **Developing a prototype registry**

It is important that the *Global Registry of Fossil Fuels* be a country-owned and country-driven effort, both to ensure government accountability for transparency on fossil fuels and to elevate the topic of fossil fuel supply into the arena of international diplomacy.

While the important process of diplomatic engagement and coordination amongst pioneering countries takes place, the Fossil Fuel Non-Proliferation Treaty Initiative is working with several civil society organisations in parallel to develop a prototype *Global Registry of Fossil Fuels*. The Initiative will be releasing a Request for Proposals (RFP) seeking an expert organisation or group of organisations to develop options for possible methodologies and reporting frameworks to accurately capture data on fossil fuel reserves, resources and production, and to build a *Global Registry of Fossil Fuels* using existing accessible sources of data.

This prototype registry, to be hosted by academic and research institutions and other civil society organisations, will be a best practice, highly credible, rigorous source of information that can be used by governments, major banks, financial institutions and other investors and decision-makers as a precursor to a government-led effort. As a civil society hosted database it will be developed without prejudice to the outcome of discussions amongst pioneering countries. However, the aim is that this prototype registry will serve as one model to inform country discussions around the design of a formal, country-driven and UN-hosted registry.

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<sup>11</sup> The Beyond Oil and Gas Alliance is a proposed global alliance of countries and financial institutions committing to a just and equitable managed phase out of the oil and gas industry. For further information, contact: Romain loulalen at [romain@priceofoil.org](mailto:romain@priceofoil.org).

# PROPOSED REPORTING AND INSTITUTIONAL ARRANGEMENTS

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To frame the initial conversations between pioneering countries, the following questions set out some of the vital ingredients and options for an effective registry.

## 1) Reporting requirements

### Minimum reporting requirements:

To provide a baseline for government planning for fossil fuel phase out, a *Global Registry of Fossil Fuels* should provide information on the stocks of fossil fuel reserves and resources within each country globally as well as historic and projected future production of fossil fuels over defined time periods. This information should also be broken down by company to assist both government and private sector economic and financial planning.

The responsibility for reporting this information should lie with national governments who should collect and synthesize relevant information from corporations, relevant ministries and sub-national governments where applicable.

Specifically, the *Global Registry of Fossil Fuels* White Paper proposes governments should report on:

1. All reserves, distinguishing between:
  - › Reserves for which extraction is already sanctioned via a project-level final investment decision. This includes producing or under construction fields or mines or already drilled wells in the

case of shale projects.<sup>12</sup> Production from these reserves may be “locked in,” given significant capital is sunk on their extraction and the necessary infrastructure is already built or construction is underway.<sup>13</sup> As a result, these reserves are most likely to be extracted in the short term, providing a strong indication of likely future production. Depending on the definitions used, these are sometimes called ‘developed’ reserves.

### Classification of reserves and resources

There are several classification systems for fossil fuel reserves and resources. Broadly, ‘resources’ refer to the fossil fuels that exist within the earth’s crust and are estimated with varying degrees of confidence while ‘reserves’ refer to resources that are considered to be economically recoverable. Various sub-categories also exist within different national and international accounting systems. Reserves are typically broken down further into ‘proved’, ‘probable’ and ‘possible’, based on economic conditions and the level of certainty regarding their volume, quality and mineral content. The fossil fuel registry will need to undertake a technical assessment of these existing accounting systems to agree on which frameworks to apply in classifying reserves and resources.

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<sup>12</sup> For conventional oil and gas projects, the final investment decision is made at the field level, whereas for shale projects made at the well level.

<sup>13</sup> “Petroleum Reserves Definitions,” Society of Petroleum Engineers, 2018, <https://www.spe.org/en/industry/reserves/>; Greg Muttitt, “The Sky’s Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production” (Oil Change International, September 2016), [http://priceofoil.org/content/uploads/2016/09/OCI\\_the\\_skys\\_limit\\_2016\\_FINAL\\_2.pdf](http://priceofoil.org/content/uploads/2016/09/OCI_the_skys_limit_2016_FINAL_2.pdf).

- › All other reserves – resources that are deemed economically viable to extract but where a final investment decision has yet to be made and the completion of wells, mines and other associated infrastructure is required.
- 2. Licenced resources over which exploration licences have been granted (or the equivalent for state-owned corporations). We do not propose including resources where exploration is not underway and there are extreme uncertainties in the quantity, quality and economic feasibility. These unlicensed resources should be excluded on the basis that there is already more carbon in developed reserves than can safely be extracted, let alone undeveloped reserves and resources already under exploration. If, despite the danger of exceeding safe climate limits a government does issue a licence for further exploration, this will then be captured by the registry.
- 3. Historical production of fossil fuels, updated annually.

There are several important justifications underpinning the selection of these three categories (and two sub-categories of reserves) including:

1. Three times more carbon is embedded in known reserves than can be burnt if the world is to remain within a 2°C temperature limit and this is even higher under a 1.5°C goal.<sup>14</sup> Therefore, a significant proportion of reserves must remain in the ground if the world is to stay within Paris Agreement goals. Government intervention will be needed to equitably manage the phase out of fossil fuel reserves and overcome lock-in, particularly of those which are already ‘developed’ and have significant infrastructure and investment attached to them. Yet, despite these limits, governments and companies around the world continue to undertake exploration and feasibility studies that could result in resources be developed at some point in the future. As a result, a tiered approach to reporting is recommended that captures developed reserves, all other reserves and licensed resources to enable monitoring of the full range of corporate and government actions that would lead to extraction beyond what is feasible under a 1.5°C goal if left unmanaged.<sup>15</sup>
2. Developed reserves provide an indicator of potential future production and may be less susceptible to creative accounting than explicitly asking governments to report directly on future production plans. Developed reserves represent the amount of carbon for which governments and corporations have already invested in significant infrastructure development and often have high levels of financial, technical and physical lock-in. Thus, they provide an indicator of what the industry plans to produce in the short term and the maximum amount that could possibly be produced in a situation where there is no further expansion of the industry.<sup>16</sup>
3. Reporting on actual annual production, balanced against developed reserves as an indicator of planned future extraction will enable an understanding of the trajectory of fossil fuel extraction and how quickly the remaining ‘burnable’ fossil fuel

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14 Christophe McGlade and Paul Ekins, “The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2 °C,” *Nature* 517, no. 7533 (January 2015): 187–90, <https://doi.org/10.1038/nature14016>.

15 It should be noted that not all extracted fossil fuels are combusted. For example, Richard Heede applies a net non-energy factor of 8.02% for oil, to account for petrochemicals, road oil, lubricants and so on, with a smaller 1.86% for natural gas and 0.016% for coal. Richard Heede and Naomi Oreskes, “Potential Emissions of CO<sub>2</sub> and Methane from Proved Reserves of Fossil Fuels: An Alternative Analysis,” *Global Environmental Change* 36 (January 1, 2016): 12–20, <https://doi.org/10.1016/j.gloenvcha.2015.10.005>.

16 Society of Petroleum Engineers. “Petroleum Reserves Definitions,” 2018. <https://www.spe.org/en/industry/petroleum-reserves-definitions/>.

budget is disappearing. This will assist with government planning and international coordination.

4. 'Reserves' can be reclassified as 'resources' and vice versa as economic conditions change. For example, with the COVID-19 crisis oil prices dropped significantly to the extent that previously economically recoverable reserves no longer make commercial sense.<sup>17</sup> If there is no limit put on exploration, then the possibility remains that some deposits currently classified as resources might be developed and extracted under different future economic circumstances. Licensed resources are therefore recommended to be included in the registry to capture this risk.
5. Related to the above point, accounting schemes vary between countries and reporting regimes. Finding a single agreed definition of reserves may unnecessarily complicate negotiations on a registry and stall progress. Including licensed resources ensures that those deposits that may fluctuate between classification as 'reserves' or 'resources' depending on the accounting scheme are captured regardless.

Further information could be included in the registry in addition to the minimum reporting requirements outlined above in a staged manner over time. This could include:

#### **a) Fossil fuel related policies:**

Countries could demonstrate leadership by showing what they are doing, while other countries can learn and build from this information and innovate in adopting their own policies. Many countries already report some fossil fuel relevant policies in their NDCs in the context of laying out pathways to meet their emissions reductions targets.

An important consideration would be whether countries should report all fossil fuel related laws and policies within a country, which may entail a heavy reporting burden due to the need to define what counts as a policy relating to fossil fuels and how explicit the law needs to be, or whether laws and policies that indirectly impact fossil fuels would count.

A potential middle ground may be to request governments to report on fossil fuel policy-related metrics based on existing methodologies. For example, countries could report on fossil fuel subsidies based on the UNEP methodology for estimating fossil fuel subsidies,<sup>18</sup> fiscal policies relating to fuels and oil-derived energy products, or other existing metrics that create minimal additional reporting burdens while still providing the advantages of this additional information.

#### **b) Infrastructure:**

Fossil fuel infrastructure – oil wells, rigs, mines, pipelines, export and import terminals, refineries and demand-side infrastructure including coal and gas plants – indicate how much corporations and governments have invested in extracting, producing or using fossil fuels and can provide a proxy for planned future extraction.<sup>19</sup> Infrastructure is often quite visible and can provide strategic intervention points for investors and campaigners looking

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17 Sarah McFarlane, "BP Takes \$17.5 Billion Write-Down, Expects Oil Price to Stay Low," Wall Street Journal, June 15, 2020, <https://www.wsj.com/articles/bp-takes-17-5-billion-write-down-expects-oil-price-to-stay-low-11592211169>.

18 U. N. Environment, "Measuring Fossil Fuel Subsidies in the Context of the Sustainable Development Goals," UNEP – UN Environment Programme, June 6, 2019, <http://www.unenvironment.org/resources/report/measuring-fossil-fuel-subsidies-context-sustainable-development-goals>.

19 Dan Tong et al., "Committed Emissions from Existing Energy Infrastructure Jeopardize 1.5 °C Climate Target," Nature 572, no. 7769 (August 2019): 373–77, <https://doi.org/10.1038/s41586-019-1364-3>.

to reduce fossil fuel supply.<sup>20</sup> Some countries also have limited reserves or resources, but engage in refining and other activities important in the fossil fuel supply chain. Including infrastructure in the registry would help to capture these activities. The Global Fossil Infrastructure Tracker provides an example of how such information could be presented (see Annex A).

### **c) Extra-territorial reserves:**

In addition to baseline reporting on fossil fuel reserves, resources and planned production physically situated within their territories, countries might also agree to report on projects by companies headquartered in their country but undertaken internationally.<sup>21</sup> This approach may be more challenging to translate into direct regulatory efforts within nation states but could be justifiable on the basis that countries are responsible for reporting the fossil fuel reserves from which they financially benefit. It could also provide an opportunity for countries home to the headquarters of large multinational corporations, to demonstrate progress and ambition in instances where these companies make pledges to reduce their expansion or phase out aspects of their fossil fuel production. However, such an approach may encounter difficulties as is the case when the activities of large multinational corporations range over several different national jurisdictions.

This paper recommends a hybrid approach. Participating countries would report separately in two tables: 1) the reserves, resources and production within their territory, and 2) the reserves, resources and production for which corporations headquartered in their territory are responsible (e.g. hold lease agreements or licenses over) or the government has invested in through public finance institutions including projects in other countries. Ensuring that the two records are kept separate avoids double counting while the ability to compare the two tables provides a low-burden means of verifying and cross-checking the reporting by each country.

## **2) Hosting arrangements**

The host organisation for the *Global Registry of Fossil Fuels* will play the important role of collecting, displaying and synthesising registry data, and may provide administrative or logistical support as needed. International registries under other regimes tend to be hosted by one or more international organisation/s, or alternatively establish their own secretariat and hosting arrangements (see Annex B). Potential hosting arrangements for the registry include:

**a) United Nations Environment Programme:** Given the broad impact of fossil fuels not just on climate change but also biodiversity loss, air and water pollution, UNEP may be well placed as a host. It has a large institutional capacity as a delivery organisation and could be an effective catalyst for helping to mobilise additional technical support and/or funding to support the registry. Another advantage is that UNEP has credibility with both developed and developing countries.

**b) UN Framework Convention on Climate Change Secretariat:** the UNFCCC Secretariat has experience in collecting and synthesising data through its experience with reporting and review under the UNFCCC, Kyoto Protocol and now the Paris Agreement. Countries are

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<sup>20</sup> Fergus Green and Richard Dennis, "Cutting with Both Arms of the Scissors: The Economic and Political Case for Restrictive Supply-Side Climate Policies," *Climatic Change* 50 (20): 73–87.

<sup>21</sup> ActionAid, "Australia's Expanding Global Fossil Fuel Footprint," n.d., <https://actionaid.org.au/home/take-action/fossil-fuel-tracker/>. (ActionAid, n.d.)

required to provide extensive emissions information as part of their emissions inventories under the UNFCCC and Paris Agreement.<sup>22</sup> This accounting and reporting tends to be presented in terms of greenhouse gas emissions, so it may make sense to translate registry reporting on reserves, resources and production into emissions terms if the UNFCCC Secretariat is to be the host organisation.

**c) A combination of international organisations:** which would include the UNFCCC and UNEP and may also include other partners who would be involved to a greater or lesser extent depending on their capacity such as the World Trade Organization, International Labour Organization, Convention on Biological Diversity Secretariat, United Nations Development Programme, and civil society organisations.

**d) A new, standalone registry secretariat:** countries may decide to establish the infrastructure to host the registry as an independent platform managed by a virtual secretariat. Such a body could either be entirely independent, or be jointly overseen through a steering group of bodies including the UNEP and UNFCCC, and potentially also including other partners who would be involved to a greater or lesser extent depending on their capacity, such as the those mentioned above. The secretariat could consist of staff from member governments and/or a combination of international organisations, with funding to be sourced jointly from member governments and these international organisations.<sup>23</sup>

## LESSONS LEARNED FROM PAST EXPERIENCE

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There are several commonalities in reporting across registries. For example, countries are often required to report on items being measured with current 'stocks' (i.e. holdings, deposits, annual emissions, or other baseline measurements), expected future stocks, imports and exports, use or production of stocks, expected use or production, where stocks are stored or reside, destruction of stocks and their value.<sup>24</sup> Current stock levels are typically reported at the start of each registry, with countries required to update their data on an annual or bi-annual basis. These commonalities also align strongly with the proposed requirement that countries report estimated fossil fuel reserves and resources, as well as annual and future planned production (using developed reserves as a proxy). Some registries also required countries to report on legislation, policies and guidelines related to the registry.

Registries under other international regimes tend to be formalised under a treaty or other international agreement and hosted by an international organisation, although there are also examples of groups of pioneering countries establishing a registry through less formal

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22 UNFCCC, "Reporting and Review under the Paris Agreement | UNFCCC," UNFCCC, accessed June 16, 2020, <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-paris-agreement>.

23 For example, the Ozone Registry is hosted by the Ozone Secretariat which is in turn hosted by UNEP. By contrast the Extractive Industries Transparency Initiative established a standalone Secretariat and platform for hosting data: see Annex B.

24 Information in this section is drawn from analysis undertaken by the International Justice Initiative at the University of Tasmania on each of the registries listed in Annex B.



arrangements and developing their own institutional arrangements for hosting (see Annex B).

While some registries allow each member state to house their own data at a national level, this has created issues relating to transparency and ease of access in some instances,<sup>25</sup> making a single, publicly accessible database preferable. Registries display their information in different ways – in some instances raw data is provided in a tabular format, while in others the host or secretariat organisation provides a synthesis of reported information. For reasons of transparency, access to raw data is important, however both approaches could be adopted simultaneously in the case of a fossil fuel treaty.<sup>26</sup> Registries which simply provide links to submitted documents tend to be more difficult to navigate and to extract and compile relevant information. By contrast, many of the third-party hosted trackers and inventories outlined in Annex A include interactive dashboards that can display the data through different charts, drawing from data tables. For reasons of transparency and public accessibility, such an approach based on a common tabular format would be particularly useful.

## CONCLUSION

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Transparency on fossil fuels will not itself lead to the phase out of fossil fuel production, but it is an important element of a portfolio of actions aimed at holding governments to account and contributing to the planning and equitable global phase out of fossil fuels. By encouraging governments to collect and transparently report on their fossil fuel reserves, resources and production data, the registry can also form a useful component of domestic phase out plans, and a tool by which the public and civil society can track progress over time. In the context of volatile oil prices and a looming climate emergency there is a need for global cooperation, smart policies and economic recovery measures that foster long-term global prosperity. A *Global Registry of Fossil Fuels* can play an important role in helping to align fossil fuel production with the Paris Agreement temperature goals, helping to inform efforts towards a just transition for workers and communities, and helping to plot a course to economically diversified, healthy and sustainable economies of the future.

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25 See, for example, the International Programme on Chemical Safety, the UN Register of Objects Launched into Outer Space and national mercury emissions inventories under the Minamata Convention, in Annex B.

26 For example under Extractive Industries Transparency Initiative (EITI) individual countries make their data available under an open data policy, but EITI also collates this data into summary spreadsheets to make it easily accessible and comparable: see Annex B.

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# ANNEX A: EXISTING FOSSIL FUEL DATABASES <sup>28</sup>

Database	Information Reported	Link
<b>Production-related databases</b>		
Extractive Industries Transparency Initiative (EITI)	The EITI collects and publishes data from countries who implement EITI standards and requires the disclosure of information on the key steps in the governance of oil, gas and mining. This includes full government disclosure of revenues from the extractive industry and payments from companies to governments.	EITI Summary Data: <a href="https://drive.google.com/drive/folders/0B9Bl74fkjArzcWt-DMDE3eUtYajA">https://drive.google.com/drive/folders/0B9Bl74fkjArzcWt-DMDE3eUtYajA</a>  EITI Open Data: <a href="https://eiti.org/explore-data-portal">https://eiti.org/explore-data-portal</a>
<b>Other fossil fuel databases</b>		
Global Energy Monitor (GEM)	The Global Energy Monitor publishes several different coal, oil and gas trackers, such as the Global Coal Plant Tracker and Global Coal Public Finance Tracker. Additionally, it makes available collaborative research portals - FrackSwarm and CoalSwarm - which are shared information tools on respective issues relating to coal and fracking issues.	About GEM: <a href="https://globalenergymonitor.org/about/">https://globalenergymonitor.org/about/</a>  FrackSwarm Portal: <a href="https://www.gem.wiki/Portal:FrackSwarm">https://www.gem.wiki/Portal:FrackSwarm</a>  Coal Swarm Portal: <a href="https://www.gem.wiki/Portal:Coal_Issues">https://www.gem.wiki/Portal:Coal_Issues</a>
End Coal - Global Coal Plant Tracker and Global Coal Public Finance Tracker	The Global Coal Plant Tracker provides information on all existing coal plants of 30MW or larger as well as proposed coal plants since January 2010. It provides information through the maps and tables on location, status, sponsor, size, and carbon dioxide emissions of coal plants.  The Global Coal Public Finance Tracker, tracks public financial support for coal plant projects globally. This includes foreign financing from public finance institutions such as export credit agencies and development banks.	Global Coal Plant tracker: <a href="https://endcoal.org/tracker/">https://endcoal.org/tracker/</a>  Global Public Finance Tracker: <a href="https://endcoal.org/global-coal-finance-tracker/">https://endcoal.org/global-coal-finance-tracker/</a>
Global Energy Observatory	Crowdsourced database tracking and visualising fossil fuel-related facilities.	<a href="http://globalenergyobservatory.org/">http://globalenergyobservatory.org/</a>
OECD-IEA Inventory of Support Measures for Fossil Fuels	Online database that identifies, documents and estimates the value of financial support, such as subsidies, that encourages production or consumption of fossil fuels.	<a href="https://www.oecd.org/fossil-fuels/">https://www.oecd.org/fossil-fuels/</a>

<sup>28</sup> Source: Research undertaken by Hay, R and Hamasaki, N as part of the International Justice Initiative at the University of Tasmania, 2020.

Database	Information Reported	Link
<b>Other fossil fuel databases cont.</b>		
IEA – Energy Subsidies Tracker	The fossil fuel subsidies tracker measures fossil fuel consumption subsidies. The IEA estimates subsidies to fossil fuels that are consumed directly by end-users or consumed as inputs to electrical generation by using a price-gap approach.	<a href="https://www.iea.org/topics/energy-subsidies">https://www.iea.org/topics/energy-subsidies</a>
IEA – Methane Tracker 2020	The IEA launched the 2020 Methane tracker in order to create a coherent source of data which focuses on methane emissions from oil and gas operations. The tracker provides data on emissions across more than 70 countries in addition to technologies and measures that can reduce methane emissions.	<a href="https://www.iea.org/reports/methane-tracker-2020">https://www.iea.org/reports/methane-tracker-2020</a>
Carbon Majors database	A database ranking the the private and state-owned corporations most responsible for the GHG emissions over time.	<a href="https://climateaccountability.org/carbonmajors.html">https://climateaccountability.org/carbonmajors.html</a>
Oil Change International – Shift the Subsidies database	<p>The Shift the Subsidies database tracks energy financing for projects, policies, technical assistance, and financial intermediary projects – where possible – that are supported by:</p> <ul style="list-style-type: none"> <li>• Major Multilateral Development Banks, with data from 2008 to 2015</li> <li>• Bilateral Financing Agencies of the United States, with data from 2008 to 2015</li> <li>• Bilateral Financing Agencies of other G20 countries, with data from 2013 to 2015.</li> </ul>	<a href="http://priceofoil.org/shift-the-subsidies/">http://priceofoil.org/shift-the-subsidies/</a>
WTO subsidies reporting	The Agreement on Subsidies and Countervailing Measures (ASCM) regulates the use of subsidies, and the actions countries can take to counter the effects of subsidies. Under the ASCM, Members have notified a variety of support measures (grants, loans, tax and excise exemptions and others) that amount to fossil fuel subsidies, even if not explicitly labelled as such.	Agreement on Subsidies and Countervailing Measures (ASCM): <a href="https://www.wto.org/english/tratop_e/scm_e/scm_e.htm">https://www.wto.org/english/tratop_e/scm_e/scm_e.htm</a>

## ANNEX B: HOSTING ARRANGEMENTS FOR OTHER INTERNATIONAL REGISTRIES <sup>29</sup>

Registry	Established by	Data hosted by	Link
UN Register of Conventional Arms	UN General Assembly	UN Office for Disarmament Affairs	<a href="https://www.un.org/disarmament/convarms/register/">https://www.un.org/disarmament/convarms/register/</a>
Extractive Industries Transparency Initiative (EITI)	EITI (NGO)	EITI (NGO)	<a href="https://eiti.org/">https://eiti.org/</a>
The International Programme on Chemical Safety	World Health Organization (WHO), the International Labour Organization (ILO) and the United Nations Environment Programme (UNEP)	National governments	<a href="https://www.who.int/health-topics/chemical-safety#tab=tab_1">https://www.who.int/health-topics/chemical-safety#tab=tab_1</a>
Uranium Resources, Production and Demand "Red Book"	Joint Nuclear Energy Agency (NEA) / International Atomic Energy Agency (IAEA) Group on Uranium	Biennial report by NEA and IAEA (no online databases)	<a href="http://www.oecd-nea.org/tools/publication?query=red+book&amp;div=&amp;lang=&amp;period=100y&amp;sort=title&amp;filter=1">http://www.oecd-nea.org/tools/publication?query=red+book&amp;div=&amp;lang=&amp;period=100y&amp;sort=title&amp;filter=1</a>
Biological Clearing House (BCH) Organism Registry; Gene Registry; Living Modified Organism–Unique Identifiers Registry; and Gene and DNA Sequence Registry	Cartagena Protocol on Biosafety to the Convention on Biological Diversity	Biosafety Clearing–House	Living Modified Organisms, Genes and Organisms registries: <a href="http://bch.cbd.int/database/organisms">http://bch.cbd.int/database/organisms</a> Gene and DNA Sequencing Registry: <a href="https://bch.cbd.int/database/gene-registry/">https://bch.cbd.int/database/gene-registry/</a>
UN Register of Objects Launched into Outer Space	UN Committee on the Peaceful Uses of Outer Space, Convention on Registration of Objects Launched Into Outer Space	National governments	<a href="http://www.unoosa.org/oosa/en/spaceobjectregister/index.html">http://www.unoosa.org/oosa/en/spaceobjectregister/index.html</a>

<sup>29</sup> Source: analysis undertaken by the International Justice Initiative at the University of Tasmania, 2020.



Registry	Established by	Data hosted by	Link
Ozone Secretariat Registry	Secretariat to the Montreal Protocol on Substances that Deplete the Ozone Layer	UNEP; Ozone Secretariat	<a href="https://ozone.unep.org/?q=home">https://ozone.unep.org/?q=home</a>
National Mercury Emissions Inventories under the Minamata Convention on Mercury	UNEP, under the Minamata Convention	National Governments	Minamata Convention: <a href="http://www.mercuryconvention.org/">http://www.mercuryconvention.org/</a> Guidance on national inventories: <a href="http://www.mercuryconvention.org/Portals/11/documents/forms-guidance/English/guidance_Article8_inventory.pdf">http://www.mercuryconvention.org/Portals/11/documents/forms-guidance/English/guidance_Article8_inventory.pdf</a>
International Clinical Trials Registry Platform	WHO pursuant to a declaration at the Ministerial Summit on Health Research	WHO	<a href="https://www.who.int/ictrp/en/">https://www.who.int/ictrp/en/</a>
Repository of information provided by nuclear-weapon States (still in development)	Pursuant to the Treaty on the Non-Proliferation of Nuclear Weapons	United Nations Office for Disarmament Affairs	<a href="https://www.un.org/disarmament/wmd/nuclear/repository/">https://www.un.org/disarmament/wmd/nuclear/repository/</a>