**Supplemental Material**

Table 2 – Sources, search terms and data information

|  |  |
| --- | --- |
| **Instruments** | **Search terms and data information** |
| Moratoria and bans | *Sources/search engines:* Lexis Nexis, Google.*Search terms:* “fossil fuel ban/s”, “fossil fuel moratorium/a”, “hydrocarbon ban/moratorium”, “fracking ban”, “fossil fuel end”, “fossil fuel prohibition”, “fossil fuel end extraction”, “supply-side fossil fuel”, “natural gas ban”, “crude oil ban”. Searches were conducted in five languages (English, French, Spanish, Portuguese, German)*Data information:* Category (ban, partial ban, moratorium); Fuel type (coal, gas, oil); Fuel subtype (Shale, Coal, Coal seam, Offshore, Ore); Country; Province/State; Municipality/County; Start date; End date; Name; Volume involved; Description; Sources.  |
| Divestments | *Sources/search engines:* 350.org’s official public database (GoFossilFree.org), Google. 125 cases from the 350.org database not included in our database due to unreliable sourcing.*Search terms:* “fossil fuel divestment/disinvestment”, “hydrocarbon divestment/disinvestment”, “energy divestment/disinvestment”, “end divestment fossil fuels”.*Data information*: Category (Partial, Full, Undetermined); Fuel Type; Name of Organization; Type of Organization (Faith-based Organization, Educational Institute, Government, Pension Fund, For-Profit Corporation, NGO, Other); Country of Organization; Start Year; End date; Description; Sources. Divestment sums are in 2017 US dollars. |
| Blockades | *Sources/search engines:* Environmental Justice Atlas (https://ejatlas.org), maintained by the Institute of Environmental Science and Technology at the Autonomous University of Barcelona*Search terms:* “blockade”, “occupation”, “obstruction”, “seat-in”.*Data information:* Fuel type (Gas, Oil, Coal); Fuel subtype (Shale, Natural, Crude, Crude & Natural); Country of blockade; Region of blockade; Municipality/County; Blockading Group; Company targeted; Outcome; Start Date; End date; Description; Sources. |
| Litigations | *Sources/search engines:* access to litigation cases was kindly provided by Michael Burger, executive director of Sabin Center for Climate Change Law at Columbia Law School (http://climatecasechart.com/non-us-climate-change-litigation/). For all American cases, a separate online database was used, collaboratively developed by the Sabin Center for Climate Change Law and Arnold & Porter Kaye Scholer (http://climatecasechart.com/us-climate-change-litigation/). Cases were checked for relevance, then had their provided sources verified before being added to the study’s database.*Search terms:* a mix and match of the terms “climate litigation”, “environmental lawsuit/justice”, “ecological plaintiff”, “climate change court case”.*Data information:* Fuel Type (Coal, Gas, All, Oil); Fuel subtype (Crude, Liquefied, Natural, Offshore, Tar, Shale); Country; Plaintiff; Defendant; Start Year;End date; Verdict; Description; Sources. |
| Emissions Trading Schemes | *Sources/search engines:* World Bank report on Carbon Pricing Trends (http://hdl.handle.net/10986/29687, World Bank), Google.*Search terms:* “emissions trading schemes”, “carbon markets”, “cap-and-trade scheme”, “cap-and-trade system”. Data presented through lists and graphs was textually transcribed in the database spreadsheet.*Data information:* Fuel type (Oil, Gas, Coal, All); Fuel Subtype (Offshore, Natural, Crude, All); Country, Region, Start Date; End Date; Description: Sources. |
| Carbon taxes | *Sources/search engines:* World Bank report on Carbon Pricing Trends (http://hdl.handle.net/10986/29687, World Bank), Google.*Search terms:* “carbon tax”, “carbon fee”, “fuel pricing”, “combustion tax”, and “environmental tax”.*Data information:* Fuel type (Oil, Gas, Coal, All); Fuel Subtype (Offshore, Natural, Crude, All); Country, Region, Start Date; End Date; Description: Sources. |
| Subsidy phaseouts | *Sources/search engines:* Energy Information Administration website(https://www.eia.gov), the OECD website(http://www.oecd.org), with secondary verification through other accredited websites.*Search terms:* “subsidy phaseouts”, “subsidy removals”, “fossil fuel subsidies”, “carbon subsidies”, “fossil fuel/carbon corporate welfare”, “end oil/coal subsidies”, with each result being checked as supply-side rather than demand-side.*Data information:* Fuel type (Oil, Gas, Coal, All); Fuel Subtype (Offshore, Natural, Crude, All); Country, Region, Start Date; End Date; Description: Sources. |

Table 3 – Examples of instruments, climate objectives, and potential production impacts categories

|  |  |  |  |
| --- | --- | --- | --- |
| Climate mitigation Production reduction impact | Cat. A – Stated as the main or sole objective | Cat. B – Stated as one of several other objectives | Cat. C – Unstated as a climate mitigation objective |
| Cat. 1 - High confidence | *Ban* on all fossil fuel production activities by government with significant production | *Moratorium* on offshore production by national government | *Economic sanctions* by United Nations Security Council |
| Cat. 2 - Medium confidence | *Litigation* by international environmental organization;*Emission Trading* *Scheme* by national or regional authority | *Blockade* by local environmental organization | *Production site closure* by company due to economic or political circumstances |
| Cat. 3 - Low confidence | *Divestment* by ethical fund | *Carbon taxes* by government authority | *Declining fossil fuel prices* leading producer to adapt to market conditions |

Source: Authors, provided for *illustrative* purposes only as further research for individual cases and categories is required to assess impact on production and associated embedded emissions. ‘Cat.’ stands for Category. An initiative categorized, for example, as ‘A-1’ is specifically taken to address climate mitigation concerns and has a high confidence of resulting in a reduction of supply-side fossil fuel-related emissions, at the scale taken by the initiative.

Figure 3: Geographical distribution of unburnable reserves (2010-2050), cumulative production of fossil fuels (1988-2017)

Sources: Fossil fuel reserves unburnable between 2010 and 2050 from McGlade and Ekins (2015), using estimations without Carbon Capture and Sequestration, converted in metric tons of CO2 emissions using conversions factors (0.43 per barrel of oil, 0.02 per cubic feet of natural gas, 2.01 per metric ton of coal), and expressed as a percentage of total global emissions embedded in fossil fuels; cumulative production figures drew from Figure 2 data converted in metric tons of CO2 emissions and expressed as a percentage of total global emissions emitted from fossil fuels between 1988 and 2017; supply-constraint initiatives represented the percentage of the total number of initiatives taken worldwide between 1988 and 2017. The list of countries included in the different regions in McGlade and Ekins (2015) is available from TIAM-UCL, https://www.ucl.ac.uk/drupal/site\_energy-models/sites/energy-models/files/tiam-ucl-manual.pdf