ELECTRICITY LAWYER

ENERGY TRANSITION (ET) TRACKER TOOL

(GLOBAL NORTH)

ENERGY TRANSITION (ET) TRACKER TOOL (GLOBAL NORTH)

The International Energy Agency's (IEA's) landmark report, Net Zero Roadmap: A Global pathway to keep the 1.5°C Goal in Reach 2023 states unequivocally that no new coal extraction projects and no new oil and natural gas fields beyond those that have already been approved for development are required if the world is to stay within the 1.5°C limit. The report—which provides the first-ever comparison of a large number of climate and energy pathways to outline what is needed to limit global warming to 1.5°C—highlights that developing any new oil and gas fields would either push the world beyond the limit or create stranded assets. The IEA's pathways indicate that global oil and gas production must decrease by at least 65% between 2020 and 2050 and up to 99% when considering scenarios, excluding all carbon sequestration technologies.

Thus, it can be inferred that the more investments and/or energy production/electricity generation activities from fossil fuels, the farther away a country will be from their Renewable Energy (RE) targets and energy transition goals.

Electricity Lawyer (EL) has developed a tracker tool to assess the progress of countries in meeting their respective RE targets and energy transition goals. The RE targets can

©2024. All Rights Reserved. Electricity Lawyer®

be tracked against each country's financial investments in fossil fuels, alongside the corresponding energy production/electricity generation from fossil fuels, in comparison with the corresponding investments in renewable energy and the attendant energy production/electricity generation from renewables, using the IEA pathways as a benchmark. The tracker tool is best suited to analyse the progress of energy transition for countries in the Global North.

The tool is however not limited to countries in Global North and can be used to monitor progress of countries across the global energy landscape, whether on a country-by-country basis or on a region basis.

EL is available to support interested stakeholders in tracking and monitoring progress/regress in this regard on an ongoing basis.

©2024. All Rights Reserved. Electricity Lawyer®

Justification for Selected Parameters- "Energy Production/Electricity Generation" and "Financial Investments" in Fossil Fuels and Renewable Energy

The selected parameters are influenced by the IEA's position that a country or region's energy-related carbon emissions are the most comprehensive clean energy transition indicator. As a result, many countries with renewable energy targets, Nationally Determined Contributions (NDCs), and energy transition plans prioritize energy production, because it accounts for most greenhouse gas emissions. This is in addition to the fact that financial investment is a primary driver of such energy transition strategies.

The progression/regression in RE targets can be measured by comparing each country's financial investment and energy production/electricity generation from fossil fuels to the corresponding data from renewable energy. A higher figure for fossil fuels (investments and energy production/electricity generation output) indicates that the country is regressing from its renewable energy targets, and vice versa.

However, there may be a disparity in the figures derived from comparing energy production/electricity generation and financial investments in fossil fuels, due to other peculiar factors in a country, such as aging infrastructure; which may lead to higher cost of investments in fossil fuels, alongside factoring other increased costs associated with fossil fuel expenditure; resulting in lower energy production/electricity generation from fossil fuels.

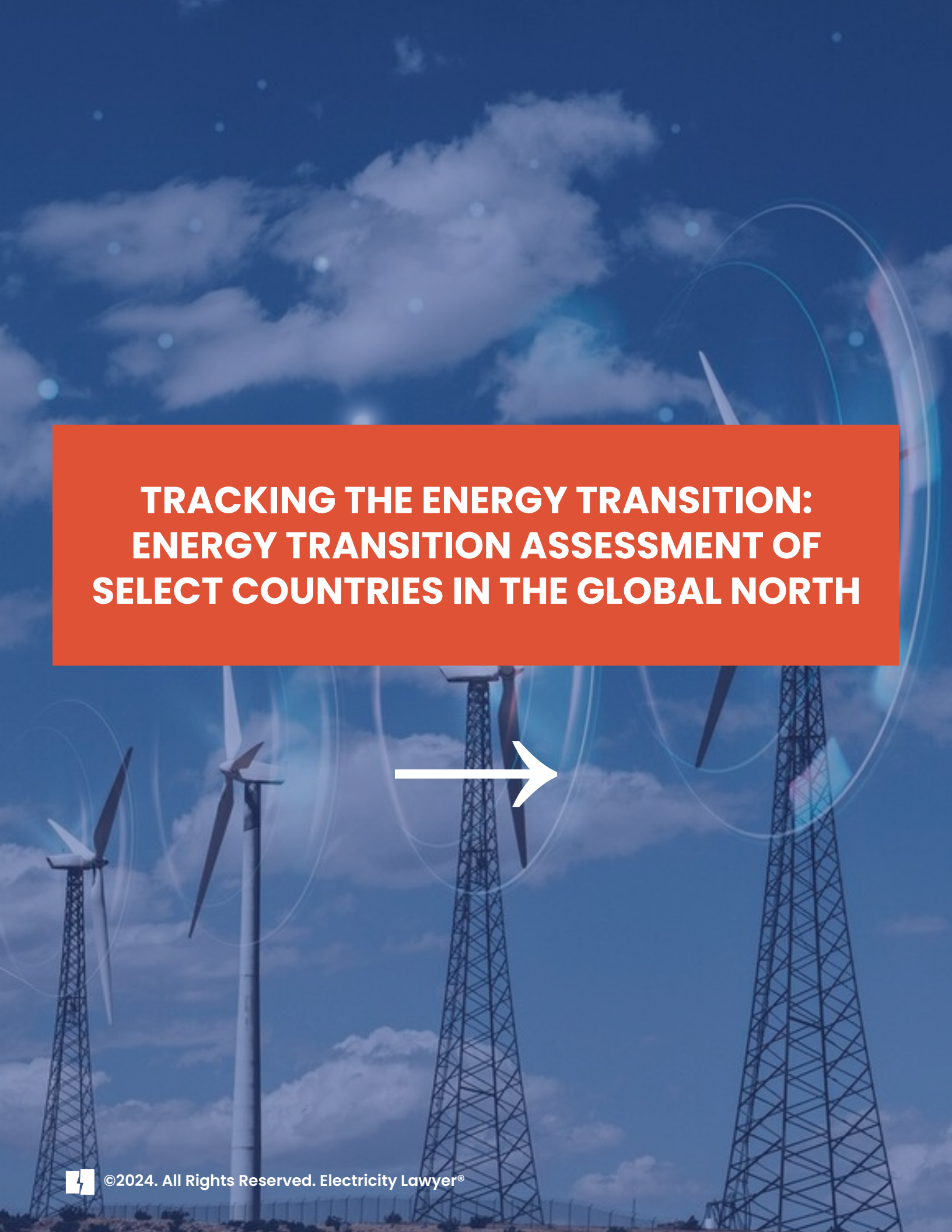
Furthermore, the data may not account for the influence of renewable energy incentives, subsidies, rebates, etc., on investments and energy production/electricity generation, which may resultantly drive down the cost of investment in renewable energy on the face of it, (with or without a corresponding increase in energy production/electricity generation from renewables, compared to fossil fuels); which may in effect project financial investments in renewables as being lower than similar investments in fossil fuels.

©2024. All Rights Reserved. Electricity Lawyer®

Justification for Selected Countries

According to former National Aeronautics and Space Administration (NASA) scientist James Hansen, industrialization in Europe, North America, Australia, and Japan was responsible for 77 percent of global emissions between 1751-2006. These regions are thus expected to be instrumental in the energy transition agenda, considering that they championed the advent of climate change via industrialization processes which emitted greenhouse gases harmful to the climate. Therefore, five (5) countries in the highlighted regions, namely United Kingdom, United States, Germany, Norway, France, along with China, an Asian country, acclaimed to be the largest greenhouse gas emitter; bringing it to a total of 6 countries, have been selected to gauge their respective progress in meeting climate change objectives, in line with the global energy transition agenda.

©2024. All Rights Reserved. Electricity Lawyer®



TRACKING THE ENERGY TRANSITION: ENERGY TRANSITION ASSESSMENT OF SELECT COUNTRIES IN THE GLOBAL NORTH

©2024. All Rights Reserved. Electricity Lawyer®

TRACKING THE ENERGY TRANSITION: ENERGY TRANSITION ASSESSMENT OF SELECT COUNTRIES IN THE GLOBAL NORTH

S/N	COUNTRIES	RE TARGETS	FINANCIAL INVESTMENTS IN RE (2022)	ENERGY PRODUCTION/ ELECTRICITY GENERATION (RE) (2022)	FINANCIAL INVESTMENTS IN FOSSIL FUELS (2022)	ENERGY PRODUCTION/ ELECTRICITY GENERATION (FOSSIL FUELS) (2022)	PROGRESSION / REGRESSION
1	Norway	100%	$380 million	99%	$18 billion	1%	
2	United Kingdom	100% by 2035	$28 billion.	43.70%	£4 billion	41.40%	
3	Germany	80% by 2030	€19.9 billion	42.90%	$2.8 million	50.70%	
4	China	50% by 2025	$546 billion	30.60%	$2.2 trillion	64.60%	
5	United States	80% by 2023	$495 billion	22.50%	$106.6 billion	59.50%	
6	France	100% by 2035	$29 billion	12.10%	$154 billion	24.50%	

©2024. All Rights Reserved. Electricity Lawyer®

REFERENCES

1. GUIDELINES FOR USING THE EL-ET TRACKER TOOL
   - Data for each parameter per country should ideally be populated from a uniform data source, to prevent data bias.
   - A uniform reference year should be used for all parameters to get a true picture of the resultant progression/regression analysis.
   - Data can be analysed on a per-country basis, to factor in specific factors peculiar to each country (which may distort the outcome of the analysis) or on a regional basis.
2. Who is Responsible for Climate Change? < https://www.oxfamamerica.org/explore/stories/who-is-responsible-for-climate-change/ >
3. Our World in Data https://ourworldindata.org/grapher/electricity-renewables
4. Our World in Data https://ourworldindata.org/grapher/electricity-renewables
5. https://www.ren21.net/wp-content/uploads/2019/05/GSR2022_Fact_Sheet_Norway.pdf
6. https://www.ren21.net/wp-content/uploads/2019/05/GSR2022_Fact_Sheet_Norway.pdf
7. https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/statistical_profiles/europe/norway_europe_re_sp.pdf
8. https://www.reuters.com/business/energy/norway-approves-more-than-18-bln-oil-gas-investments-2023-06-28/
9. https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/statistical_profiles/europe/norway_europe_re_sp.pdf
10. https://www.theguardian.com/environment/2023/mar/09/uk-must-act-now-on-renewable-energy-or-risk-being-left-behind
11. Fiona Harvey, UK investment in clean energy transition falls 10%, bucking global trend (The Guardian, 27 April 2023) < https://www.theguardian.com/environment/2023/apr/27/uk-investment-in-clean-energy-transition-falls-10-bucking-global-trend#:~:text=The%20UK's%20investment%20in%20the,by%2017%25%20to%20%2455bn. > accessed 23 May 2023
12. https://www.statista.com/statistics/830000/ukcs-capital-expenditure-united-kingdom-uk/
13. https://www.ifri.org/en/publications/briefings-de-lifri/higher-renewable-energy-targets-germany-how-will-industry-benefit#:~:text=The%20level%20of%20ambition%20of,against%2047%25%20in%202022).
14. https://www.statista.com/statistics/583526/investments-renewable-energy-plants-germany/#:~:text=Investments%20in%20renewable%20energy%20plants%20in%20Germany%202001%2D2022&text=This%20statistic%20shows%20a%20distribution,invested%20in%20renewable%20energy%20plants.
15. https://www.ceicdata.com/en/germany/environmental-fossil-fuel-support-oecd-member-annual/fossil-fuel-support-usd-2022-price-tax-expenditure-natural-gas
16. https://www.solarpaces.org/chinas-51-renewable-energy-target-was-achieved-early/
17. https://www.scientificamerican.com/article/china-invests-546-billion-in-clean-energy-far-surpassing-the-u-s/
18. IMF Fossil Fuel Subsidies < https://www.imf.org/-/media/Files/Publications/WP/2023/English/wpiea2023169-print-pdf.ashx >
19. https://www.npr.org/2023/02/02/1148370220/biden-renewable-energy-goals
20. https://www.statista.com/statistics/186818/north-american-investment-in-sustainable-energy-since-2004/#:~:text=The%20United%20States%20has%20also%20focused%20heavily%20on%20small%2Dscale,U.S.%20dollars%20worldwide%20in%202022.
21. https://www.statista.com/statistics/294607/total-us-gas-and-oil-industry-expenditure/#:~:text=The%20oil%20and%20gas%20industry,compared%20to%20the%20previous%20year.
22. https://finance.yahoo.com/news/france-double-renewable-output-2035-131900810.html
23. https://www.statista.com/statistics/811992/clean-energy-investments-france/#:~:text=Investment%20in%20energy%20transition%20in%20France%202004%2D2022&text=Investments%20in%20the%20energy%20transition,energy%20transition%20efforts%20so%20far.
24. https://www.theguardian.com/environment/2023/oct/31/france-carbon-bomb-projects-banks-fossil-fuels-climate

©2024. All Rights Reserved. Electricity Lawyer®

ELECTRICITY LAWYER

©2024. All Rights Reserved. Electricity Lawyer®