



U4 Brief 2022:3

Greening energy: An anti-corruption primer

Author
Aled Williams

Series editor
Sophie Lemaître

CMI CHR.
MICHELSEN
INSTITUTE

Disclaimer

All views in this text are the author(s)', and may differ from the U4 partner agencies' policies.

Partner agencies

German Corporation for International Cooperation – GIZ

German Federal Ministry for Economic Cooperation and Development – BMZ

Global Affairs Canada

Ministry for Foreign Affairs of Finland

Ministry of Foreign Affairs of Denmark / Danish International Development Assistance – Danida

Swedish International Development Cooperation Agency – Sida

Swiss Agency for Development and Cooperation – SDC

The Norwegian Agency for Development Cooperation – Norad

UK Aid – Foreign, Commonwealth & Development Office

About U4

U4 is a team of anti-corruption advisers working to share research and evidence to help international development actors get sustainable results. The work involves dialogue, publications, online training, workshops, helpdesk, and innovation. U4 is a permanent centre at the Chr. Michelsen Institute (CMI) in Norway. CMI is a non-profit, multi-disciplinary research institute with social scientists specialising in development studies.

www.U4.no

U4@cmi.no

Cover photo

Red Zeppelin, Unsplash (pd) <https://unsplash.com/photos/UVGE-o757-g>

Keywords

anti-corruption reforms - climate change - energy sector - infrastructure - renewable resources - transparency

Publication type

U4 Brief

Creative commons

This work is licenced under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International licence (CC BY-NC-ND 4.0)

Corruption is expected to pose major obstacles for the green energy transition. Decarbonisation of energy systems requires investments from the tens to hundreds of trillions of dollars. It is widely acknowledged that corruption is used to artificially extend the life of carbon-intensive industries, yet green energy itself is far from immune from corrupt practices. The effects of corruption on green transition outcomes are likely contingent on local political economies and the reactions of power holders to new constraints and opportunities. Targeted-to-context and politically savvy responses that address underlying causes and enablers of corruption are therefore essential.

Main points

- Economies that reduce dependence on fossil fuels and diversify their energy mix should, in theory, be less beholden to the autocrats who tend to emerge in extractive-resource rich countries and who typically adopt strategies of patronage and rent-seeking to shore up support.
- Green energy transitions might provide unique opportunities for anti-corruption reformers, but renewable energy is not immune from corruption.
- The sheer size of needed green energy investments poses many dilemmas for project implementors, regulators, watchdogs and judiciaries.
- Forms of corruption already affecting green energy include institutional capture, rent-seeking, nepotism, bribery, tender-rigging or ‘tenderpreneurship’, as well as collusion.
- In addressing the challenges, donors should not only support greater production of data and analysis, push for transparency and new reforms, but also facilitate recourse to sanctions that close accountability loops for victims of green energy corruption.

Table of contents

1. Corruption and the green energy transition: What do we know?	2
2. Initiatives aimed at improving governance of the green energy transition	5
Corruption risk mapping and analysis	5
Registers and clauses	5
Transparency initiatives	6
Laws and prosecutions	6
Ownership models	6
3. Identifiable areas of further support	7
Support more context-specific corruption analyses of green energy	7
Support investigative reporting specifically on green energy corruption	8
Support indigenous environmental defenders on green energy corruption	8
Methodology	8
References	10

About the author

Aled Williams

Aled Williams responsible for U4's thematic work on *corruption in natural resources and energy*.

Acknowledgements

Thanks to Rueben L. Lifuka and Benjamin Sovacool for their review of this U4 Brief.

The world economy is embarking on one of the biggest structural shifts since the industrial revolution. The transition from high greenhouse gas (GHG)-emitting energy production and consumption to low or zero GHG-emitting energy systems is a major component of global climate change mitigation efforts.¹ The United States (US), China and European Union (EU) states have committed to carbon neutrality by the middle of this century, with other countries following suit. The green or renewable energy transition affects many aspects of our lives, promising a more sustainable and equitable future.² However, the many technical, social, economic, political and geo-strategic issues confronting the green transition mean that change is occurring slowly. The International Energy Agency notes that in 2020, coal and gas still represented close to 60% of the global electricity supply.

Corruption, defined for the purposes of this brief as the abuse of entrusted power for private gain, is expected to pose major obstacles for the green energy transition. This is because decarbonisation of energy systems requires investments from the tens to hundreds of trillions of dollars.³ It is widely acknowledged that corruption is used to artificially extend the life of carbon-intensive industries, yet green energy itself is far from immune from corrupt practices. The effects of corruption on green transition outcomes are likely contingent on local political economies and the reactions of power holders to new constraints and opportunities. Targeted-to-context and politically savvy responses that address underlying causes and enablers of corruption are therefore essential.

This U4 Brief offers an anti-corruption primer on the green energy transition. Based on a short, systematic review of 55 published studies (see Text Box 1), it provides a snapshot of existing evidence on the corruption challenges and anti-corruption dilemmas posed by the green energy transition. It also captures examples of attempts to resolve these issues. Finally, it identifies some emerging areas of anti-corruption support.

1. IPCC 2022.

2. Laes et al. 2014.

3. Sovacool 2021; Rahman 2020.

Text Box 1: Review methods and keywords

The review included 55 published studies generated via a search of all combinations of the following keywords: Corruption, Bribery, Collusion, Nepotism, Favoritism, Rent-Seeking, Patronage, Green Energy, Renewable Energy, Energy Transition.

The search was done in June 2022 using Google Scholar, with the first page of search results considered. 'Snowballing' led to the inclusion of further studies cited in the original list of studies identified.

1. Corruption and the green energy transition: What do we know?

Renewable energy is not immune from corruption and the sheer size of needed investments poses many dilemmas for project implementors, regulators, watchdogs and judiciaries.

Economies that reduce dependence on fossil fuels and diversify their energy mix should, in theory, be less beholden to the autocrats who tend to emerge in extractive resource-rich countries and who typically adopt strategies of patronage and rent-seeking to shore up support. According to this view, green energy transitions might provide unique opportunities for anti-corruption reformers.⁴ Renewable energy is not immune from corruption, however, and the sheer size of needed investments poses many dilemmas for project implementors, regulators, watchdogs and judiciaries.⁵ Research on corruption in green energy transitions is still sparse, but forms of corruption already observed include institutional capture, rent-seeking, nepotism, bribery, tender-rigging or 'tenderpreneurship', as well as collusion.⁶ For example, politicians

4. Burke and Stephens 2018.

5. Williams and Le Billon 2017.

6. Rahman 2020; Boamah et al. 2021; Sovacool 2021.

and businesses might collude to syphon off money or steal funds meant for relocations linked to a green energy project. Text Box 2 offers further examples.

Text Box 2: Examples of corruption in green energy

Sovacool (2021) highlights that risks of corruption in renewable energy differ by type of energy, providing several examples. Investments in dams for large-scale hydropower have been linked to multiple reports of corruption in many countries. Officials reportedly stole US\$50 million from resettlement funds for the Three Gorges Dam in China, while costs for the Yacyretá Dam between Argentina and Paraguay overran by US\$2.7 billion due to bribes and mismanagement. In solar energy, there is evidence of corruption affecting the development of project applications, as well as subsidies and procurement. In wind power, corruption has been documented in Spain, the United States and Denmark, connected, for example, to land grabbing for projects.

It is worth noting that the green energy transition is unlikely to guarantee the decline of all corruption-prone petrostates.⁷ This is because the green energy shift will not occur simultaneously around the world, with backtracking expected due to, among others, political contestations, social conflicts and wars. Western economic sanctions imposed following the Russian invasion of Ukraine have recently led, for example, to renewed demand for fossil fuels from non-Russian sources. It has even been hypothesised that uneven energy transition speeds could lead to a carbon polluters' 'race to the bottom', where jurisdictions in which corruption is prevalent market lax regulations to attract unscrupulous investors.⁸

Reducing corruption is vital for the speed and quality of countries' green energy transitions.'

Reducing corruption is vital for the speed and quality of countries' green energy transitions,⁹ with studies showing measures of corruption correlated with increased carbon emissions.¹⁰ Corruption is known to be used to extend the life of carbon-intensive industries, though various ideological and political biases

7. Goldthau and Westphal 2019.

8. Guzel and Okumus 2020.

9. Amoah et al. 2022; Chen et al. 2021.

10. Leitão 2021; Sahoo et al. 2021.

play a similar role. Evidence from China, for example, shows that monopoly enterprises in the energy sector depend on rent-seeking, which exerts a significantly inhibitory effect on green technological progress.¹¹ Acceptance of green energy projects among communities is also known to be undermined simply by perceptions of bribery and unfairness slowing project uptake.¹² Corruption is understood too to reduce green energy *efficiency*.¹³ For example, some of those who seek to benefit from new green energy regulations have used rent-seeking techniques to do so.¹⁴ Two particular areas of concern are feed-in-tariffs and renewable portfolio standards (see Text Box 3). Moreover, injustices in Kenya and Ghana's energy systems (including renewables) are noted to be at the root of 'corruption-as-problem-solving' strategies on the part of both providers and consumers.¹⁵ Finally, corruption can be a significant feature in national-subnational energy transition dynamics.¹⁶ Whether support to green energy transitions should be decentralised therefore depends on the national and subnational political economies of specific countries.

Text Box 3: GET-FiT Uganda

The Global Energy Feed-in-Tariff Uganda (GET FiT) intervention aimed to counter Uganda's reliance on environmentally harmful dams for energy production. It aimed to improve the investment climate for small-scale renewable energy developers and investors by providing financial mechanisms and technological expertise. GET FiT has received much praise, but questions remain around its long-term potential to electrify Uganda, with corruption a particular concern. Redd (2021) links delays to a substation pivotal to the electrification of Western Uganda to institutional capture of Uganda's Electricity Transmission Company (UETC). It is alleged UETC lacked funds to proceed with the substation because the National Resistance Movement (NRM), Uganda's ruling party since 1986, had syphoned off its resources to help pay for 2016's elections.

11. Du et al. 2020.

12. Jørgensen 2020.

13. Ozturk et al. 2019.

14. Espinosa et al. 2021.

15. Boamah et al. 2021.

16. Marquardt 2017.

2. Initiatives aimed at improving governance of the green energy transition

Donors are investing large funding streams in supporting countries through their energy transitions, often in contexts of high corruption risk. A range of initiatives are aimed at improving governance of the green energy transition in one way or another. The extent to which these initiatives target and tackle specific corruption challenges is an empirical question that requires further research. Pending such findings, this section highlights a non-exhaustive selection of initiatives practitioners can potentially learn from, following Sovacool's¹⁷ classification of intervention types.

Corruption risk mapping and analysis

Practitioners can already access generic corruption risk maps for green energy, covering activities from the selection of project options, through planning, contracting, construction, operation and maintenance, to decommissioning.¹⁸ Such generic risk maps are a helpful starting point for thinking through potential risks and developing mitigation measures. At the same time, given the context-specific character of most corruption challenges, some donors are beginning to invest in country-specific studies to enhance their anti-corruption approaches to renewable energy development. The Swedish International Development Cooperation Agency (Sida), for example, has supported a legal and political economy analysis of Zambia's anti-corruption regime in the renewable energy sector, covering the period 2001–2021. Another example is the Norwegian Agency for Development Cooperation's (Norad) support to Global Witness in producing a visual essay on Myanmar's illegal rare earth-mining industry, which provides China with minerals for building electric vehicles and wind turbines.

Registers and clauses

Good practice in the governance of financing for green energy does exist, with studies showing that both data and analysis should be transparent, complete and calculations relatively easy to replicate.¹⁹ Public registers focused on

17. 2021.

18. Sovacool 2021.

19. Sovacool 2021.

applicable laws and regulations can help keep investors and others informed, while beneficial ownership registries notify the public of the real actors behind projects. As recommended by the Organisation for Economic Co-operation and Development (OECD), publishing contracts and their clauses raise public awareness and enable ownership structures to be revealed. Integrating ‘sunset clauses’ in regulations can also possibly mitigate against the misuse of subsidies by specifying their end date.

Transparency initiatives

Various initiatives exist intending to strengthen formal reporting standards and the public’s right to information about green energy projects. In addition to the Open Government Partnership and Open Contracting Partnership, the Inter-American Development Bank has, for example, created the Green Bond Transparency Platform. The Extractive Industries Transparency Initiative (EITI), a long-standing transparency initiative in the minerals sector, has also begun to address how its experience and data can help inform decision-making in the green energy transition.

Laws and prosecutions

Although most countries already have anti-corruption laws on their books, addressing corruption in the green energy transition is likely to require legislative reforms as well as a step-change in prosecutions around the world. Two of the strongest pieces of domestic legislation countries can learn from are the US Foreign Corrupt Practices Act and the UK Bribery Act. Both laws feature aspects of extra-territoriality, meaning that they can, under certain circumstances, be used to prosecute foreign actors. Other legislative points-of-reference are the provisions contained in the United Nations Convention against Corruption and the OECD Anti-Bribery Convention.

Ownership models

Devolving, decentralising or expanding ownership of green energy projects can help spread their benefits and create a safety net against corruption.²⁰ Employee-ownership models and cooperatives, such as the Mondragon

20. Sovacool 2021.

Corporation in Spain, divide up revenues so that a certain proportion goes to employee-owners. Community interest companies (CICs) and low-profit limited liability companies (L3Cs) are also models that can potentially help mitigate some corruption risks. CICs are hybrid organisations that mix the characteristics of firms and non-profits, whose social justice orientation can help improve transparency conditions in projects. L3Cs are a similar legal form established in the United States, which create fewer profits for elites or corrupt actors to secure, thus potentially mitigating rent-seeking. whose social justice orientation can help improve transparency conditions in projects. L3Cs are a similar legal form established in the United States, which create fewer profits for elites or corrupt actors to secure, thus potentially mitigating rent-seeking.

3. Identifiable areas of further support

Green energy sectors around the world are only now beginning to emerge and, although expanding, their novelty means we lack a strong empirical evidence base about how corruption and secrecy play out in the green energy transition, and which countermeasures will work in specific circumstances. Energy transition studies often lack consideration of power dynamics and political factors at play in those transitions, although these are crucial aspects for understanding and countering corruption.²¹ More research is needed to arrive at firmer policy and practice approaches, but we already know enough to identify several areas of further support. Of overarching importance will be for donors not only to support greater production of data and analysis, to push for transparency and new reforms, but also to facilitate recourse to sanctions that close accountability loops for victims of green energy corruption.

Support more context-specific corruption analyses of green energy

Practitioners should not have to rely on generic corruption risk assessments to guide their anti-corruption approaches for green energy transitions in specific regions, countries and places. Tailored, in-depth analyses are required that directly address the often-hidden power dynamics, networks of actors and financial flows involved. Such analyses are likely to provide a strong evidence base and ideas for future programming and interventions. Of particular relevance are analyses that address the national-subnational governance

21. Rahman 2020.

dynamics of transitions and the spillover effects of (mismanaged) green energy industries across national borders.

Support investigative reporting specifically on green energy corruption

In addition to state-to-state support and collaboration with the private sector on improving governance of the green energy transition, funding investigative non-governmental organisations (NGOs) and journalists to uncover and report on green energy corruption around the world is vital. Existing transnational networks and organisations (e.g., the Gecko Project and the Organized Crime and Corruption Reporting Project), focused on addressing illegal resource governance, environmental crimes and corruption, many of whom are already supported by donors, could be encouraged to extend their attention to green energy.

Support indigenous environmental defenders on green energy corruption

Indigenous environmental defenders are often at the forefront of attempts to block corrupt and/or illegal acquisitions of land and natural resources, including those needed for green energy transitions. Recent examples (e.g., from Peru) show indigenous peoples face great risks doing so, frequently paying with their lives. Yet despite evidence that securing tenure rights for indigenous peoples plays a vital role in biodiversity protection, and that this role is at risk from corruption, indigenous peoples' organisations receive only a fraction of available funding for this work. Donors can therefore do more to directly support indigenous peoples' organisations in highlighting environmental corruption linked to the green energy transition, protecting those who do so.

Methodology

The Brief is based on a systematic literature review that included 55 published studies generated via a search of all combinations of the following keywords: Corruption, Bribery, Collusion, Nepotism, Favoritism, Rent-Seeking, Patronage, Green Energy, Renewable Energy, Energy Transition. The search was done in June 2022 using Google Scholar, with the first page of search results

considered. 'Snowballing' led to the inclusion of further studies cited in the original list of studies.

References

- Amoah, A., Asiama, R.K., Korle, K. and Kweblah, E. 2022. Corruption: It is a bane to renewable energy consumption in Africa?. *Energy Policy* Vol. 163.
- Boamah, F., Williams, D.A. and Afful, J. 2021. Justifiable energy injustices? Exploring institutionalized corruption and electricity sector ‘problem-solving’ in Ghana and Kenya. *Energy Research and Social Science* Vol. 73.
- Burke, M.J. and Stephens, J.C. 2018. Political power and renewable energy futures: A critical review. *Energy Research & Social Science* Vol. 35.
- Chen, X., Chen, G., Lin, M. and Tang, K. 2021. How does anti-corruption affect enterprise green innovation in China’s energy-intensive industries? *Environmental Geochemistry and Health* 44(9): 2919–2942.
- Du, W., Li, M. and Wang, F. 2020. Role of rent-seeking or technological progress in maintaining monopoly power of energy enterprises: An empirical analysis based on micro-data from China. *Energy* Vol. 202.
- Espinosa, V.I., Peña-Ramos, J.A. and Recuero-Lopez, F. 2021. The political economy of rent-seeking: Evidence from Spain’s support policies for renewable energy. *Energies* 14(14).
- Goldthau, A. and Westphal, K. 2019. Global energy transition does not mean the end of the petrostate. *Global Policy* 10(2): 279–283.
- Guzel, A.E. and Okumus, İ. 2020. Revisiting the pollution haven hypothesis in ASEAN-5 countries: new insights from panel data analysis. *Environmental Science and Pollution Research* Vol. 27: 18157–18167.
- IPCC (Intergovernmental Panel on Climate Change). 2022. *Climate Change 2022: Mitigation of Climate Change. Summary for Policymakers*.
- Jørgensen, M.L. 2020. Low-carbon but corrupt? Bribery, inappropriateness and unfairness concerns in Danish energy policy. *Energy Research and Social Science* Vol. 70.

Laes, E., Gorissen, L. and Nevens, F. 2014. A Comparison of Energy Transition Governance in Germany, The Netherlands and the United Kingdom. *Sustainability* Vol. 6: 1129–1152.

Leitão, N.C. 2021. The effects of corruption, renewable energy, trade and CO₂ emissions. *Economies* 9(62).

Marquardt, J. 2017. Central-local relations and renewable energy policy implementation in a developing country. *Environmental Policy and Governance* 27(3).

Ozturk, I., Al-Mulali, U. and Solarin, S.A. 2019. The control of corruption and energy efficiency relationship: An empirical note. *Environmental Science and Pollution Research* Vol. 26: 17277–17283.

Rahman, K. 2020. Anti-corruption in the renewable energy sector. U4 Helpdesk Answer. U4 Anti-Corruption Resource Centre, Chr. Michelsen Institute.

Redd, R. 2021. The Global Energy Feed-In Tariff's Influence on Uganda's Energy Transition. MA thesis, Norwegian University of Life Sciences.

Sahoo, M., Sethi, N. and Padilla, M.A.E. 2021. The dynamic interlinkages between green energy, information and communication technology and corruption on environmental sustainability: evidence from developing economies.

Sovacool, B.K. 2021. Clean, low-carbon but corrupt? Examining corruption risks and solutions for the renewable energy sector in Mexico, Malaysia, Kenya and South Africa. *Energy Strategy Reviews* Vol. 38.

Williams, D.A. and Le Billon, P., eds. 2017. Corruption, Natural Resources and Development: From Resource Curse to Political Ecology. Edward Elgar Publishing, Cheltenham and Northampton (MA).