

The political economy of energy transitions in Ghana, Zambia and Vietnam

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Key messages

- The transition of energy systems from fossil fuels to low-carbon sources of energy is a deeply political exercise.
- Political economy analyses (PEAs) of the energy transitions in Ghana, Zambia and Vietnam reveal some common challenges but also opportunities that are unique to each context.
- To identify and build pathways to affordable, accessible and sustainable energy systems, it is essential to understand the role of clientelism, rent-seeking and ideology.
- PEA has an important role to play in supporting the energy transition by helping identify plausible pathways of change in each context.

1. Why the political economy of energy transitions?

The challenges of climate change and development are driving many countries to rethink the ways in which they produce electrical power and deliver it to users. For example, some countries that have traditionally been reliant on hydroelectricity are seeing drops in generation as a result of reductions in rainfall caused by climate change. At the same time, international commitments to climate action are accelerating a move away from fossil fuel-based energy as technologies for renewable energy and clean transport become more affordable. Rapidly rising demand for energy in many developing countries therefore poses a major challenge to policy-makers, who are simultaneously trying to account for changes caused by global warming, contribute towards international climate actions and maximise the benefit from their own natural resources, while meeting growing demand for electricity at affordable prices.

The Paris Agreement of 2015 commits its 196 signatories to hold ‘the increase in the global average temperature to well below 2°C above pre-industrial levels’ and pursue efforts ‘to limit the temperature increase to 1.5°C above pre-industrial levels.’ However, it is widely acknowledged that a systemic shift away from a carbon-based model towards a greener economy consistent with the Paris Agreement is fundamentally a political process. Longstanding institutional structures, policies and decision-making process are intertwined with financial, economic, political and social interests. Hence, interventions that aim to change the existing system, no matter how technically sound they may be, are likely to run counter to the incentives of powerful actors at global, regional, national and local levels.

Policy actors and researchers seeking to influence and shape a low carbon energy future need to be cognisant of these dynamics and the underpinning political economy. Understanding and engaging with the political economy of energy provision is key to the success of research, technical assistance and capacity-building initiatives. Political economy analysis (PEA) is a tool designed to look under the surface, to establish deeper understanding of political context and to draw practical implications or lead to politically feasible and pragmatic solutions.

This policy brief looks at the application of PEA to aspects of the energy transition in three countries. It considers the PEA of shifting to low-carbon energy in Ghana, green electricity provision at the local level in Zambia and electrification of the transport system in Vietnam. It then draws out broader lessons about the role and value of PEA in supporting the energy transition in developing countries.

2. Contexts

In 2023, The Policy Practice and its local partners conducted PEAs in Ghana, Zambia, and Vietnam to help understand context-specific challenges and opportunities for the clean energy and transport transitions.

Ghana has had an historic reliance on hydropower but in recent years water shortages and the discovery of natural gas have led to a rapid shift to thermal power generation. Today, nearly 70% of power in Ghana comes from thermal sources, mostly generated by independent power producers (IPPs), leading to a surplus of supply over demand. Despite the country's good solar potential and a commitment to achieve Net Zero by 2070, official projections include plans for the expansion of gas followed by a sudden switch to nuclear power by the mid-2040s, with renewables representing only 10% of supply. The large amounts of baseload power from gas and nuclear fit with an ideology of industrial growth, while renewables are regarded as intermittent and costly.

Some 88% of Ghana's population have access to grid electricity. Ghana conducts highly competitive elections that have seen politicians exchanging access to electricity for votes. This clientelist approach to service provision has fostered a sense of entitlement among the population and reduced their willingness to pay for these services. One consequence of this is that it has left the utility company, the Electricity Company of Ghana, in a state of financial insolvency and unwilling to invest in improving services or purchasing more renewable power.

Key features of the **Zambian** energy system also include a heavy reliance on hydropower (80% of installed capacity) but low electricity access beyond mines, cities and towns, with only around 10% of the rural population having access to power. With climate change reducing hydropower, steps have been taken to diversify energy sources through the use of coal and, more recently, by developing utility-scale solar power plants for which there is enormous potential. Historically, low electricity tariffs have contributed to the insolvency of the Zambia Electricity Supply Corporation, Zambia's state-owned monopoly power utility, stifling investment. Reforms – including allowing third-party access to the network – are being considered but policy-makers have been slow or reluctant to implement such changes. Current decentralisation policies and the promise to shift more financial decision-making to local authorities is likely to have limited impact on electricity supply but there are opportunities to increase mini-grid investments by the Rural Electrification Agency.

Vietnam is highly vulnerable to climate change and lost 3.2% of its gross domestic product to climate impacts in 2020. Rapid economic growth is increasing energy demand, which is being met by expansion of both thermal (coal) and renewable sources, despite commitments to Net Zero by 2050. Achieving an energy transition will be very difficult in view of growing demand and weaknesses in the country's loss-making utility, Vietnam Electricity. Electrification of road transport will help meet climate goals and also improve urban air quality. New laws and regulations are useful but there are infrastructure gaps, particularly in the provision of charging stations. Progress may depend on the success of VinFast, Vietnam's leading industrial and car manufacturing conglomerate, which is investing heavily in electric cars and motorcycles.

3. Issues emerging

1. Climate change is undermining hydroelectricity supply, reducing a key source of renewable energy and narrowing down options for the transition to clean and renewable energy

Developed country energy systems typically transition from fossil fuel-based electricity generation to renewables. By contrast, these three developing countries start (or started) from a heavy dependence on hydroelectricity, a non-carbon energy source, but increased frequency of droughts along with rising demand has meant that they are seeking alternative sources. Each country has high potential for solar energy generation but, despite falling global costs, within-country costs can be high for solar and wind. This is because of a lack of technical capacity and scale, uncondusive policies and expensive finance.

2. Renewable energy is developing slowly as domestic politics matter more than international climate commitments

In both Ghana and Zambia, ambition to expand renewable energy is low – yet still unfulfilled. The insolvency of monopoly energy utilities stifles both public and private investment. In practice, domestic energy and economic development policies are prioritised over international climate change commitments. Nationally Determined Contributions lack domestic legislation and regulations to enforce their implementation and have marginal visibility in cross-government policy. Even in Vietnam, whose Just Energy Transition Partnership and Net Zero commitments might indicate higher ambition and stronger political buy-in, there is a significant risk that domestic political considerations may stop renewable goals being realised.

3. An insolvent off-taker is often at the centre of the power sector's problems – but the behaviour of off-takers is often closely linked to the country's political settlement

Governments typically have four objectives for energy policy: keep energy prices low, ensure reliable supply, extend access and earn rents from the energy system. Unfortunately, these objectives are not mutually compatible. In Ghana and Zambia, earning rents from inflated Power Purchase Agreements (PPAs) increases costs, while keeping electricity prices below costs results in insolvent utilities that cannot invest in reliability or improving access. Insolvent off-takers (which purchase power from generators) are often closely linked to the country's political elite and serve political objectives, making them resistant to 'best practice' technocratic fixes.

Clientelist and rent-seeking behaviours (and in Ghana's case ideology – see Table 1) are characteristic of these energy systems, often constraining the energy transition. However, the politics of electricity operate differently across countries. In Zambia, there appears to be relatively little political demand to improve access to power in rural areas. By contrast, Ghana's Self Help Electrification Programme, by means of which MPs are able to influence finance for the provision of poles, cables and connection to the grid, has formalised the clientelist provision of power to communities, leading to high rates of access but poor reliability.

Table 1: Ghana electrical power technologies and political economy concepts

Technology	Clientelism	Rent-seeking	Ideology
Gas	Both gas and (potentially) nuclear contribute to base load; hence, the clientelism of electricity is simply through access and selective load-shedding	Rent already being obtained from take-or-pay IPPs for gas-fired power plants	Gas as a national resource driving economic development has political resonance
Nuclear	As above	Huge potential rent-seeking opportunities for nuclear given the size of the contracts that will be required	Appeals back to President Nkrumah's original vision of 'high modernism' and power for industrialisation but concerns about safety and the environment
Renewables	Decentralised renewables have clientelist benefits if provided to communities without electricity	Utility-scale IPPs could be a source of rent-seeking; in practice, projects are small and subject to scrutiny	Seen as attached to a western ideology of climate mitigation that is inappropriate for Ghana; perceived as intermittent and weak
Electricity network/access	Politicians use the Self Help Electrification Programme for clientelist purposes	Alleged rent-seeking in the provision of poles/cables for such electrification efforts	Political vision is that there is a right to electricity; widespread view that it should be free (or at least cheap)

4. Ensuring a reliable supply of cheap electricity for influential urban consumers is politically important

Political risks are higher when continuity of supply is threatened. For example, the 2012–2016 power crisis in Ghana (known as *Dumsor*) led to a political crisis, and power supply continues to be politicised at constituency level. Some governments therefore focus on maintaining reliability for existing urban consumers,

overextending access to currently unserved or underserved consumers, who tend to be less politically influential. Similarly, maintaining low electricity tariffs for urban consumers is often a political priority, even if this damages long-term investment in the sector, including for the energy transition.

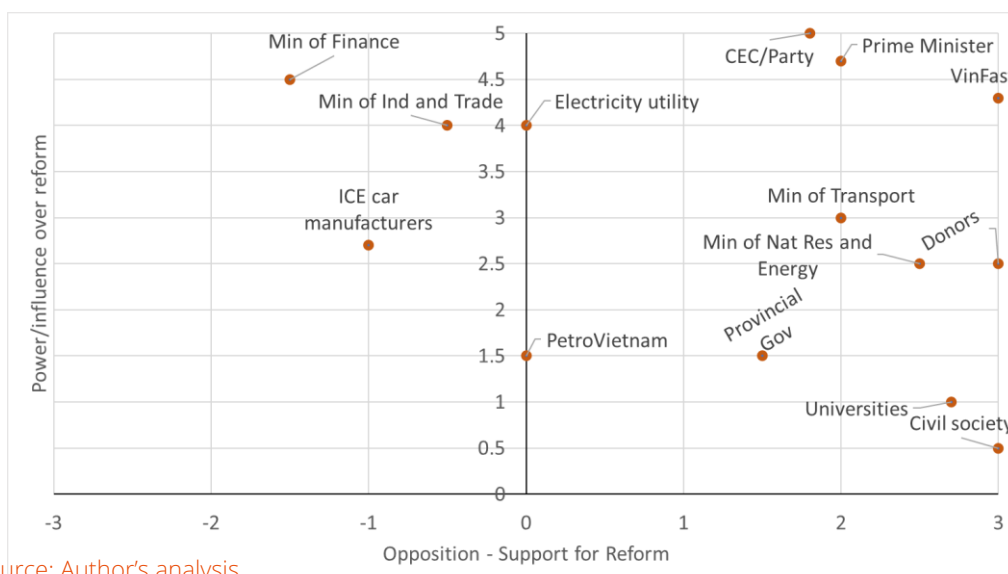
5. Both the Head of State and the formal structure of political institutions are key in driving change

In all three countries, the role of the Head of State is key to enabling the transition but not sufficient on its own. In Vietnam, the prime minister went ahead of his officials in agreeing to Net Zero by 2050 while in both Ghana and Zambia the presidents have influence over how ministries work together, resources are allocated and the transition proceeds. However, vested interests in political parties, the state utility and ministries of energy may resist change. Thus, while high-level buy-in to the energy transition is essential, it does not guarantee success.

6. There are hidden, powerful and sometimes unexpected actors in electricity systems

Stakeholder mapping can help indicate the positions of key actors in the power sector with respect to reform and their relative influence (see Figure 1). In Vietnam, the relationship between the country's richest man and owner of VinFast, Pham Nhat Vuong, and the prime minister may have a key impact on the nature of the electric vehicle transition in the country. In Ghana and Zambia, the beneficial owners of profitable PPAs are not always known but are likely to be connected to influential political actors.

Figure 1: Influence and support for e-mobility among key stakeholders in Vietnam,



Source: Author's analysis

Renewable energy investors, as well as policy-makers and donors advocating for the energy transition, are often less powerful than other actors. Conversely, traditional utilities and politically connected fossil fuel-based generators are often opposed to reform. An accurate mapping of stakeholders can also illustrate the importance of unexpected (or hidden) actors. For example, in Ghana, technically qualified nuclear scientists have been influential in supporting the government's ideological case for investing in nuclear as a clean energy solution despite the cost and borrowing risks.

4. Plausible pathways of change

A pathway of change refers to a description of how the desired outcome – a transition to green, reliable, accessible, affordable and fiscally sustainable electricity provision – might come about in a way that is consistent with the incentives, ideas and interests of the actors involved and what we know about the wider political economy. Critically, a pathway of change describes how change might happen leading to a desired outcome without intervention by your own organisation (whatever that may be).

The PEAs of the energy transition in Zambia, Ghana and Vietnam suggest a range of plausible pathways of change in each case. For example:

In Zambia, the shift towards the provision of green, reliable, affordable, accessible and fiscally sustainable electricity at the local level may come about because:

IF it is not possible to produce sufficient reliable power for urban populations (for example, owing to drought)

THEN the government may agree to tariff adjustments and other reforms and/or open access to the grid for third-party suppliers

BECAUSE the political benefit of reliable power will outweigh the political cost of reforms.

In Ghana, a rapid increase in low-carbon energy up to 2030 and beyond may come about because:

IF high tariffs for industrial and commercial users induce them to seek alternative sources of power

THEN this could create a business lobby in favour of lower taxation of renewables, which could encourage expansion of the market

BECAUSE such development is consistent with the government's desire for industrialisation.

In Vietnam, a rapid increase in the electrification of the transport system up to 2030 and beyond may come about because:

IF provincial/city governments are under pressure to tackle problems of congestion and pollution

THEN they may invest in clean public transportation and (potentially) in local charging networks

BECAUSE greater e-mobility helps in responding to the politically salient pressures they face.

The concept of a pathway of change is valuable because it forces us to consider how situations might plausibly evolve in the direction of the desired outcome as a result of the actions of other actors. If we can identify one or more plausible pathways of change, then our own interventions can focus on measures that support that pathway. Such interventions are more likely to be successful because they are consistent with change processes that are judged to be politically feasible. Conversely, interventions that assume implausible pathways of change are more likely to fail.

5. Recommendations

1. PEA is recommended as an essential tool to understand energy transitions, the foundations of energy systems and the formal and informal rules that motivate key actors to support or block change.
2. PEA concepts can enable an understanding of power and interests, patronage and clientelism, rent-seeking and ideology, all of which are clearly demonstrated in energy systems.
3. Pathways of change should be developed for energy transitions as they create plausible explanations of how de-carbonised energy systems might come about. Programme interventions can then be designed to be aligned with such pathways.
4. PEA can reveal the relative importance (or otherwise) of climate goals alongside other economic, development or political goals. These three studies illustrate how competing national objectives diminish the priority of internationally made climate commitments.
5. PEA should be given the opportunity to shape research, capacity-building and advocacy in programme interventions. Strategic and political economy thinking needs to be embedded into the design of technically led interventions to maximise the chance of success.

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This paper is part of a series of Policy Briefs that share our insights in a changing world.

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