

ENERGY TRANSITION MYTHBUSTERS

MYTH #4 – Decentralised energy will decarbonise & democratise the energy system



THE MYTH

The idea that ‘small is beautiful’, originating from economist E.F. Schumacher, is highly influential within the environment movement, which often advocates for more localised and decentralised ways of organising society.¹³⁰ This line of thinking has become prevalent within energy transition debates. Herman Scheer, the architect of the German ‘Energiewende’, argued that the transition to renewable energy implies a more distributed and localised way of life, with households and communities able to power themselves through small-scale solar generation. This, for Scheer, was to be celebrated: by decentralising energy, he believed that we could decentralise political power and create more community-oriented and democratic political forms.

Scheer’s ideology of energy localism has filtered into the way that most actors — from environmental activists to government and industry — have come to think about energy transition. Generating energy from the sun, wind and water opens up new possibilities for energy production to take place at much smaller scales than large fossil fuel infrastructure allows for: every household can have a solar panel on its roof, every neighbourhood can operate its own wind turbine.

Myriad different forms of localised energy initiative are proposed. Local energy communities owned and managed as cooperatives by their members are often seen as key. Energy communities see people banding together – usually within a specific locality — to invest in and run energy technologies and infrastructures collectively.

Alongside local energy communities, municipal energy initiatives are also positioned as key players. Municipal energy schemes see municipal government playing a more active role in any system, either as grid owners or through municipal-owned companies that invest in renewable generation and/or provide energy to households and businesses. Moreover, individual households are often positioned as ‘prosumers’: producers of electricity through small-scale renewable generating assets, as well as consumers.

For some, the decentralisation of the energy system heralds the end of the centralised grid. As such, large incumbent utility firms tend to be portrayed as conservative industry dinosaurs standing in the way of the transition. Indeed, many argue that a more decentralised energy system would be inherently democratising, taking control away from industry giants and putting power in the hands of people directly through forms of localised community and collective control and ownership.

THE REALITY

Decentralised energy has an important role to play in the transition towards more democratic and low-carbon energy systems. However, **community energy schemes face substantive challenges when they are forced to compete in a for-profit energy market.** In fact, serious questions can be raised about the democratic credentials of many decentralised energy initiatives due to the risk of exclusivity.¹³¹ What’s more, we need to be realistic about the limits of distributed generation in meeting climate targets: **the transition needs to take place across a range of scales and large-scale forms of organisation and planning are more crucial than ever.**

THE MARKET UNDERMINES DECENTRALISED ENERGY

In the context of a liberalised energy market, smaller-scale energy projects have been forced to compete with ever bigger for-profit energy companies. This has seen these projects struggling when energy prices shift and subsidies are removed.

For example, take Robin Hood Energy, a municipal energy supply company owned by Nottingham City Council in the UK. Robin Hood Energy aimed to provide energy that was as affordable and as sustainable as possible.¹³² Unfortunately, this publicly owned energy company was sold off to private firm British Gas in 2020. This was due to its failures to compete in a cutthroat and volatile market — an experience shared by several other new municipal energy companies established in the UK in recent years. An energy market that pressures companies to scale up and expand customer bases as rapidly as possible puts smaller companies like Robin Hood Energy at a severe disadvantage. When challenges such as Brexit and government policy changes came about, only large established utility firms had the capacity and resources to weather the storm.¹³³

The case of Feed-in Tariff (FiT) cuts discussed previously offers a similar story. Once these subsidies were cancelled and replaced with competitive auctions, new decentralised energy projects were quickly outcompeted by large and wealthy energy producers.¹³⁴ As a result, the community energy sector across Europe has taken a significant hit and new local energy projects now struggle to be commercially viable. In the UK, for instance, FiT cuts saw the number of new community energy organisations fall from 30 in 2014–15 to just one in 2017.¹³⁵

DECENTRALISED ENERGY IS NOT NECESSARILY DEMOCRATIC

Proponents of this myth tend to assume that localisation guarantees democratisation. In practice, matters are far more complicated. **Decentralised energy in no way ensures more just or democratic outcomes within energy transitions.** In many cases subsidy schemes geared towards supporting decentralised energy schemes such as FiTs have mostly benefitted wealthier populations able to afford large upfront investments such as rooftop solar panels. Meanwhile, lower income consumers have footed the bill for these subsidies through levies on their bills and taxation.¹³⁶

The form of participation emphasised within community energy schemes is often financial, with people encouraged to invest capital to finance new community-owned generating assets. While financial participation has a role to play in democratising the energy sector, democratisation should not be reduced to this. Firstly, financial participation says nothing about decision-making power and control. In addition, it tends to be inaccessible to those on lower incomes — often community energy schemes stipulate a minimum level of investment out of reach to those on low-incomes. **Ultimately, democratising the energy sector means ensuring that all can participate on an equal footing, irrespective of ability to pay.** If financial exclusion is one risk of community energy, another is that participation in

community energy schemes tends to require time and energy that tend to be in short supply for those living more precarious lives, as well as people with caring responsibilities.¹³⁷

DECENTRALISED ENERGY ALONE WILL NEVER BE SUFFICIENT FOR DECARBONISATION

Decentralised energy can certainly play a significant role in low-carbon transitions. However, this role will likely remain relatively modest.

For example, Amsterdam and Barcelona have both created roadmaps to boost their own energy production, which face very real challenges.¹³⁸ It was estimated that if all usable surfaces within Amsterdam were to have solar panels installed, the city would be able to produce around 1.1 GW through solar. While this is an impressive amount, it is still only around 30 per cent of the city's estimated electricity needs by 2030.¹³⁹

Barcelona has also made considerable steps towards a renewable transition, and in 2019 established a municipal energy company to help achieve maximum local energy generation.¹⁴⁰ However, even if full capacity for city-wide solar installations was reached, Barcelona's rooftops could only produce an estimated 1,191 GWh per year, accounting for only around 8 per cent of the city's current total energy needs.¹⁴¹

The case of Bangladesh also illustrates the shortcomings of distributed renewables. Here, household solar systems grew widely between 2003 and 2018, electrifying 16 per cent of rural households.¹⁴² Yet by 2021, the rate of new solar installations had fallen to almost zero. This was because the government stepped in to provide more reliable electricity connections at lower prices.¹⁴³

These cases indicate that decentralised renewable generation is unlikely to be remotely sufficient for meeting current energy needs, even under full-capacity deployment. Indeed, a recent paper by TUED estimated that **rooftop solar PV has the potential to meet just 18 per cent of the EU's electricity needs**, and only if every single rooftop in the region that is solar compatible has a PV system installed. Given that this level of ambition across the EU seems implausible, the figure is likely to be a lot lower, highlighting that relying on distributed generation alone is unfeasible.¹⁴⁴

DECARBONISATION REQUIRES PLANNING AND COORDINATION ACROSS SCALES

It is clear, then, that small-scale distributed renewable energy cannot deliver on energy transition alone. A rapid and effective transition will require thought and practice across a range of scales, with a pivotal role remaining for large-scale centralised infrastructure.

For one thing, **the transition that is needed calls for a rate and depth of infrastructural change that can only be achieved through centralised planning**. In addition, the technical challenge of the variability of renewable

energy requires the capacity to coordinate diverse forms of generation across multiple locations. Accountable centralised grid infrastructure is more important than ever.

This does not mean we must return to the top-down state industries of yesteryear. Nor does it mean conceding power over the transition to private utility firms. **The vision of Trade Unions for Energy Democracy and TNI has comprehensively reclaiming public utilities at its heart.** Our agenda includes municipalities forging cooperative partnerships with utility firms that are under democratic public ownership and that adopt a public goods rather than profit-based approach. In Denmark, public-public partnerships of this kind between public utility firms, municipalities and co-operatives have driven one of the most advanced energy transitions in the world. In Costa Rica (see below), a publicly planned, owned and organised electricity system has enabled the country to fully decarbonise its power provision.¹⁴⁵

WE NEED PUBLIC-COMMUNITY COLLABORATIONS ACROSS SCALES

The question is not whether decentralisation or centralisation will deliver the energy transition, but rather how public and community actors can collaborate across scales in ways that prioritise the public good over private gain.

The neoliberal energy model imposes unnecessary challenges to the renewable transition. Instead of an environment where electricity utilities and decentralised energy producers are encouraged to work together to solve the challenges, they are instead stuck in an environment of profit-seeking and competition. Rather than being forced to choose between decentralisation and centralisation, fixing the failure of energy liberalisation and privatisation requires nothing less than reclaiming energy systems from the market to build an overarching publicly owned energy sector that is accountable and democratic, with ample room for community initiatives. But if countries continue to rely on free markets, decentralisation may actually strengthen, rather than challenge, the for-profit energy system.

In order to truly ensure universal access to clean energy, the focus should be more on democratisation than on decentralisation. Take the community constructed, owned, managed and operated micro hydro power plants in El Cua, Nicaragua. Here, energy is regarded as a right that should be affordable for everyone. Members' financial contributions are based on their income, rather than a price per kWh, as this would limit access for poorer households.¹⁴⁶

By prioritising democratisation, the right to energy can be achieved on a larger scale. Costa Rica is home to four large rural electricity cooperatives, owned and run by their users. These not-for-profit cooperatives take part in setting, developing and enforcing public policies in rural communities.¹⁴⁷ Altogether, these cooperatives cover a fifth of the national territory and supply power to over 390,000 users.¹⁴⁸ Electricity coverage in Costa Rica is 99.9 per cent because cooperatives do not have to compete with but operate alongside the state-owned electricity utility ICE, alongside several sub-national public companies.¹⁴⁹

Democratisation can increase accountability and is key to effectively interlink decentralised initiatives with larger-scale energy production and vice versa in order to achieve clean energy for all.

SUMMARY

- **Decentralised energy will NOT decarbonise and democratise the energy system.**
- **Decentralised energy initiatives such as community energy projects and municipal energy companies are undermined by the liberalised market environment. In the UK, when FiT subsidies gave way to competitive auctions, the number of new community energy organisations fall from 30 in 2014–15 to just one in 2017.¹⁵⁰**
- **Decentralised energy initiatives are not necessarily democratic. Community energy projects often exclude those without the money or time required for participation.**
- **Decentralised energy alone will not deliver the energy transition. Rooftop solar PV has the potential to meet an estimated 18 per cent of the EU's electricity needs, yet only if every single rooftop in the region that is solar compatible has a PV system installed. In Bangladesh, household solar generation became redundant as the government was able to provide more reliable electricity at lower prices.**
- **The energy transition requires planning and coordination across scales. This calls for collaboration between public utilities, communities and governments on every level, alongside the wholesale democratisation of the sector.**

This factsheet is part of the Energy Transition Mythbusters publication. Read the full report and find out about the other myths that threaten decarbonisation here: tmi.org/energytransitionmythbusters

ENDNOTES

130. Schumacher, E.F. (1973) *Small is Beautiful: A Study of Economics as if People Mattered*. London: Blond and Briggs.
131. Markman, J. (2019) 'Amazon and Google launch secret plot to power your home', Forbes, <https://www.forbes.com/sites/jonmarkman/2019/02/27/amazon-and-google-launch-secret-plot-to-power-your-home/?sh=59c163576aa8>.
132. Dingwall, E. (2020) 'The downfall of Robin Hood Energy', *Red Pepper*, <https://www.redpepper.org.uk/the-downfall-of-robin-hood-energy>.
133. Ibid.
134. See Myth #2.
135. Pratt, D. (2018) 'Community energy decline continues with just one new company established in 2017', Solar Power Portal, https://www.solarpowerportal.co.uk/news/community_energy_decline_continues_with_just_one_new_company_in_2017.
136. Sweeney, S., Treat, J. and Shen, I.H. (2020) 'The Rise and Fall of 'Community Energy' in Europe', TUED, <https://rosalux.nyc/wp-content/uploads/2020/09/tuedworkingpaper13.pdf>. p. 23.
137. Johnson, C.A. and Hall, S. (2014) 'Community energy and equity: The distributional implications of a transition to a decentralised electricity system', *People, Place and Policy* 8 (3), pp. 149–167.
138. Sweeny, S. and Treat, J. (2021) 'Beyond Disruption: how reclaimed utilities can help cities meet their climate goals' https://rosalux.nyc/wp-content/uploads/2021/11/TUED_WP14_FINAL-1.pdf pp. 35–40.
139. Ibid. pp. 36–37.
140. Ibid. pp. 37–38.
141. Ibid. p. 38. Barcelona's total energy consumption was around 15,000 GWh in 2019.
142. Uddin, M.N., Rahman, M.A., Mofijur, M, et al. (2019) 'Renewable energy in Bangladesh: Status and prospects', *Energy Procedia* 160, pp. 655–661. doi:10.1016/j.egypro.2019.02.218. Halder, P.K., Paul, N., Joardder, M.U.H. and Sarker, M. (2015) 'Energy scarcity and potential of renewable energy in Bangladesh', *Renewable and Sustainable Energy Reviews*, 51, pp.1636–1649, doi:10.1016/j.rser.2015.07.069.
143. Tachev, V. 'The State of Renewable Energy in Bangladesh — Slow Transition, But Big Potential', Energy Tracker Asia, <https://energytracker.asia/the-state-of-renewable-energy-in-bangladesh/>.
Debnath, K.B. and Mourshed, M. (2022) 'Why is Bangladesh's electricity generation heading towards a GHG emissions-intensive future?' *Carbon Management*, 13(1), pp. 216–237, doi.org/10.1080/17583004.2022.2068454.
144. Sweeney, S. and Treat, J. (2021) Beyond Disruption: How Reclaimed Utilities Can Help Cities Meet Their Climate Goals <https://rosalux.nyc/beyond-disruption-how-reclaimed-utilities-can-help-cities-meet-their-climate-goals/>
145. Chavez, D. (2018) 'Energy democracy and public ownership: What can Britain learn from Latin America?', TNI, <https://www.tni.org/en/article/energy-democracy-and-public-ownership>
146. Energy Democracy.net (2023) 'El Cua, Nicaragua: Organising 'La Junta': Combatting Energy Poverty' <https://energy-democracy.net/el-cua-nicaragua/>
147. Messina, P. and Sanguinetti, M. (2023/2024 forthcoming) Article about Costa Rica's public electricity model, Comuna and TNI.
148. Energy Democracy.net (2023) 'COOPELESCA, Costa Rica: The COOPELESCA cooperative experience: Energy democracy at work in a rural context' <https://energy-democracy.net/coopelesca-costa-rica/>
149. Trading Economics (2023) 'Costa Rica – Access to Electricity (% of Population)' <https://tradingeconomics.com/costa-rica/access-to-electricity-percent-of-population-wb-data.html>
150. Pratt, D. (2018) 'Community energy decline continues with just one new company established in 2017', Solar Power Portal, https://www.solarpowerportal.co.uk/news/community_energy_decline_continues_with_just_one_new_company_in_2017



The Transnational Institute (TNI) is an international research and advocacy institute committed to building a just, democratic and sustainable planet. For more than 40 years, TNI has served as a unique nexus between social movements, engaged scholars and policy-makers. TNI has gained an international reputation for carrying out well researched and radical critiques. As a non-sectarian institute, TNI has also consistently advocated alternatives that are both just and pragmatic, for example providing support for the practical work of public services reform. <https://www.tni.org/en>



TRADE UNIONS FOR ENERGY DEMOCRACY (TUED) is a growing global network of unions and close allies working to advance democratic control and social ownership of energy, in ways that promote solutions to the climate crisis, address energy poverty, resist the degradation of both land and people, and respond to the attacks on workers' rights and protections. Established in late 2012, TUED has grown to span dozens of trade unions, labour federations and social movement and policy allies from countries around the world, both North and South. <https://www.tuedglobal.org/>