




SCIENCE (<https://www.carbonbrief.org/category/science>) | December 23, 2013. 9:00


Climate rhetoric: What's an energy trilemma?




 (<https://twitter.com/intent/tweet?text=Climate+rhetoric%3A+What%E2%80%99s+an+energy+trilemma%3F&url=https%3A%2F%2Fwww.carbonbrief.org%2Fclimate-rhetoric-whats-an-energy-trilemma>)

 (<https://www.linkedin.com/cws/share?url=https://www.carbonbrief.org/climate-rhetoric-whats-an-energy-trilemma>)

 ([mailto:?subject=Climate rhetoric: What's an energy trilemma?&body=https://www.carbonbrief.org/climate-rhetoric-whats-an-energy-trilemma](mailto:?subject=Climate+rhetoric:What's+an+energy+trilemma?&body=https://www.carbonbrief.org/climate-rhetoric-whats-an-energy-trilemma).)

 (<fb-messenger://share/?link=https://www.carbonbrief.org/climate-rhetoric-whats-an-energy-trilemma>)

 (<https://api.whatsapp.com/send?phone=https://www.carbonbrief.org/climate-rhetoric-whats-an-energy-trilemma&text=urlencodedtext>)

The idea of an 'energy trilemma' is a one that now pops up frequently in energy industry literature and in politicians' speeches.

[Privacy](#) - [Terms](#)

It's most usually used to describes a balance between energy security, social impact and environmental sensitivity. These three things are presented as conflicting aspects of energy production.

But does the concept make sense, and is it as straightforward as its widespread use might suggest? Perhaps not. Examining speeches given at this year's Energy UK conference shows that there is at best disagreement about what the trilemma actually is, and at worst an appropriation of the term to serve vested interests.

When a dilemma is not enough

In philosophy, a trilemma is a choice between three unfavourable options. In economics it is also known as the 'impossible trinity': a trade-off between three goals, in which two are pursued at the expense of the third.

But the energy trilemma appears to be different: meeting it requires achieving all three goals, although within the parameters of the particular wishes or interests of the actor in question.

In her opening speech to the Energy UK conference (<http://www.energy-uk.org.uk/events/annual-conference/annual-conference.html>), the industry lobby's CEO Angela Knight talked about "the old trilemma" of the energy industry: "decarbonisation, energy security and affordability".

For Knight, affordability is the dominant and most pressing issue. Finding a solution to the trilemma increases industry costs, she said, which are then passed on to the customer. This is due, she insists, to external forces: "95 per cent of that estimated tariff rise [46 per cent by 2020] is due to government policies and network costs". In other words, it's not her fault.

Knight's trilemma created the framework for the debate and set the limits of discussion. She presented it as an either/or model, in which one element of the list is selected as most important and privileged over the other two: "decarbonisation is in law", she stated, "whilst for people, affordability is the top, and for the country, energy security is extraordinarily important". In this context the word 'trilemma' evoked a sense that a solution is perhaps not even reachable.

But how did Knight's trilemma compare with the other speakers' descriptions?

Shadow energy minister Caroline Flint referenced the three elements, but rebranded the trilemma as a "challenge". Notice the different structure here: whereas Knight's trilemma indicates an inability to address existing problems, a challenge is something difficult that is ultimately solvable.

Speaking at the same conference, Secretary of state for energy and climate change, Ed Davey, went for a different approach, and combined the three elements not as a list, as Knight and Flint did, but as a process that moves towards a solution. He stated:

"By far the biggest energy security challenge is to make sure that we create one of the most competitive and attractive electricity investment markets in the world that drives the transition to a cleaner, low-carbon energy system."

Here, the rhetorical model is quite different: increasing competition, which will increase affordability, will be part of the transition to decarbonised energy, which in turn will provide greater energy security with home-grown energy sources.

This successful rhetorical deconstruction of Knight's trilemma is then aligned with the Energy Bill, as you might expect from a minister keen to bolster support for government policies.

Solving this problem, he states, is what the Energy Bill "is for".

In these three speeches we see agreement on the basic components constituting the trilemma, but quite different approaches to it. Flint and Davey repurpose the trilemma paradigm to present a problem – or 'challenge' – that can be solved with minimal trade-off between the elements.

Knight's version is perhaps a more traditional construction, and certainly less favourable to renewable energy, which she presents as an expensive political imposition on the industry: "levies are required to build the low carbon generation to which politicians signed binding commitments". Throughout her speech, low-carbon energy is presented in a negative light and in economic terms: as the reason for recent price hikes.

Global trilemmas

Of these three speeches, only Knight's really presents a trilemma in the classical sense. So why would Davey and Flint choose the rhetorical framework?

One answer might lie in the global picture: Flint and Davey's repurposed trilemma is more in keeping with how the issue is discussed globally.

The World Energy Council (WEC) (<http://www.worldenergy.org/>), a UN-accredited global energy body, described an energy trilemma comprising 'energy security, social equity and environmental impact mitigation' in a recent report. Spokesperson Mark Robson (http://www.worldenergy.org/wec_news/press_releases/3797.asp) stated:

"The countries that tend to be the best at balancing the resulting trade-offs between these interests [energy resources, political stability, wealth, affordable and environmentally sensitive energy] are those that have diversified their energy resources and actively manage demand for energy through well-established energy-efficiency programmes."

WEC's view of the trilemma is focussed on sustainable development and environmental impact.

Energy company E.ON (<http://www.eonenergy.com/for-your-business/Sustainable-solutions/What-we-do/The-energy-trilemma>) describes the energy trilemma as the interplay between carbon emissions, the security of energy supply, and energy costs. Its website positions low-carbon technologies (a combination of CCS, gas, renewables and nuclear) as the solution to reducing emissions and costs while ensuring energy security.

E.ON's and WEC's trilemmas contain the same elements as the others. Like Davey, they present a balanced trade-off hinging on sustainable, low-carbon energy. Again, this is not a trilemma in the traditional sense, but it makes Flint and Davey's choice of presentation clearer: in particular, Davey's rhetoric almost mirrored E.ON's.

This shared rhetoric presents UK energy policy as being both environmentally progressive and party to a global perspective. It makes the government look like global players and, in contrast, makes Knight look like a maverick.

New trilemmas

Knight was speaking to a long-standing rhetorical tradition that places affordability, decarbonisation and security alongside each other. But she didn't just want to operate in this rhetorical frame, she also wanted to change it. She differentiated what she called the "old" trilemma from "today's trilemma", or "who pays; how much; and for what" (sic). This scraps the whole model, and situates discussion entirely within the frame of financial concerns.

Knight's argument was constructed to shift blame for price rises away from the energy industry, but in appropriating the trilemma rhetoric for these ends she undermined its wider meaning.

Energy security

Underpinning the trilemma is the concept of energy security, which is of significant rhetorical interest in itself.

It's obvious that energy security means many things to many people. It could mean being self-sufficient in renewables, having indigenous fossil fuel reserves, or having enough money to pay the gas bill. The often broad and unspecific use of the term creates a risk that it may become an empty signifier: a term that is used in so many different ways that it is emptied of all meaning, and so comes to mean nothing.

At the Energy UK conference, Davey manipulated this elastic term to promote renewable and low-carbon means of production, and bolstered his vision with terms indicating reliability like "robust" and "comprehensive". Correspondingly, at another conference (<http://www.renewableuk.com/en/events/conferences-and-exhibitions/renewableuk-2013/index.cfm>) this month, he framed renewable technologies as the answer to the problem of energy security as they will protect bill payers from the "increasing costs of volatile fossil fuel imports from riskier parts of the world".

Knight presented energy security in the same context as low-carbon technologies, as a reason for inflated prices:

"Investment in generation is not disconnected from the business and the household bill. And energy security cannot be achieved without investment."

These two uses of energy security are at odds. Davey's rhetoric implies that energy security is achievable within the parameters of his reappropriated trilemma. Knight appears to be saying that energy security and environmental sensitivity are separate, independent issues. Both can be delivered, but at considerable cost to the customer.

If we look at the global context, many countries are expressing energy security as the reason for switching to renewables and other low-carbon technologies. For example, China's energy security strategy involves energy efficiency, and increasing investment

(<http://www.worldbank.org/en/news/press-release/2013/10/29/china-gef-grant-to-support-continued-scale-up-of-renewable-energy>) in renewable technologies

(<http://theenergycollective.com/michael-davidson/279091/transforming-china-s-grid-sustaining-renewable-energy-push>) – hydropower, wind, biomass and solar – and electric cars. Energy security is aligned rhetorically with national security in language like Davey's "volatile" and "riskier", but also has a basis in policy and research, especially in the USA (<https://csis.org/program/energy-and-national-security>).

Energy UK appears to be out of step globally in its use of the terms 'energy trilemma' and 'energy security'. This could be for many reasons; it is possible that the global energy and climate debate is more aspirational and less accountable to customers, or voters. But it may also be because its use of the term is designed to reshape the energy debate in a way that is to its own advantage.