

## Living in the future: a new energy story

Presentation by Walt Patterson

We humans tell stories, to ourselves and each other. That's why we can hold weeks like this one; a literary festival is a festival of stories. We use memory and shared language to create narratives about how the world works, and how we fit into it. Among the countless stories we tell are stories about how to provide ourselves with clothing and shelter, with comfort, with food and drink, with illumination, with cooling, with materials, with artefacts of every kind, with mobility, with information and entertainment - about how to organize our lives, individually and collectively. Many of these stories go back to human prehistory. Others have emerged only within recent years, or even recent months; think, for instance, of the internet, the global positioning system or the e-reader.

One story you'll have heard a lot about lately is the story about energy in human society. This story first emerged about forty years ago. It has since taken deep root in our politics, economics, academia and journalism. We're here to talk about it tonight. Unfortunately this energy story is fundamentally wrong, and seriously misleading. That's a key reason why we're in trouble, with what politicians call energy security, with climate change, with unsustainable cities and unsustainable lifestyles.

Until the early 1970s we talked about *fuels* - coal, oil, natural gas. We knew they were different, with different uses, in different technology. Then, in 1973, we ran into problems with all of them. Headline writers and politicians lumped them all together, added electricity, and called the resulting conglomeration 'energy', as if fuels and electricity were all the same and interchangeable, as if one could substitute for another. Of course they *can't* - not without changing the technology first.

That's where our energy story is wrong. We think it's all about buying and selling fuels and electricity. But fuels and electricity are the wrong place to start. The story should start with energy technology. That's another part of the story that's wrong. We now think 'energy technology' means refineries and power stations, pipelines and power lines. But the energy technology that really matters is the technology we ourselves use, the technology that delivers the services we desire: the lamps and motors and heaters and fridges and electronics, and especially the most important energy technology of all: buildings.

A good narrative usually involves some form of conflict or competition. We've been led to think that energy competition is between different suppliers of fuel or electricity. But the important competition, the *essential* competition, is between *fuel* and *user-technology*. The better the building, the less natural gas it needs to keep us comfortable; the better the lamp, the less electricity it needs

to deliver pleasing light; the better the car, the less petrol it needs to get us where we want to go; and so on. We already know - we've known for decades - how to make our user-technology much, much better. You'll hear that called 'energy efficiency'. I call it 'energy performance'. But we have never taken it seriously, because we focus so obsessively on fuels.

That's partly because so many powerful and influential groups in society, not just companies but entire countries, now gain their revenue by producing and selling fuels. The last thing they want is for us to improve our user-technology, because that would reduce the amount of fuel we have to buy, and so reduce their revenues. That's not the fault of the companies; they play by the rules our governments make, according to the energy story we all accept. That's why we now need to change the story. Changing the energy story will be a key to sustainable living in the future.

To begin with let's change the focus of energy policy, away from buying and selling fuel to upgrading our user-technology and infrastructure. What we need above all are not short-term commodity transactions but longer-term investments, especially in better buildings and what's in them. We need to make this the most important form of energy business, with incentives and relationships to match.

Then let's change electricity. The traditional electricity story is about enormous remote dirty power stations feeding long, unsightly and vulnerable power lines. The story is more than a century old, based on ideas dating back to Thomas Edison. It's out of date, inadequate and dangerous. It endangers the security of supply of our energy services, our climate and global equity. More than two billion people are still without electric light; traditional electricity will never reach them. Those of us in rich countries, with our decrepit power stations and corroding cables, are going to have more and more trouble keeping the lights on.

Fortunately, however, a new electricity story is now emerging. You've probably heard bits of it already - about 'smart grids', micropower, making your own house a power station and so on. Most people use electricity without thinking about it. But if you do start thinking about electricity, and how much better we can produce and use it, you may become convinced, as I have, not only that the traditional *electricity* story no longer suffices, but that we need to revise our whole story about energy in human society.

It should not be a story about costs and threats, about price rises and power cuts, about melting glaciers and rising seas. It should be a story about exciting opportunities there for the taking. We need a new energy story for the twenty-first century. Let's write it.

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