

# The burning issue

Walt Patterson says fire is at the root of our climate problems and it is time we faced up to it

Is climate complicated? Yes – except in one key respect. Countless reams of disputed text preceded the Paris Agreement of December 2015. Media coverage before, during and after the summit was hectic with controversy. Yet all the furious disputation that surrounds the climate issue can be traced back to a single common four-letter word. The word is *fire*.

Why fire? In the headlong climate debate worldwide, no one talks about fire. They talk about fossil fuels, about emissions, about carbon dioxide, about increasing global temperature, about floods and droughts, about sea-level rise, about melting glaciers and collapsing ice sheets. These, however, are symptoms of what is wrong. They are not the cause. Somehow the commentators fail to notice or remark that all of these factors arise because of *fire*.

ExxonMobil, BP, Shell and Saudi Aramco do not produce petroleum to make lubricants and plastics, although they could. They produce petroleum mainly for us to burn. No one even thinks of the useful molecular structure of coal. Peabody, BHP and Glencore gouge the landscape and blow the tops off mountains to produce coal for us to burn. The frackers extracting natural gas expect to sell it for us to burn. Vast worldwide enterprise is devoted to feeding fire.

Fire predates us; our Neanderthal precursors used fire. We *Homo sapiens* evolved with fire. It has been a critical factor in developing human society, allowing us to make light, to cook, to bake ceramics and smelt metals. Even now, we still think of fire as cosy and welcoming. But fire is a violent, extreme process. It produces heat at a temperatures so high it's dangerous. Fire turns resources rapidly into waste, usually pernicious. Yet because we have always used fire, we have never accurately costed its deleterious consequences. We take them for granted, as though we had no alternative.

We do have an alternative. With the help

of fire we have learnt to control electricity. With electricity we can now do most of what we used to do with fire. We make light not by burning oil but with electric lamps. We exert force not with the fire of steam engines but with electric motors. We are even beginning to move people and goods not with fire – internal combustion – but with electric vehicles. Perhaps most important of all, we now manage information with electricity in electronics, expanding at a rate we can hardly comprehend.

Fire is a chemical process. It destroys the material it happens in. Electricity is a physical process. It does not alter the material it happens in, nor does it produce pernicious waste. Electricity could save us the damage fire is doing – except for one awkward detail. We still make most of our electricity with fire.

We don't have to. We have known for two centuries how to produce electricity without fire, from chemical batteries, then from moving wires, and more recently from sunlight. Today we have a rapidly expanding shopping list of fire-free electricity from water power, wind power and solar power, in many versions, with costs decreasing and performance increasing. But we still allow planners to call fire-based, coal-burning electricity 'cheaper', even as it suffocates cities and upsets the climate we have to live with.

That is another corollary of fire. Its unwelcome consequences are not just gradual, long-term and global, as is the case for climate. Fire under indoor cooking pots and in kerosene lamps in rural villages in Africa and Asia kills millions of women and children each year. Fire is also the reason you can't breathe today in Beijing or Delhi. Some sceptics say we should focus on these immediate local issues, rather than climate. But both local and global issues arise from the same ultimate cause. Locally as well as globally we have let fire get out of control.

What can we do about this? Much of the commentary around the climate issue talks





**A scrap metal recycler burns rubber off electrical wiring in Banda Aceh**

of the emerging transition to a different way of doing what we do – a ‘low-carbon economy’, a ‘fossil-free future’ and so on. However, once we acknowledge the central role of fire, we can describe what we need to do coherently. First, we need to stop wasting fuel and electricity – that is, stop using fire unnecessarily. That means above all getting serious about improving our inadequate buildings, so they no longer need so much fire-based heating and cooling. Second, we need to switch from using fire to using electricity, especially in industry and transport. Third, we need to switch from fire-based to fire-free electricity.

All of these transitions are already under way. Together they constitute a coherent programme of policies and measures that we need to adopt, accelerate and disseminate as rapidly and as widely as possible. We have to challenge spurious comparisons of cost and ‘subsidies’ that ignore the damage wrought by fire. Governments have always been more financially generous to fossil fuels, than to fire-free renewable electricity. That has to change.

Fire insurance was one of the oldest forms of risk management. Global fire insurance, investment to cope with the global threat of fire, is now crucial. As the cost of fire-free electricity continues to fall, the opportunities for technological and financial innovation are burgeoning, with new business models, transactions and arrangements. An appealing vision of an electric future, ever more free of fire, is steadily taking shape. But innovators face fierce opposition from those who derive financial and political clout from feeding fire. The confrontation is neither technological, nor economic. It is fundamentally political – a political battle we can’t afford to lose.

In essence, all the different policies and measures supporting the Paris Agreement – the Nationally Determined Contributions, the financial framework, the undertakings and commitments – are a form of fire-fighting. So are national and civic laws and regulations about air quality. To keep our air safe enough to breathe, to keep our only planet cool enough to live on, we have to put out the fire.

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