You have to feel sorry for pundits. Just when they think they have established their trend lines and factored in their variables, along comes a Donald Trump or Bernie Sanders or some Austrian neo-Nazi megalomaniac to disturb a well-established plot. The same thing has happened in the world of energy economics. A quiet revolution, one to rival the digital revolution three decades ago, has been occurring for years right under their noses and most pundits didn’t recognize it. Not only did they not recognise it but the business owners whose fortunes depended on reading the signs did not. Perhaps this is the hallmark of any revolution: that those whose vested interest in the Old order, who frequent the same business and social bubbles that reinforce their prejudices and distort their capacity for reason will not accurately read the signs and consequently, will become the victims of cataclysmic events. They will keep repeating mantras like, “Renewable energy will never provide baseload power”, or “Renewable energy is too expensive” as the liquidators move in.

Not that the only portents were technological. Certainly we have seen major advances in solar technology and with battery storage and electric cars but it was also possible to predict the plunging demand for coal from China which has been insisting for years it was going to transition from an energy-intensive manufacturing country to one with a much higher services sector. Instead of taking stock of their basic assumption many pundits simply moved their hopes for coal export markets from China to India, conveniently ignoring repeated assurances from Indian Government sources that they would phase out all imported coal in a few years and they were going to put enormous efforts into renewables.

Nevertheless, the fossil fuel industries are still powerful and capable of putting up a fight to the end and, even if significant transition is made over the next decade to renewables, it is still likely that we will simply see fossil fuel multinational corporations replaced by large, powerful renewable energy corporations with little or no community involvement or ownership of the process. To make the transition from fossil fuels to renewables as quickly and efficiently as possible there need to be mass movements that stop coal, oil and gas mining, pressure for divestment from fossil fuels and pressure governments for radical policy changes. These social movements will merge over the next decade with other, more positive ones that mobilise around the call for economic development initiatives that emphasise the values of democracy, sustainability,community and fairness. Energy policy should focus on neighbourhood power systems, agriculture and tourism on sustainable practices and natural resource exploitation on the recognition of environmental limits and the needs of future generations. More broadly, a judicious mixture of government intervention and markets – a recipe detested by the neo-liberals – will be needed to bring fairness and accountability to the system. Such a system should be jobs-rich; have in-built flexibility to promote innovation and diverse family and social arrangements; provide welfare and other measures to ensure some in society are not left behind in a changing environment or by such events as disastrous climate change; and enable workers to have a strong say in the direction of their enterprises and communities a strong involvement in determining their futures.

In the meantime there will also be many new-economy jobs fixing up the mess that the old economy left behind. Mining in Queensland is one such area, especially coal mining. If we take the coal-rich Bowen Basin for example, there are over 40 coal mines with 94,600 square kilometres of land disturbed by mining. Rehabilitating such sites involves re-shaping and re-contouring spoil heaps and waste rock dumps, covering tailings dams to prevent leakage of often highly toxic material, and dealing with large voids left over after open cut mining has finished. These voids often contain high levels of acid, heavy metals or salt. Progressive rehabilitation of the sites is usually specified in environmental authorities for the mines but this is rarely done in any sort of systematic way and experts estimate there would be less than 20 per cent of all the sites in the Bowen Basin rehabilitated. Estimates of the costs involved in rehabilitating these Bowen basin mines vary from $8bn to $16bn, depending on the assumptions made about the standards applied and the unit costs involved. Queensland governments have been notoriously lax about collecting adequate security bonds (now called financial assurances) from the companies and, over the years, many companies have been allowed to simply walk away from their mines without doing any or adequate rehabilitation. To the credit of the current Labor government the financial assurances for all mining in the state has been increased to $4.6m but this is still well short of a figure that would ensure taxpayers did not have to foot the bill. The Palaszczuk government has also passed through the Parliament amendments to the *Environmental Protection Act* that enable it to trace back the chain of responsibility for any mine where the owners have walked away from their rehabilitation responsibilities. That is important because we already have something like 15,000 abandoned mines in the state, about 400 of which are “high risk”.

It is important to know this background because we need to recognise that interventionist government and regulatory enforcement are essential to the creation of so many jobs in the new economy and certainly they are in the area of rehabilitating mine sites. Rehabilitation is not something that companies should be free to choose to do. It is part of the obligations they sign up to when they are given approval to extract minerals which belong to the people and are administered by the state. Now some of these regulations are weak and enforcement of them has been puerile but, nevertheless, they exist, they are just as much a part of the law of the land as prohibitions against assault and robbery, and they should be enforced. It is also important to remember that the financial assurances lodged by companies do not comprise the money that is supposed to be used for rehabilitation. It is there only to cover the possibility of a company going belly-up and leaving a substantial backlog. In fact the companies should be using their own money and doing the rehabilitation progressively as areas become available. Therefore private money, backed by financial assurances and regulatory enforcement can create thousands of jobs in regional Queensland. The key to creating this situation is motivating the companies to change their cultures so that chief financial officers no longer see environmental management issues as an optional extra but as an integral part of their operations that must occupy the front part of their brains along with other more purely profit-making concerns.

My colleagues and I have been working on a case study of Blair Athol, a very old mine in central Queensland which has not been worked since 2012. The mine has 1166ha still to rehabilitate and only 14 workers are left on site after 170 were sacked in 2012. The State Government has $79m in financial assurances but we estimate the real cost of doing the job properly would be more than twice that sum. No matter, the owners, Rio, have provisioning of about $9bn for all their rehabilitation commitments so there should be enough money in their kitty to cover the cost for Blair Athol. If they started now, given they clearly have no intention of ever mining coal there again, they would, on our estimation, create about 40 full-time jobs for the next 6-10 years. Multiply that across the Bowen Basin and there would be something like 2000-3000 jobs created at a time when no one is being employed in mining in regional Queensland. For the first time I can remember I can walk into a Government Minister’s office and say, “I can show you how to protect the environment **and** create jobs.”