

Preparing for a breakthrough in coal

Technology and Australian leadership can change the climate outlook, writes **Martin Ferguson**.

The 21st century may be only nine years old, yet it's not too early to suggest it may come to be defined by the twin challenges of delivering both clean and secure energy supplies.

Energy security is also at the heart of solving the world's water and food crisis. The solution to that crisis lies in mechanised irrigation and water-harvesting technologies, and in modern agricultural technologies — all dependent on access to reliable, affordable and secure energy supplies.

There are now 1.6 billion people in the world who have no access to electricity and 1.1 billion without clean drinking water. As the developed world grapples with the climate change challenge and our transition to a low-carbon energy future, we cannot afford to lose sight of the bigger picture or our greater obligations.

Australia, of course, has an extremely significant role to play as the nations on our northern doorstep work to lift hundreds of millions of people out of poverty. We are an energy-rich nation with — at today's production and economic reserve levels — 160 years of natural gas and coal-seam methane, 140 years of uranium,

more than 100 years of black coal and more than 500 years of brown coal resources.

If we could bring the weight of human innovation to bear in creating clean, efficient energy products from brown coal, that alone would solve the world's energy problems for half a millennium. That is why recent reports about technology developments that would allow the possible exporting of Victorian brown coal to India are so exciting.

Australia has a moral obligation to contribute to a global response to climate change. However, to best determine what this contribution might look like, Australia must keep an open mind. The challenge is to look at our vast resources not as they have been used in the past, but how they might be used in the future.

Technology created today's problems and technology will be the solution.

It is not through the withholding of resources such as coal (either black or brown) that we can assist in cutting global CO₂ emissions. Withdrawing supply is unlikely to either alter demand or reduce emissions. Rather it is through our global leadership role in the deployment of carbon capture and storage (CCS) technologies, the expansion of our uranium and liquefied natural gas (LNG) sectors, and our multibillion-dollar investment in clean energy technologies — including renewables and energy efficiency — that our greatest contributions will be made.

Australia has roughly 40 per cent of the world's uranium and the capacity to be the world's largest exporter of this zero-emission fuel. The domestic industry has recently been constrained, but a combination of growing global demand and a changing domestic environment for Australian miners will hopefully see it grow strongly and contribute to global CO₂ abatement efforts.

Australia is already the world's fifth-largest exporter of LNG. With Gorgon and Pluto coming on stream, exports will more than double to about \$24 billion by 2018.

Yet coal will remain the chief energy source this century.

The cold, hard reality is that we will not make any impact on global CO₂ emissions if we don't clean up coal.

China's coal production (mostly brown coal) now exceeds that of all International Energy Agency member countries combined. In 2007, China produced more than 32 per cent of the world's coal-fired electricity. Over recent years, it has added new coal-fired generation at a rate that replicates Australia's entire coal-fired power sector every four months. In the coming decade China will bring on line something in the order of 1000 average-sized coal-fired power stations.

IEA forecasts show the proportion of global energy produced by coal increasing, not decreasing, throughout the coming three decades. That is not to say that

we should abandon hopes of a renewable energy future, but the cold, hard reality is that we will not make any impact on global CO₂ emissions if we don't clean up coal.

It is also important we remember coal is not solely used for electricity. Australian coking coal fuels the steel mills of Japan, China, Korea and India and our exports are forecast to grow by about 30 per cent in just the next five years. Coal is fuelling the rapid industrialisation and building the infrastructure of the developing world, and no substitute for coal or steel is anywhere on the horizon.

I attended an IEA ministerial meeting in Paris last week and it was

clear that the focus of global leaders is not on the reduction of coal consumption but the reduction of coal emissions. The international community accepts that coal and gas are fundamental sources of energy, and as we prepare for the Copenhagen climate change talks, it is becoming increasingly clear that no serious response to climate change can ignore the need to accept fossil fuels as part of our shared future.

IEA members are going to Copenhagen with an absolute acceptance that technology is central to the climate change problem.

The Australian government's objective is to invest in a clean energy

strategy which doesn't pick winners, yet acknowledges the need to make technological breakthroughs across a wide range of energy options. The government's investment of more than \$2 billion in renewable energy technologies in Australia will make them grow in importance.

The \$1.5 billion solar flagships program will mean that Australia has some of the biggest solar power stations on the planet by about 2015. And the renewable energy target is worth \$20 billion in assisting the industry between now and 2020, when renewables will constitute 20 per cent of the nation's energy supply. But this also highlights the significance of our need to clean up the remaining 80 per cent.

Through the creation and funding of the Global Carbon Capture and Storage Institute and the establishment of the \$2.4 billion CCS flagships initiative, Australia has taken a global leadership role. Australia is also set to be home to what will now be the world's biggest commercial CCS project, in the Gorgon gas project.

Our challenge is to make the required technical breakthroughs to get such industrial-scale projects into the world's coal sector.

Such breakthroughs are critical if we are to reduce global CO₂ emissions while guaranteeing the energy security and economic growth we desire.

■ *Martin Ferguson is federal Minister for Resources, Energy and Tourism.*