



Climate Change: Countries Acting Now

1 International Action

Most countries—and all the major emitters—are acting now.

Countries have a tailored mix of actions in place.

Carbon pricing is in place in many countries.

Investment in clean energy and energy efficiency continues to grow.

Many countries—and all the major emitters—are acting now to reduce greenhouse gas emissions. Countries have started this transformation to take advantage of the opportunities stemming from the next stage of global development that will be powered by clean energy.

A broad range of countries have introduced, or are planning, market based emissions trading schemes and carbon taxes. Australia's top five trading partners—China, Japan, the United States (US), the Republic of Korea and India—and another six of our top twenty trading partners (New Zealand, the UK, Germany, Italy, France and the Netherlands) have implemented or are piloting carbon trading or taxation schemes at national, state or the city level.

Many countries have renewable energy targets, including fourteen of Australia's top twenty trading partners. Energy performance standards for appliances, buildings and industrial plants, as well as incentives for the use and development of low emission products and technologies are now widespread.

Figure 1.1 Implemented and planned climate change actions in major emitting economies

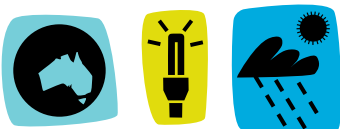
Country	Carbon Pricing	Clean Energy	Energy Efficiency		Transport	Per cent of Global Emissions [†]
		Renewables Target	Appliance and Building Standards*	Energy Efficiency Obligation [#]	Vehicle Performance Standards	
Australia	●	●	●	●	●	1.5
Brazil		●	●	●		2.7
Canada	●	●	●		●	2.0
China	●	●	●		●	19.1
European Union	●	●	●	●	●	13.4
India coal tax	●	●	●	●	●	4.9
Indonesia		●	●			1.5
Japan pilot	●	●	●		●	3.6
Mexico		●	●		●	1.7
Russian Federation		●	●			5.2
South Africa		●	●	●		1.1
Republic of Korea pilot	●	●	●		●	1.5
United States	●	●	●	●	●	18.3

● State-based action
 ● National action
 ● Planned nationally

Total: 76.5%

* Includes residential and commercial buildings. # Includes energy efficiency trading markets. † 2005, excluding land use, land use change and forestry.

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Countries have a policy mix tailored to national circumstances because:

- The make-up of national emissions is different across countries—factors such as climate, geography, the types of industry and businesses, and the availability and cost of fossil fuel and renewable resources, mean that some types of emissions are larger than others.
- Countries have different social, cultural, economic and political circumstances that influence the types of actions that they can and do put in place.

Carbon Pricing

There are carbon pricing policies operating in many countries and planned or piloted schemes in others—both nationally and targeting specific sectors. The EU has had an emissions trading scheme since 2005, which covers half a billion people. Schemes also operate in Switzerland and New Zealand. In Asia, Japan and South Korea are piloting voluntary emissions trading schemes. South Korea also introduced economy-wide mandatory emissions trading legislation into its Parliament in April 2011 to commence in 2015 and is seeking to pass this legislation this year.

Carbon taxation is in place in the UK, Denmark, Finland, Ireland, Norway, Sweden, the Netherlands, Switzerland and Canada—and under discussion in Japan and South Africa. India has a clean energy tax on coal that will raise half a billion dollars of revenue annually for clean technology development. The EU is considering an additional carbon tax to cover, from 2013, many sources of emissions which are currently not included in its emissions trading scheme.

There are active carbon price policies at the state and city level in many countries. China has announced it will introduce emissions trading progressively, commencing in a number of key cities and provinces, including Beijing, Shanghai and Guangdong (covering well over 100 million people). In the US, a coalition of eastern states (with a combined population of around 40 million) participate in an emissions trading scheme covering the power sector. California—the world's eighth largest economy—will start a carbon trading scheme in 2012, and is working with four Canadian provinces to progressively establish a regional trading market from 2012 onward.

Emissions pricing has mobilised the private sector. The global carbon market was worth US\$142 billion in 2010—up from just US\$30 billion in 2006. Among other things, this market has delivered over 3000 clean development projects in developing countries.

Clean Energy

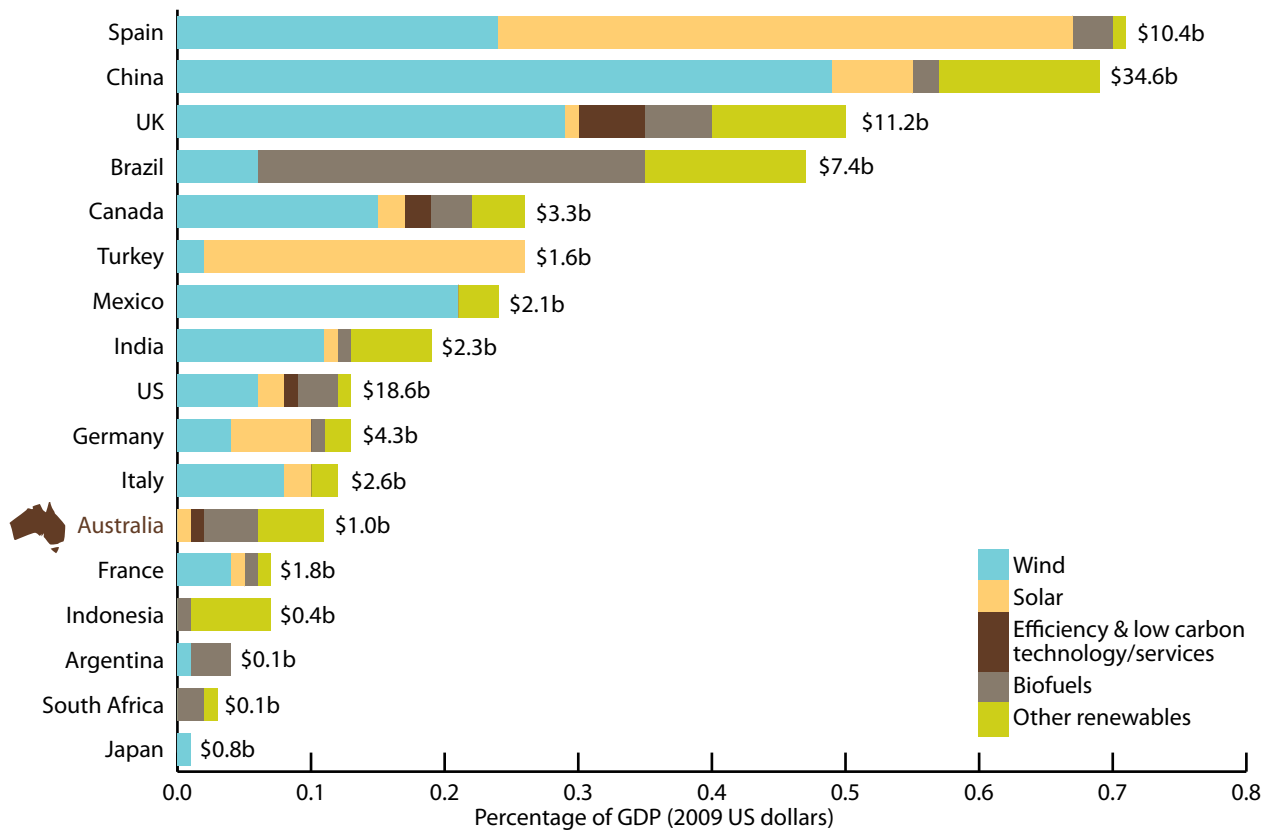
Billions of dollars of investment is flowing to develop and deploy clean energy. In 2009, large scale investment in the clean energy sector included US\$34.6 billion in China, US\$18.6 billion in the US and US\$1 billion in Australia (figure 1.2). Global clean energy investment now exceeds investment in fossil fuel generation.

Renewable energy is a priority for many governments because of climate change and other environmental goals, as well as energy supply concerns. Apart from Australia, there are legislated or planned renewable energy targets in over 85 countries, more than half of which are in developing countries. This includes Thailand's 20 per cent of renewable energy target by 2022 and India's 2022 aim of installing 20 gigawatts of solar energy.

The move to clean energy is helping to drive action in the traditional energy sector. The efficiency of existing power plants is improving in many regions and the next generation of power stations are being designed to meet low carbon standards.

In the UK new coal and gas power stations must be capable of using future technology which captures carbon dioxide emissions. The US is phasing in performance regulations for power stations. China has installed new high efficiency plants and decommissioned over 70 gigawatts of inefficient power plants since 2005—more than Australia's total electrical generation capacity of 50 gigawatts in 2010.

Figure 1.2 Investment in the clean energy sector in selected economies (2009)¹

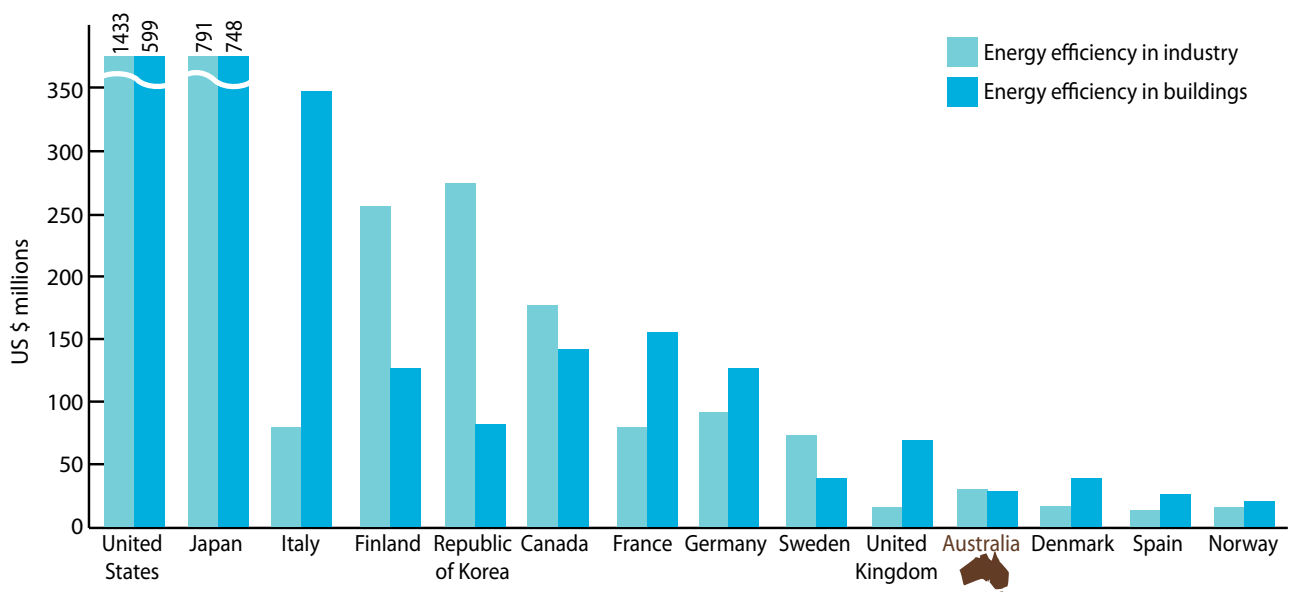


Source: Adapted from Who's Winning the Clean Energy Race? (The PEW Charitable Trust, 2010) using GDP data for 2009 in current US dollars from the International Monetary Fund Economic Database 2011.

Energy Efficiency

Countries are using energy more efficiently and cutting energy waste in efforts to save money, drive productivity and cut emissions (figure 1.3).

Figure 1.3 Cumulative public spending on energy efficiency in buildings and industry between 2005 and 2010



Source: Clean Energy Progress Report 2011 (International Energy Agency)

¹ The figures exclude nuclear, hydro and research and development investment. The total investment is 2009 and the sector break down is from 2005-2009.



Energy efficiency building codes are now in place in many countries, including Australia. The UK has regulated all new homes to be zero-emission for heating, hot water, cooling and lighting from 2016. Russia has a US\$8 billion program for modernising its building stock, including energy efficiency improvements. Industry is becoming more efficient.

In China the 1000 largest state owned enterprises—accounting for 47 per cent of the country’s industrial energy use—have been directed to improve their energy intensity. In particular, Chinese industries, including aluminium, face penalties in the form of more expensive electricity surcharges if they do not meet specified energy performance standards.

Equipment and appliance performance standards and labelling schemes are now commonplace in many countries including Australia. The mass scale replacement of inefficient equipment and appliances is underway. Mexico has an energy efficiency project distributing up to 47 million energy saving lights to households. In Brazil a national program aims to replace one million inefficient refrigerators annually. Brazil is also improving the efficiency of 9 million public lights to save 2,550 gigawatt hours of energy per year—equivalent to the average yearly electricity consumption of over 364,000 Australian homes.

Energy efficiency trading markets are a key part of many countries’ climate change efforts, particularly in France, Italy and the UK. In 2011 India will start an energy efficiency market covering around 500 companies with the aim of cutting 25 million tonnes of carbon emissions annually by 2014.

In the transport sector countries have strengthened fuel efficiency standards and many are moving to the next generation of clean vehicles. In India 400,000 electric vehicles are expected on the road by 2020. The US is aiming to produce one million electric vehicles that have lower emissions per kilometre by 2015.

Figure 1.4 An Australian energy efficiency rating label for household appliances

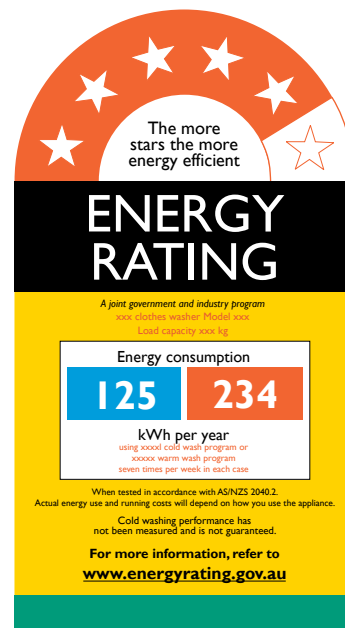
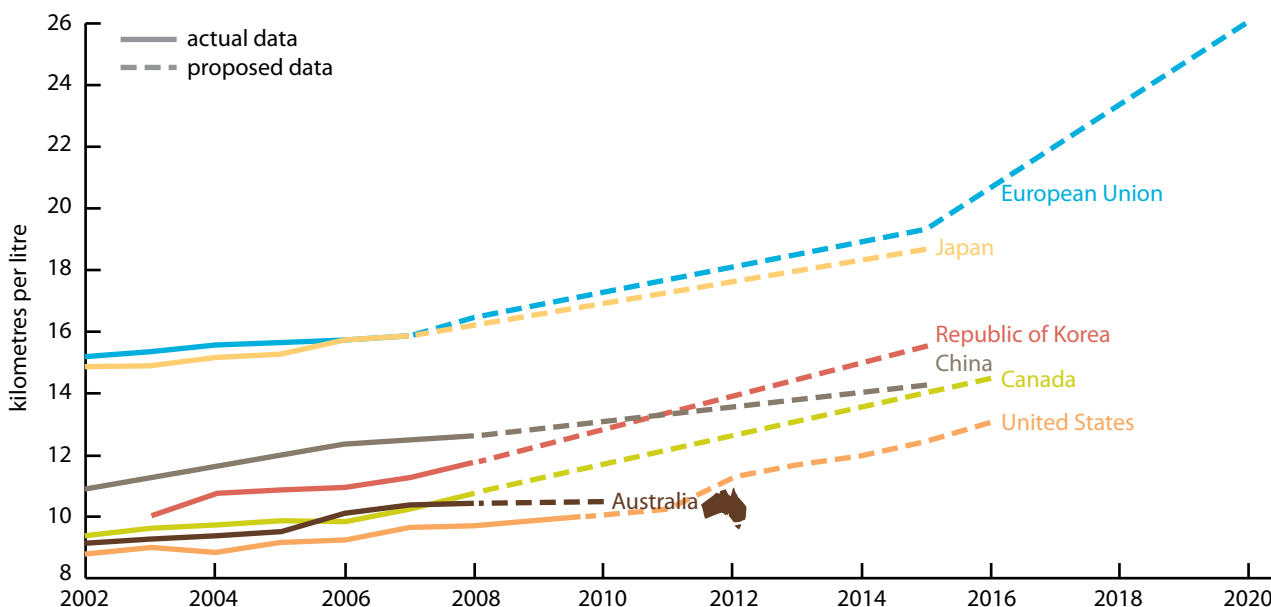


Figure 1.5 Implemented and proposed fuel efficiency standards of passenger vehicles



Source: Prime Minister’s Task Group Report on Energy Efficiency, 2010.

For more information on what the Australian Government and other countries are doing on climate change go to www.climatechange.gov.au.