

Green collar workforce the key to a triple bottom line



Director of the Climate Adaptation Flagship, Dr Andrew Ash inspects a trial native tree plantation. Australia will need to take measures to support the skills revolution required for a low-carbon, environmentally sustainable society. CSIRO Sustainable Ecosystems

What will Australia's workforce look like in a low-carbon future? Modelling by CSIRO is revealing how policy choices will shape our economy, workforce and environment over the next 50 years.

Human resources are central to achieving sustainability and human capital is the most valuable component of economic wealth, accounting for more than 75 per cent of the total asset base of high-income nations.

The recent CSIRO report, 'Growing the green collar economy', commissioned by the Dusseldorp Skills Forum, shows that transitioning to a low-carbon economy will require not only emissions-mitigation and adaptation strategies by business and the community, but a 'green skills' revolution in the Australian workforce.

According to CSIRO's Dr Heinz Schandl, the research concluded that making deep cuts in Australia's greenhouse emissions would have little impact on national employment. The economic modelling indicated strong employment growth for Australia over coming decades. Under low-carbon scenarios, while economic growth and employment continued at rates approximating those of the 'business as usual' approach to greenhouse emissions, key environmental pressures were reduced.

'This means that we can decouple economic growth from environmental

impact if we put the right policies in place,' said Dr Schandl.

'Achieving the transition to a low-carbon economy will require a massive mobilisation of skills and training for our green collar workers, those who work in key sectors influencing our environmental footprint. This will involve concerted action by government, business, labour, and educational and training institutions to develop and implement new approaches to green education, training and jobs.

'There is a triple dividend of greater wellbeing, cost-saving and reduced environmental impact to be earned if Australia takes measures to support the skills revolution required for a low-carbon, environmentally sustainable society.'

'Growing the green collar economy' projected an increase of 2.5–3.3 million jobs over the next two decades if Australia adopts a 'sustainable future' policy framework.

Employment in sectors with high potential environmental impacts – energy, construction and housing, transport and mobility, crop and livestock production, and nutrition – stand to grow strongly, with projected increases of more than 10 per cent over 10 years. Projections are for 230 000–340 000 additional jobs in the transport, construction, agriculture, manufacturing and mining sectors, with employment in construction and transport

expected to grow much faster than the national average.

'Supporting a low-carbon transition will require a fundamental change in the organisation, design and actual activities in these sectors,' said Dr Schandl. 'It depends upon the right incentives being put in place as well as on the human and leadership capacity to head toward sustainability.'

The CSIRO modelling used two different national models: CSIRO's Australian Stocks and Flows Framework (ASFF), which takes a 'physical economy' approach; and an alternative 'monetary economy' model.

Physical models take into account the impact of policies on the availability of natural resources such as water, fossil fuels, forests and biodiversity to meet future demands for food, housing and other 'physical' inputs to economic activity. The ASFF uses an integrated database of the physical economy in Australia from 1941 to 2001 and can be used to explore long-term (50–100 years) issues.

The policy strategies explored in 'Growing the green collar economy' were based on reducing material and energy flows in material- and emission-intensive sectors. Changes included shifting from coal-powered electricity to gas and renewables over the period to 2050; shifting to more efficient transport options; reducing extraction and export of minerals and energy commodities from 2030; increasing energy efficiency of buildings; and changing eating habits toward healthy, fresh food by increasing fruit, vegetables and cereal consumption and reducing meat consumption.

The modelling assessed the impacts of policy strategies on the economy's physical stocks – for example, buildings, vehicles and people – and physical flows such as employment, materials, energy and carbon emissions. This will enable Australia's decision-makers to 'test the implications of different policy decisions as we head toward a stronger economy, higher living standards and a healthier environment,' concluded Dr Schandl.

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More information:

'Growing the green collar economy' report, www.csiro.au/resources/GreenCollarReport