



Australian Government



COAG
Energy Council

National Energy Productivity Plan: Work Plan

More Productive Consumer Choices

Efficient incentives

1. Transition to cost-reflective pricing

Status: Ongoing

Owner: COAG Energy Council

More efficient pricing and incentives are needed as a key basis to improve the productivity of consumer decisions, to improve network utilisation and to reduce investment over time in inefficient services and network and generation infrastructure.

The Council remains committed to the ongoing need for network tariff reform to support better price signals for network investment, to provide greater options for consumers to manage their energy usage and to facilitate the integration of new technologies. The Council considers that it is important that reform is introduced in a way that supports consumers to make decisions that are best suited to their needs. This includes being able to understand new tariffs, how tariffs affect their own circumstances and being in a position to respond. This support must include a range of supporting tools and targeted communication (Measure 3: Make Choice Easier).

The Council acknowledges that network businesses are engaging with customers to commence the implementation of more cost reflective tariffs in 2017. Progress on price signalling to customers will be continually monitored.

2. a. Market mechanisms to capture societal benefits - Jurisdictional schemes

Status: Ongoing/expansion

Owner: Jurisdictions

Many jurisdictions already have in place market measures to increase the uptake of cost-effective measures - including the New South Wales (NSW) Energy Savings Scheme (ESS), the Victorian Energy Efficiency Target (VEET) scheme, the South Australian (SA) Retailer Energy Efficiency Scheme (REES), and the Australian Capital Territory (ACT) Energy Efficiency Improvement Scheme (EEIS).

The governments of Victoria, NSW, SA and the ACT are working together to improve and maximise the benefits to consumers from their respective energy efficiency schemes.

These Governments agree to align activities and reduce red tape where appropriate, while ensuring that schemes continue to deliver the high quality outcomes that consumers expect. This will help to expand opportunities for consumers to reduce their energy costs, and continue to grow jobs and skills in each state or territory's energy efficiency sector.

The Northern Territory, Queensland, Tasmania, and Western Australia do not presently have market-based energy efficiency schemes. If these jurisdictions decide to introduce an energy efficiency scheme, the Council encourages them to align with existing schemes to maximise market benefits across jurisdictions.

2. b. Market mechanisms to capture societal benefits

- Emissions Reduction Fund and safeguard mechanism

Status: *Ongoing/expansion*

Owner: *Commonwealth*

The Commonwealth has an existing suite of policies to create efficient incentives to encourage the deployment of modern energy technologies. These include the Emissions Reduction Fund (the Fund) and the Renewable Energy Target and a range of projects currently supported under the Clean Energy Finance Corporation and Australian Renewable Energy Agency. These policies have the dual benefit of contributing both to Australia's emission reduction targets and the National Energy Productivity Target.

The Fund and its safeguard mechanism are at the core of Australia's efforts to meet its emissions reduction target. The Fund allows companies, both energy users and existing power stations, to gain funding to deploy low emission technologies through a competitive reverse auction mechanism. Power stations can deploy low emissions technologies to reduce emissions at their own facilities or to reduce emissions in the electricity grid they are connected to.

The Commonwealth has recently announced plans to develop new methods under the Fund that will create additional opportunities to participate in future auctions. Activities that will be considered for potential method development may provide further opportunities for participation in the Fund, including across areas that can improve energy productivity such as energy efficiency and transport sectors. Examples of activities include those that improve the energy efficiency performance of existing public buildings, schools, hospitals and retirement villages; energy efficiency improvements to pumping systems used in operations such as food manufacturing, minerals processing and agriculture; and activities which support mode shifting of freight for example from road to rail.

The list of priority activities and information on methods currently under development is available on the Department of the Environment's website at: www.environment.gov.au/climate-change/emissions-reduction-fund/methods/method-development.

The Fund's safeguard mechanism will also encourage new entrant industrial users and power stations that start after 2020 to keep their direct emissions levels at best practice. After the safeguard rules are made, the Commonwealth will be commencing work on the establishment of best practice emissions benchmarks for industrial sectors, including electricity generation. This will encourage power stations to deploy technologies that achieve best practice emissions levels and improve energy productivity. The Commonwealth aims to complete the first tranche of benchmarks by 31 December 2016.

2. c. Market mechanisms to capture societal benefits

- Renewable Energy Target

Status: *Ongoing*

Owner: *Commonwealth*

The Commonwealth's Renewable Energy Target complements the Fund in providing incentives to support the benefits of increasing uptake of renewable energy.

The Commonwealth recently revised the Renewable Energy Target in light of energy market conditions and restructured the scheme for the benefit of energy consumers. The revised scheme is expected to benefit the energy market as a whole and lead to better energy productivity

outcomes. It continues to support households and businesses investing in renewable technologies. Estimates indicate that around 23.5 per cent of Australia's electricity generation in 2020 will come from renewable energy sources under the scheme.

Empowering consumers

3. Make choice easier

Status: New

Owner: COAG Energy Council

The Council recognises that the current market transition with increasing choice in energy services, tariffs and technologies can provide strong consumer benefits by allowing consumers to choose services which most suit them and providing more options in managing energy costs.

However, this greater choice also increases complexity and could increase risks of bill shock for some consumers. Choice needs to be supported by the right tools and customer information to avoid adverse impacts.

Research across market bodies, industry, academia, and consumer organisations note that most consumers could lower their energy costs substantively today, but many are unfamiliar or lacking experience in the options being provided by new services or products (like flexible pricing) or lack the appropriate information or tools to evaluate the benefits effectively.

In order to make consumer choices easier and familiar to consumers, and to promote consumer action to better manage their energy costs, the Council, in consultation with stakeholders and Energy Consumers Australia, will undertake a comprehensive review of the total energy consumer journey. This review will explore the full breadth of energy consumer decisions on energy, the basis for those everyday decisions, and how in aggregate consumers view 'managing' energy costs. This may include decisions from: choosing electricity or gas tariffs or distributed energy sources; choosing to purchase assets or services that use energy like appliances, equipment, vehicles and buildings; choosing how/when to use their equipment and energy on a daily basis; and how consumers seek or consider feedback on their use through their bills or new types of services like in-home displays or apps.

The Council recognises and strongly supports the development of market driven information tools and services, which support greater competition and informed choice. It notes that service providers, including energy retailers, are already developing innovative tools and services to assist customers. The Council will engage with stakeholders regarding whether there are any barriers to further innovation in the development of such tools and services (such as access to data in a timely and cost effective manner).

Government also plays a role in providing many sources of tools and information, such as product labels and comparator tools like the Australian Energy Regulator's (AER) Energy Made Easy. The Council will review these tools in the light of changing market needs and new products and services.

The Victorian Government has also recently launched the independent "Victorian Energy Compare" price comparison website which enables customers to compare electricity, solar and gas offers.

The first stage of this review will be completed by the end of 2016.

4. Support best practice services for vulnerable consumers

Status: *New*

Owner: *Commonwealth*

The Commonwealth is currently supporting a wide range of valuable research-based pilots on delivering better energy productivity services to support different vulnerable consumer groups. These include pilots with indigenous communities, refugees, remote and regional groups, the elderly and young consumers, and low income groups. These pilots will be delivering research results in mid-2016.

Building on these pilots, the Commonwealth commits to working with Energy Consumers Australia and stakeholders to develop a best practice voluntary guideline for service providers aimed at reducing the barriers to vulnerable consumers effectively engaging with energy productivity measures and services. This work will report back by the end of 2016.

Note this work stream aims to focus on measures which can improve energy productivity opportunities for these consumers, rather than reviewing the wider range of energy related concessions or rebates or related assistance policies. These measures are delivered by jurisdictions and vary widely. The Council acknowledges that jurisdictions have a range of important programmes in this space.

The Council acknowledges that industry players and other stakeholders are also undertaking targeted work in this area, including the Energy Retailers Association of Australia affordability forum and work underway through Energy Consumers Australia such as its rethinking disconnections work stream.

5. Improve residential building energy ratings and disclosure

Status: *New*

Owner: *COAG Energy Council*

The Council recognises that many homeowners and tenants are choosing homes to buy or rent or are renovating their homes without adequate information about their expected energy performance, comfort and likely future energy costs.

The Council will work with the buildings sector to research options and consider a range of different tools and measures to improve information for residential buildings, including the costs and benefits of disclosure requirements. This will include consideration in any scheme of the impacts of new technologies in building energy performance, such as distributed generation, storage, advanced metering or other energy related fixed appliances and equipment. This work will report back by the end of 2016 with options for implementing a national approach to residential building energy ratings and disclosure.

This work stream will examine and build upon Victoria's Residential Efficiency Scorecard and research by the Cooperative Research Centre for Low Carbon Living, as well as learning from existing programmes such as in the ACT.

It will also be informed by an international review of the effectiveness of existing building energy disclosure measures and their operating models. This review will be undertaken by the Commonwealth working through the international Buildings Energy Efficiency Task group of the International Partnership for Energy Efficiency Cooperation and will be complete in 2016.

Helping business compete

6. Help business self-manage energy costs

Status: *New*

Owner: *Commonwealth*

The Council recognises that energy productivity improvements in the small and medium sized business sector are particularly difficult where options need to be highly tailored and businesses are time-poor. However improvements in this sector also have strong impacts on wider economic productivity, savings and jobs through co-benefits such as improved equipment and increased output.

Many of the most effective programmes in this sector have been delivered in partnership with sector-specific associations – with business sectors developing and delivering tailored advice and support to their own specialist needs (for example dairy farmers or supply chain associations working to develop a package of energy productivity advice specifically for dairy or truck driver needs, delivered through sector-specific communications networks and service providers).

The Commonwealth commits to consult with business during early 2016 to develop options to provide further tailored information, support networks and skilled service providers in partnership with relevant business associations.

As part of this work the Council will also work with stakeholders to review and further develop support for decision tools and sharing of trusted information sources needed to develop optimal energy solutions for business. This will build on existing support including the Energy Efficiency Exchange website and the recent Energy Efficiency Information Grants, and will be broadened to consider needs for more holistic advice and tools supporting the full range of energy productivity options, such as for new market offers, energy efficiency measures, systems optimisation and cost effective renewable energy solutions.

The Commonwealth will also seek to integrate energy productivity advice across wider business services. The Entrepreneurs' Programme is the Commonwealth's flagship initiative for business competitiveness and productivity at the firm level. The programme comprises three elements:

- Business Management – providing support for business improvement and growth
- Research Connections – providing support for businesses to collaborate with the research sector and connect with appropriate sources of expertise, technology and advice
- Accelerating Commercialisation – helping entrepreneurs, researchers, start-ups and businesses address key commercialisation challenges in bringing novel products, processes and services to market.

The Council recognises that jurisdictions have a range of valuable related programmes.

7. Recognise business leadership and support voluntary action

Status: *New*

Owner: *Commonwealth*

The Council welcomes and encourages businesses undertaking efforts to capture the benefits of improving their own energy productivity.

There is already extensive work already underway within the business community to promote collaboration on voluntary action through the *Doubling Australia's Energy Productivity* initiative (2xEP). This is a collaborative industry-led programme spanning business and industry associations, energy service providers and research organisations. The existing 2xEP Steering Committee is developing sector-specific roadmaps to improve energy productivity across the economy and is already providing valuable input to government.

Government will continue to work cooperatively with the business community on options to support energy productivity improvements.

The Commonwealth is considering a proposal from the 2xEP Steering Committee is to establish a voluntary commitment programme for business (and open also to government agencies): the 2xEP Challenge. Options for this scheme are already under consultation and engaging a wide range of business and industry associations, individual firms and thought leaders, as well as the state governments, sponsored by NSW and the Commonwealth. This programme seeks to recognise energy productivity leaders and provide support for wider industry action.

Recognising that business-led voluntary action can boost economic productivity, national competitiveness and employment opportunities, the Commonwealth will work collaboratively with the business sector to support its development.

To further support this voluntary commitment programme, the Commonwealth will also work with industry to explore options for streamlined voluntary reporting and benchmarking, to improve useful information and transparency for management and investors.

8. Research business benchmarks and success factors

Status: *New*

Owner: *Commonwealth*

Building on learning from a range of recent industry, energy productivity and innovation programmes and seeking to integrate with the Australia Bureau of Statistics (ABS) longitudinal business survey, the Commonwealth will build a new research base to support companies in how energy productivity can drive financial performance and competitiveness in their business, including through consideration of appropriate benchmarking. The first stage of this work will be released in late 2016.

9. a. Expand commercial building ratings and disclosure **- Updated Commercial Building Disclosure program**

Status: *Expansion*

Owner: *Commonwealth*

The Commonwealth has undertaken a comprehensive review of its Commercial Building Disclosure scheme which has identified benefits of mandatory disclosure for both tenants and building owners.

The Commonwealth intends to respond to the Review early in 2016.

9. b. Expand commercial building ratings and disclosure

- Extend rating schemes to other building types

Status: *Expansion*

Owner: *COAG Energy Council*

The Council recognises the benefits to building energy performance of the wider use of ratings schemes such as the National Australian Built Environment Rating System (NABERS). The Council will work with NABERS to consider options to extend the development and use of these ratings schemes in other types of large buildings, such as hotels, hospitals and aged care facilities, schools and universities, data centres, apartment buildings, and retail facilities. A plan for the future development of NABERS rating schemes will be prepared for Council consideration in 2016.

The Council will consider options for the further development and promotion of leasing tools such as green lease schedules aimed at improving building energy performance.

The Council will consider options for the development in partnership with industry of innovative approaches for addressing barriers to energy productivity improvements in mid-tier office buildings, including targeted promotion, tool development and innovative financing mechanisms (for example Environmental Upgrade Agreements or Finance). This will build on the work of the Green Buildings Council of Australia in developing a national pathway to improving energy productivity for mid-tier commercial office buildings, and the work of the NSW, Victorian and capital city local government initiatives.

The Energy Efficiency Council and Property Council are leading work on a 'Building Retrofit Toolkit' that includes tools, information and strategies to make it easier for mid-tier building owners to undertake energy efficiency upgrades to their properties, and several local governments are already engaging with property owners to facilitate upgrades. Governments will examine what support can be given to bolster existing efforts, and will work with stakeholders to consider additional steps that could be taken to facilitate or promote retrofits.

Recognising the importance of the efficient operation of Building Management systems and Heating, Ventilation and Air Conditioning and Refrigeration (HVAC&R) systems to energy productivity in large buildings, the Council will work with industry on investigating standards and options for the promotion of best practice in the design, commissioning and maintenance of these systems. This will include engagement with the HVAC&R industry and its industry-led low emissions future initiative. Funding is available from the Fund for HVAC upgrade projects using the commercial building retrofit methodology.

10. Improve fuel efficiency in the aviation and maritime sectors

Status: *Ongoing*

Owner: *Commonwealth (Department of Infrastructure and Regional Development)*

International freight through aviation and shipping can be complicated due to the links to international regulatory arrangements. The Commonwealth has worked with these sectors on a range of specific measures:

Aviation

The Commonwealth and airlines are encouraging fuel efficiency through initiatives such as:

- Use of Flextracks within the domestic network, offering non-fixed air traffic routes between airports that are designed to take advantage of favourable winds and avoid strong headwinds

in order to allow aircraft to improve flight time and reduce fuel burn.

- Use of Required Navigation Performance procedures to take advantage of the most advanced avionics and navigational equipment to deliver significantly more precise aircraft positioning resulting in reduced fuel burn.
- Collaborative Decision Making to improve air traffic management by regulating traffic into a designated airport through increased information exchange resulting in reduced fuel burn.

Australia also works as part of the International Civil Aviation Organisation (ICAO) to progress a broad suite of practical measures aimed at reducing emissions and improving aviation sector energy efficiency. In 2010 at ICAO's 37th Assembly it was agreed that States and the international aviation sector would work through ICAO to achieve the global aspirational goals of two per cent annual fuel efficiency improvements from 2021 until 2050 and carbon neutral growth from 2020. At ICAO's subsequent Assembly in 2013, States agreed to finalise by the next ICAO Assembly in September 2016 a new CO₂ standard for new aircraft entering service, and the design for a global market-based measure (GMBM) to address international aviation emissions. It was also agreed that the GMBM should be implemented by 2020. Since 2010 ICAO and the international aviation sector has been actively progressing a range of strategies to reduce CO₂ emissions. This includes through a variety of technological and operational improvements, alternative fuels and market-based measures.

Many commercial airlines and aircraft manufacturers including Qantas, Virgin, Boeing and Airbus are supporting the development of bio-based aviation fuel through investments in breakthrough technologies that use feedstocks including algae, wood waste, and municipal solid waste.

Maritime

The International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL) regulates energy efficiency for international shipping. Australia is a Party to MARPOL, which is administered by the International Maritime Organization's (IMO) Marine Environment Protection Committee. In 2011, Australia strongly supported amendments to MARPOL establishing the Energy Efficiency Design Index (EEDI), to mandate improvement in energy efficiency for seven types of ships built from 2013 and used in international trade. The included ship types represent the most energy-intensive ships, which produce 72 per cent of international shipping emissions. The IMO extended the requirements to additional ship types in 2014. The EEDI takes a phased approach, progressively setting higher energy reduction targets compared to ships built before 2013. There is no mandated way to meet the requirements, with ships able to incorporate a range of energy efficient technology and design features. The IMO continues to discuss additional energy efficiency measures, for both new and existing ships.

11.Reduce barriers to financing

Status: Ongoing

Owner: Commonwealth

The Council recognises that there remain a range of barriers which can limit efficient private sector investment in energy productivity improvements.

The Commonwealth has been working with International Partnership for Energy Efficiency Cooperation's Energy Efficiency Finance Task Group to develop investment principles for the Group of Twenty (G20) to better link investors with businesses. These principles were endorsed by the G20 Energy Ministers in October 2015. The principles cover information-sharing on successful finance mechanisms and policy, and promotion of energy efficiency as a priority for the banking and investment sectors.

The Commonwealth is already providing support to address these gaps through existing projects supported under the Clean Energy Finance Corporation. Where energy productivity provides cost-competitive emission reductions, the Commonwealth is also providing direct support through the Emissions Reduction Fund.

New South Wales and Victoria also have existing arrangements for access to finance for retrofits through Environmental Use Agreements or Finance. South Australia and Tasmania are also considering these.

12. Improve energy productivity in government

Status: New/expanding

Owner: Jurisdictions

Governments should lead by example. The Council agrees that action undertaken by governments on their own energy productivity can have flow on benefits to the economy, not only through energy and cost savings and emissions reductions, but through leadership and driving market development in related services and technologies.

The Council agrees that each government within the Council should endeavour to improve the energy productivity of their own operations.

Council officials across jurisdictions will work with each other and stakeholders to share learnings in the development and implementation of these programmes to improve government energy use using the most effective approaches. A workshop for governments will be held in early 2016 that will look at sharing successful approaches and the opportunities for future cooperation.

Governments can improve their energy use in a wide range of activities including: building requirements and green leasing tools; transport fleets; infrastructure development; schools and hospitals; and procurement. An effective programme may include minimum performance requirements, targets, metrics and monitoring.

The Commonwealth commits to review and revise its own policy by the end of 2016.

Several jurisdictions already have clear work plans to improve their own energy use in place.

The NSW Government released a Government Resource Efficiency Policy in July 2014. It contains minimum standards and targets for government agencies for energy, waste, water and clean air.

Through the Carbon Neutral ACT Government Framework, the ACT Government has committed to achieving carbon neutrality across all government operations and services by 2020. The Framework provides for a whole-of-government approach to achieving carbon neutrality in a cost-effective manner, with a strong focus on increasing energy efficiency.

The SA Government has a strategic target requiring a 30 per cent improvement in the energy efficiency of government buildings from 2000-01 levels by 2020. The SA Government Buildings Energy Strategy 2013-2020 is the key strategic driver for achieving the target. The latest energy efficiency data shows an improvement of 23.8 per cent against the baseline, which is on track to meet the 2020 target.

In June 2015 the Victorian Government released its Energy Efficiency and Productivity Statement, which sets out priorities for energy efficiency action. The Government is working to establish an ongoing energy efficiency capability within Government, and to identify options to improve the energy efficiency of the Government's assets and operations, including in our transport, health and

education systems and planning frameworks. The Victorian Government will embed energy efficiency in its decision making and processes, and improve reporting arrangements. The Government will also consider a target to underpin the improvements it is seeking in energy efficiency. Further details will be set out in a forthcoming Energy Efficiency and Productivity Strategy.

More Productive Energy Services

Innovation support

13. Support innovation and commercialisation

Status: Expansion

Owner: Commonwealth

The Council recognises the importance of promoting innovation and commercialisation of new technologies and processes to improve energy productivity. This is a critical element in ensuring Australia's ongoing competitiveness.

In line with the 2014 Industry, Innovation and Competitiveness Agenda, and the new innovation and science agenda, the Commonwealth is considering a range of measures to broaden support for innovation in energy productivity.

The Commonwealth is considering a range of measures to broaden support for innovation in energy productivity. This will include seeking opportunities to leverage a range of existing broader innovation programmes, which include the following:

Australian Renewable Energy Agency currently supports innovation and commercialisation of productivity improving energy services involving or enabling renewables, including specific projects on: opportunities to replace industrial gas use with renewables; renewables for remote areas; integration of renewables and grids.

In announcing Australia's 2030 emissions reduction target, the Commonwealth also committed to preparing a Low Emissions Technology Roadmap to help identify opportunities and barriers to research, development and take-up of new and emerging low emissions technologies across Australia. The Roadmap will support low emissions innovation by examining technological trends, markets and challenges for new and emerging technologies across Australia.

The Cooperative Research Centre (CRC) Programme is a competitive, merit-based grant programme which aims to improve the competitiveness, productivity and sustainability of Australian industries by supporting industry-driven multi-year research collaborations. CRCs bring together industry, universities and research organisations to conduct and commercialise leading-edge research to solve industry problems. In 2015-16 there are 34 CRCs in a range of industry research fields.

The Programme currently funds a range of CRCs with projects designed to improve energy technologies and delivery, including:

- The CRC for Low Carbon Living is to provide technological and policy tools to overcome

identified market barriers including design and planning innovations for renewable energy and energy efficiency in the built environment.

- The Energy Pipelines CRC provides the Australian energy pipeline industry with the technology necessary to extend the life of the existing ageing natural gas transmission network, and to build the new networks necessary to support increased demand for natural gas, and the transmission of new energy cycle fluids such as hydrogen and carbon dioxide.
- The CRC for Polymers is to establish Australian manufacturing as a leading provider and exporter of products that meet emerging global needs in low-cost solar energy - using enabling and sustainable advanced polymer technology.

14. Improve light vehicle efficiency

Status: *New*

Owner: *Commonwealth (Department of Infrastructure and Regional Development)*

The Council recognises that, based on international benchmarks and existing technologies, there are significant opportunities in Australia's passenger vehicle fleet to promote improved productivity, fuel-cost savings and reduced emissions passenger vehicles, and to ensure Australians have a wide range of choice from increasingly efficient vehicles in every class.

To support decision making in this area, the Commonwealth already has in place a mandatory consumer information programme that mandates fuel efficiency labelling on new cars and administers the Green Vehicle Guide website, which uses CO₂ emissions as the principal basis for ranking vehicles.

The National Transport Commission reports annually on detailed data on the carbon dioxide emissions performance of new passenger and light commercial vehicles sold in Australia. The information establishes a new benchmark and compares this with the previous year's new vehicle emissions data.

The Commonwealth also sets minimum standards for vehicle air pollutant emissions under the *Motor Vehicle Standards Act 1989*. Vehicles entering the Australian market must demonstrate compliance with these standards before they can be offered to the market for use in transport.

The Commonwealth has announced a whole of government approach to addressing vehicle emissions with a Ministerial Forum chaired by the Minister for Major Projects the Hon Paul Fletcher MP that will examine vehicle emissions standards in Australia and vehicle testing arrangements. This Ministerial Forum will consult broadly with industry to examine further measures such as incentives and standards to encourage the purchase of more fuel efficient vehicles.

The Ministerial Forum will include the Minister for the Environment and the Minister for Resources, Energy and Northern Australia. It will be supported by a working group which will be asked to examine issues including fuel efficiency measures for light vehicles, implementation of Euro 6, fuel quality standards, as well as emission testing arrangements.

The working group will report by 30 June 2016 to the Ministerial Forum on measures including options for managing fuel quality standards, options for new measurement reporting standards for air pollutants under the National Clean Air Agreement and other measures.

The working group will report by 31 March 2017 to the Ministerial Forum on a draft implementation plan for new measures – aligning with the Commonwealth's commitment to announce new measures to deliver Australia's 2030 climate change targets.

15. Drive innovation in transport and infrastructure systems

Status: *Ongoing*

Owner: *COAG Transport and Infrastructure Council*

Australia has an opportunity to achieve significant energy productivity improvements and reductions in emissions through development, adoption and deployment of Intelligent Transport Systems (ITS). ITS generally refers to the use of information and communications technology for transport to achieve safety, mobility and environmental outcomes.

ITS include a suite of current and emerging technologies such as traffic management systems like smart motorways, and connected automated vehicles.

Australia is actively embracing ITS applications and technologies and in some instances is a world leader in their deployment, such as for example through smart motorways, and electronic tolling. Effectively deployed ITS can enhance movement of commuters and freight through existing transport infrastructure, reduce congestion, lessen travel times and inform future planning for our transport networks. This will not only assist in reducing greenhouse emissions but also bring significant productivity and safety benefits.

Australian governments are working through the COAG Transport and Infrastructure Council to develop a new National Policy Framework for ITS in Australia. Due for completion by mid-2016, the Framework will include an action plan with measures to remove barriers to ITS deployment and to accelerate the take up and new investment in ITS technologies in Australia.

16. More liveable, accessible and productive cities

Status: *New*

Owner: *Commonwealth (Department of the Environment)*

Planning and development in our cities and built environment locks in much of our energy use overtime, for example distances and modes travelled to work, effectiveness of public transport, freight routes and buildings issues such as solar access and constraints on modernising buildings. If not effectively planned our built environment can make it very difficult to adjust to change like energy price pressures or emissions reduction needs. Planning decisions in cities can have impact for centuries to come, so it is critical that it is undertaken considering long term priorities and vision.

On 21 September 2015, Prime Minister the Hon Malcolm Turnbull MP announced Australia's first Commonwealth Minister for Cities and the Built Environment, the Hon Jamie Briggs MP. This new portfolio will work in close collaboration with state and local governments, urban communities and the private sector to improve the liveability, productivity and accessibility of Australia's cities. A Cities Taskforce has been established in the Department of the Environment to support Minister Briggs in developing the Commonwealth's agenda for cities. The three broad policy areas that are informing early directions for the new agenda are: long-term integrated planning for more sustainable cities, infrastructure planning and funding for better functioning cities and greening our cities for a more liveable environment. Initial proposals are expected in early 2016.

17. Promote leading practice

Status: *New*

Owner: *Commonwealth*

The Commonwealth is leading international work with China and the G20 to promote the Best Available Technologies and Best Practice processes through the Top Tens work stream. Australia's Top Ten lists will promote examples of tried and tested technologies and practices which demonstrate energy savings and wider benefits across a range of sectors. This information and the lists of other Top Tens members China, Japan and the US, will be promoted as a resource to inform industry in seeking their own energy efficiency improvements.

The Commonwealth will also seek wider options to drive innovation through recognition and promotion of leaders. This will be considering in the context of both:

- best practice in business linked to Measure 7: Recognise business leadership and support voluntary action, and
- appliances and equipment, potentially linked to research into decision tools in Measure 3: Make choice easier.

18. Collaborate internationally

Status: *Expansion*

Owner: *Commonwealth*

Through the G20 and International Partnership for Energy Efficiency Cooperation, the Commonwealth will continue to expand on collaboration in international energy productivity technologies and practices. This will include reducing barriers to new services in Australia through harmonisation of regulatory approaches where appropriate, through the Clean Energy Ministerial's Super-Efficient Appliance and Deployment initiative, the International Energy Agency's Energy Efficient End-use Equipment working group and the G20 Networked Devices Task Group.

Current related work streams include: passenger and heavy-duty vehicles, networked devices, finance, industrial energy management, buildings and high efficiency low emissions generations, as well as wider product work on lighting.

Competitive modern markets

19. Emerging technologies in the electricity system

Status: *New/expansion*

Owner: *COAG Energy Council*

The Council has agreed to progress a strategic work programme to consider the impacts of technological and market changes in the electricity sector, such as the emergence of solar power and storage options, which are challenging the centralised, grid-based supply model on which the energy regulatory frameworks are based.

This work will assess whether existing regulatory arrangements are likely to be sufficiently flexible to enable future market change which will allow customers to benefit from innovative products and services while ensuring that appropriate consumer protections and safeguards are in place. This will include consideration of what the most appropriate protection frameworks should be when

consumers have a range of alternative supply options. It will also consider if existing regulatory frameworks for networks will continue to support efficient investment and operation of energy infrastructure, appropriately allocate risks, costs and benefits associated with investment, provide incentives for networks to innovate and support competitive markets in new energy supply services. It will also consider the adequacy of existing arrangements to ensure power system security as the generation mix changes.

In developing a plan, consideration will be given to related work being done by market and industry bodies such as the Australian Energy Market Commission's (AEMC) technology workstream, and the AER's work on ring fencing guidelines.

The Council also acknowledges that industry is greatly engaged in this issue, including the Energy Networks Association's partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) on a Network Transformation Roadmap.

20. Deliver a Gas Supply Strategy

Status: Ongoing

Owner: COAG Energy Council

The eastern gas market is undergoing a period of rapid transformation to being export linked with the commissioning of liquefied natural gas (LNG) trains in Queensland, characterised by uncertainty about gas price and availability outcomes, drivers and policy responses. Within this dynamic environment it is imperative that there is adequate supply to meet demand and that the gas market is working as efficiently as possible.

The Commonwealth Domestic Gas Strategy, released in April 2015, includes a commitment to utilise our scientific capabilities (particularly portfolio links to CSIRO, Geoscience Australia, Office of Chief Scientist) to assist responsible gas development. The Commonwealth has reported on implementation progress to the COAG Energy Council in December 2015.

In December 2014 Energy Ministers agreed to task officials to develop an Energy Council Gas Supply Strategy. The strategy is designed to facilitate the responsible development of gas resources, to enable supply to respond to market conditions. The Council released the Gas Supply Strategy at its December 2015 meeting.

In April 2015, the Minister for Small Business directed the Australia Competition and Consumer Commission (ACCC) to hold an inquiry into the competitiveness of the Wholesale Gas Industry. The ACCC is due to provide its findings in April 2016.

The COAG Energy Council gas market reform agenda is well underway in line with the Australian Gas Market Vision which was agreed by the Council in December 2014.

The AEMC's East Coast Wholesale Gas Markets and Pipeline Frameworks Review is examining the operation of facilitated markets and gas transportation arrangements. On 23 July 2015, the COAG Energy Council agreed to the AEMC's stage one recommendations that are being implemented in the short term, including:

- improving price transparency through an ABS bilateral gas contract price index;
- addressing information gaps through the Enhanced Information: Gas Transmission Pipeline Capacity Trading rule change currently before the AEMC;
- removing limitations on who can submit rule changes in the Victorian Declared Wholesale Gas Market; and
- submitting a rule change request to harmonise 'gas day' start times across eastern Australia.

Stage two of the AEMC Review is considering the number, type and location of trading markets in eastern Australia, measures to better facilitate pipeline capacity trading and strategic directions for

information provision. The Council has considered the AEMC's stage two draft report at its December meeting and the AEMC will release the final report in early 2016.

21. Reform governance to keep pace with change

Status: *Expansion*

Owner: *COAG Energy Council*

In order to increase energy productivity, energy markets must be agile in adjusting to market change and supporting policy and governance must be similarly responsive.

The COAG Energy Council has received the final report of the Review of Governance Arrangements for Australian Energy Markets.

The Review's recommendations are designed to better equip the market institutions to oversee a market that is evolving at a rapid pace due to the continuing developments in digital and renewable technologies and their applications. The Review's recommendations are designed to focus on the 'national' character of the arrangements and increase clarity and focus in the institutions' roles, as well as determine the strategic priorities of the market.

This Review has considered the four institutions overseeing the National Energy Market: the Council itself, Australian Energy Market Operator (AEMO), AER and the AEMC.

At the 23 July 2015 Council meeting, the COAG Energy Council committed to responding to stakeholder feedback with respect to improving the efficiency, visibility and transparency of its functions. At its December 2015 meeting, the Council released its response to the recommendations of the Review and has committed to significant reforms.

22. Develop an Energy Use Data Model for better planning

Status: *New*

Owner: *Commonwealth*

Understanding changing consumer demand plays a critical role in improving productivity, through informing adequate market planning, new product innovation and effective policy. Recognised and growing gaps in energy use data in a rapidly changing market over the last decade have already created substantive challenges in forecasting and policy development, contributing in turn to inefficient infrastructure development.

The Commonwealth will seek to address these data gaps and has committed \$6 million in new funding to work with the CSIRO, AEMO and industry to develop an Energy Use Data Model. This will be a substantive contribution to research and planning for businesses, market bodies and governments in building a future energy market which efficiently meets consumer needs. A Scoping Study for this measure will be released by the end of 2015 and a Stakeholder Advisory committee has already been formed. Initial research outputs and datasets are expected in 2016 with the system to be operational within three years.

23. Competitive smart metering rollout

Status: *Ongoing*

Owner: *COAG Energy Council/AEMC*

The Council recognises that advanced metering will be critical in supporting flexible prices and empowering consumers to better manage their bills. They will also be critical in increasing efficient management and planning in networks and effectively managing new technologies and services.

Council supports a market-led rollout of advanced meters. The AEMC has finalised a Rule change, at the Council's request, which will facilitate a market-led approach to the deployment of advanced meters. Under the framework consumers will drive the uptake of smart meter technology through their choice of products and services and a new minimum standard will require all new and replacement meters are capable of delivering smart meter services. The new framework is designed to promote innovation and investment in advanced meters that deliver the services valued by consumers and market participants at a price they are willing to pay.

AEMO will be developing market platforms to deliver services enabled by smart meters. These measures are expected to be in place by the end of 2017, when the new rules come into effect.

Victoria has already rolled out advanced meters.

24. Improve the exchange of market data

Status: *New*

Owner: *COAG Energy Council*

Barriers currently exist in energy market data systems to the integration of new products and services and effective competition.

The Council recognises in order to improve energy productivity there is an increasingly critical role in the energy market for effective data exchange between all parties to support new services, increased competition and informed choices by consumers.

New energy services, enabled by smart meters and emerging technologies, and greater competition, offer significant potential benefits for consumers to manage their energy use more effectively. For these benefits to be captured however, systems need to be flexible enough to adapt readily to support new services without expensive redevelopment. Market arrangements need to evolve to aid transparency and reduce barriers to competition, the development of new services and the entry of new participants. Data exchange mechanisms need to facilitate the development of innovative services which support competition and inform consumer decision making at the point of purchase based on real-time access to their energy use profiles.

In the context of the new metering competition arrangements this work is beginning to develop through the shared market protocol but systems need to continue to evolve, ensuring that they are designed to meet future market needs and represent the long term interests of consumers.

The market institutions have key roles in the operation and facilitation of many of these systems and should be in a position to flexibly respond to ensure operational systems meet changing market and stakeholder needs, including supporting increased competition and facilitating better data exchange to consumers and new service providers. The Council will engage with the AEMO, AER and AEMC during 2016 to understand whether barriers exist to this occurring. These issues may also be considered in responding to the Governance Review.

25. Build service provider capacity

Status: *Expansion*

Owner: *Commonwealth*

Australia must build the capacity of a number of sectors, particularly the energy efficiency sector and key trades, to help all sectors improve their efficiency and achieve the target to improve energy productivity by 40 per cent by 2030. The energy services sector has already been taking a leadership role in this area, including development of new training programmes and professional certifications such as the Energy Efficiency Certification Scheme. Governments will engage with industry bodies, such as the Energy Efficiency Council, to identify and address any critical gaps in capacity.

Skills development in specific sectors will also be considered as part of developing sector-specific packages in Measure 6: Help business self-manage energy costs.

The Council recognises the importance of energy service companies and new energy service providers to help markets to provide new services to consumers. The Council acknowledges existing measures that are already supporting these businesses:

- Recent Council work on regulatory arrangements for new products and services which is now being considered in the context of Measure 19: Emerging technologies in the electricity system
- The energy efficiency schemes operating in the ACT, NSW, SA and VIC and ongoing work to improve alignment of these schemes (Measure 2a. Market mechanisms to capture societal benefits
- - Jurisdictional schemes)

26. New market mechanisms for demand response

Status: *Ongoing*

Owner: *COAG Energy Council/AEMC*

The Council supports revision of market arrangements to allow for innovative new demand-side services. The AEMC is currently considering Rule changes for a number of such mechanisms proposed under the Power of Choice review including the demand response mechanism within the wholesale market, allowing for customers to have multiple trading relationships (for example different retailer service providers for different services) and supporting embedded networks.

The AEMC has also recently finalised a rule change to extend the Demand Management and Embedded Generation Connection Incentive Scheme to help balance the incentives on distribution businesses to make efficient decisions in relation to network expenditure, including investment in demand management. These incentives will be progress in future network determinations undertaken by the AER.

27. Promote competitive retail markets in electricity and gas

Status: *Ongoing*

Owner: *COAG Energy Council*

The Council notes competitive energy markets provide efficient energy prices for the long term interest of all energy consumers and efficient operation of the energy system overall. The Council therefore recognises the importance of promoting effective competition, and where competition is effective deregulating retail pricing.

The Council is undertaking complementary work streams to promote competition including improving the timeliness and accuracy of customer switching processes and improving retail price reporting.

28. Monitor the wholesale market

Status: *Ongoing*

Owner: *COAG Energy Council*

To build on the productivity gains from the establishment of the wholesale market, introduce a market monitoring function to identify the causes of inefficiencies as a means of determining what, if any, further reforms to the market arrangements are required.

29. Adopt National Frameworks

Status: *Expansion*

Owner: *COAG Energy Council*

Consistent national frameworks minimise duplication of regulations that could increase burdens for market participants, potential putting downwards pressure on prices and improving productivity. The Council is supportive of Australia-wide adoption of the national frameworks. The Council supports the Northern Territory and Western Australia's adoption of the national frameworks.

Consumer protections

30. Deliver a new Equipment Energy Efficiency prioritisation plan

Status: *Expansion*

Owner: *COAG Energy Council*

Through the Equipment Energy Efficiency (E3) program, governments increase the energy efficiency of new appliances and equipment sold into the Australian (and New Zealand) markets largely through the use of mandatory energy efficiency regulations.

The Council commits to a new E3 prioritisation plan, seeking to substantially increase the benefits to household and business energy consumers and reducing growth in greenhouse gas emissions, while ensuring that the compliance costs to businesses that supply regulated products are minimised to the extent possible, consistent with maintaining a robust regulatory regime. The prioritisation plan will be implemented in consultation with impacted industry and consumer stakeholder groups, and will maximize E3's efforts to deliver cost effective energy savings, which help to improve Australia's energy productivity and achieve greenhouse gas abatement targets.

The Council recognises that the E3 program, through its appliance and equipment minimum standards and labelling requirements, has made an important contribution to improving energy productivity in Australia, addressing key market failures, as well as promoting innovation.

The recent independent Review of the Inter-Governmental Agreement for the Greenhouse and Energy Minimum Standards Legislative Scheme highlights that it is contributing over \$1 billion in avoided energy costs to the Australian economy annually, while avoiding carbon emissions by an estimated 11.6 million tonnes per annum. Projections of the impacts of the current suite of E3 Programme measures for the period 2014-2020 in Australia, developed by the Department of Industry, Innovation and Science, show a Net Present Value in the range of \$3.3 - \$7.3 billion; and

a Benefit: Cost Ratio in the range of 1.7 – 5.2 based on only the energy bill savings, over the period 2014-2020. Emissions savings over the same period are estimated to be 60-70 million tonnes CO_{2-e}. This represents greenhouse gas abatement at a net negative cost, substantially reducing the economic costs to Australia of meeting its national greenhouse targets.

The new E3 prioritisation plan will build on this recent detailed analysis which examined where equipment standards and labelling have the biggest impact on market failures. The resulting work plan will be highly targeted to maximise benefits to consumers, delivering substantial benefits while minimising the compliance costs to business which supply products which are regulated through the program.

31. Advance the National Construction Code

Status: *Expansion*

Owner: *COAG Energy Council*

The Council agrees that given the longevity of buildings, which will stand in many cases beyond the middle of the century, and the extent of industry developments since the last significant change to minimum residential and commercial building energy efficiency standards in the National Construction Code in 2010, there are very likely strong productivity and emissions reductions benefits in further revising energy efficiency requirements in building codes for both residential and commercial buildings.

The Council recognises that there is a need to gather more evidence around the effectiveness of existing Codes and standards, particularly for residential buildings. The Council will engage in an intensive research programme to inform development of updated building efficiency requirements. This research is expected to include a large primary data gathering project as part of Measure 22: Develop an Energy Use Data Model for better planning.

The Council recognises industry-led contribution on building codes, and will facilitate engagement with the Australian Building Codes Board (ABCB) and Building Ministers Forum to consider changes to the Code so as to achieve better energy efficiency outcomes for Australia's buildings within the next cycle of revision of the Code, to be complete by 2019, and subsequent triennial revisions. Proposed changes would need to be available for consideration by the ABCB for the 2019 edition of the Code.

The Council notes work undertaken by the Australian Sustainable Built Environment Council (ASBEC) which is developing an industry-led vision for improving the energy performance requirements for both residential and commercial buildings in the Code, with a goal to provide certainty, foster innovation and deliver the benefits of rapidly improving energy technology and design approaches for Australia. ASBEC's vision for the Code is likely to include (1) increasing the minimum energy performance standards (2) establishing a trajectory for future increases and (3) considering potential improvements to the design of the energy performance requirements that would make the Code simpler and more useful for design and construction professionals, and make compliance easier to monitor.

32. Improve compliance with building energy efficiency regulation

Status: *Expansion*

Owner: *COAG Energy Council*

The Council recognises the importance of improving compliance with the energy performance requirements of the Code. To achieve this, the Council will continue to support the National Energy Efficiency Building Project (NEEBP).

The NEEBP will expand existing local government pilot schemes to further trial compliance auditing and document control tools through building regulation professionals nationally.

NEEBP will partner with all levels of government and building and construction product and building industry peak bodies to target design non-compliance, material substitution, skill or knowledge deficiencies and work practices that compromise new building energy performance.

The NEEBP will collaborate with government and non-government consumer protection organisations nationally to advocate for and support consumers experiencing compromised energy efficiency in new and modified buildings as a result of non-compliant building, design and approval practices.

The Council will also consider what additional activities may be needed to improve compliance in the context of any new or changed rating and disclosure arrangements arising through work under this plan.

33. Review the National Energy Customer Framework for disruptive technologies

Status: *Ongoing*

Owner: *COAG Energy Council*

In December 2014, the Council committed to undertake an assessment of the differences in how jurisdictions have applied the National Energy Customer Framework. In addition the Council agreed to examine whether there is a need to enhance energy frameworks in light of the ongoing change taking place in competitive energy markets, particularly as it regards the introduction of new technologies, products and services.

Consumer protections will be considered as part of Measure 19: Emerging technologies in the electricity system.

34. Review Fuel Quality Standards Act

Status: *Ongoing*

Owner: *Commonwealth (Department of the Environment)*

The *Fuel Quality Standards Act 2000* (the Act) provides the legislative basis for national fuel quality and fuel quality information standards in Australia. The objectives of the Act are to: reduce the level of pollutants and emissions arising from the use of fuel that may cause environmental and health problems; facilitate the adoption of better engine and emission control technology; allow the more effective operation of engines; and to ensure that, where appropriate, information about fuel is provided to consumers when fuel is supplied. Biofuels are also regulated in the standards Act. The second independent review of the Act, announced in June 2015, is focused on the Act, the Fuel Quality Standards Regulations 2001 and Determinations made under the Act. Specific fuel quality parameters within the standards are outside the scope of the review. However

a range of possible outcomes from the review may have energy productivity implications and implications for wider vehicles efficiency measures. Ongoing progression and availability of higher quality fuels in Australia are important for the availability of innovative new fuel efficient vehicles in the Australian market.

Management of the Work Plan

Implementation

The Council agrees for officials to progress collaborative elements of the Work Plan through normal Council processes, including consideration of resourcing requirements. Progress against the objectives and individual measure commitments should be considered priorities.

Measures undertaken by individual jurisdictions will continue to be managed by these jurisdictions. However, updates on all measures in the NEPP Work Plan will be included in its progress reporting, so as to measure progress towards higher objectives.

Progress reporting

The Council agrees that officials will review the Work Plan at least annually with respect to:

- Progress in developing and implementing new measures against commitments;
- Progress and expected impacts of measures against the objectives; and
- Consideration of any further measures required to meet the objectives.

Periodically a more in depth review against objectives should be publicly released, the first being prior to 2020.

Metrics

Recognising that the high level metric in the Commonwealth target, \$GDP/PJ, will not be sufficient to monitor effective progress against individual measures and sectors, the Council will also request officials create an appropriate series of metrics to make up a reporting “dash board”. This dash board will be updated for regular progress reports and public reviews.