



Australian Government
Department of Industry,
Innovation and Science

NATIONAL ENERGY PRODUCTIVITY PLAN

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WHAT IS ENERGY PRODUCTIVITY?

Improving energy productivity is about getting more value from the energy we use

$$\text{energy productivity} = \frac{\text{economic output}}{\text{energy used}} = \frac{\text{GDP}}{\text{PJ}_{\text{primary}}}$$

WORKING TOWARD A NATIONAL ENERGY PRODUCTIVITY TARGET

AUSTRALIA'S ENERGY PRODUCTIVITY IN CONTEXT

(\$GDP per PJ primary energy)

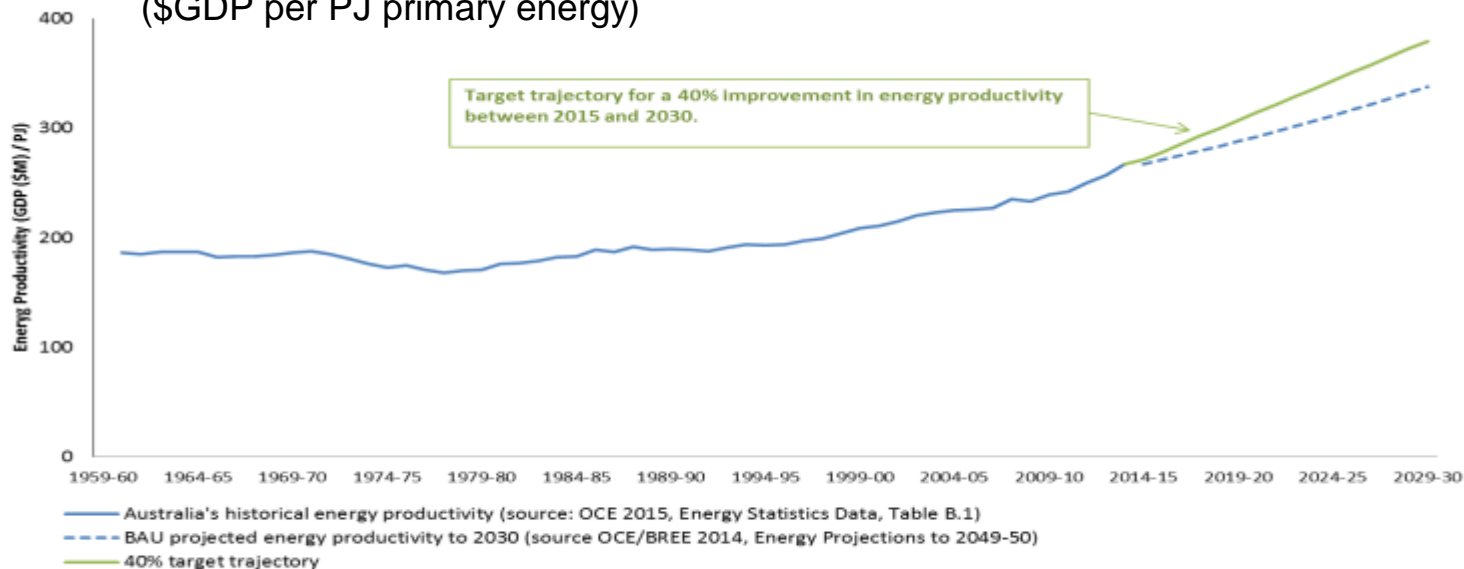


Chart notes:

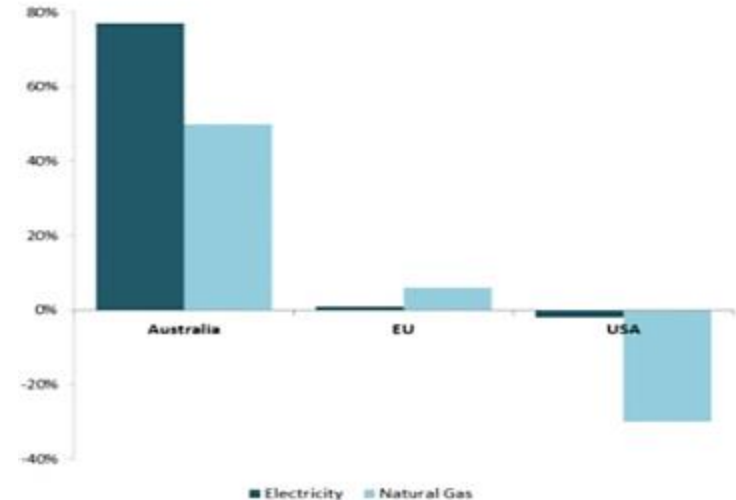
1. Target trajectory is estimated using 2013-2014 data. The target will be finalised in mid-2016, when the OCE energy statistics data for 2014-15 become available.
2. In accordance with OCE/BREE (2014) *Australian Energy Projections*, all projections in this chart assume GDP grows at an average of 2.7% per year between 2015 and 2030. GDP growth of more or less than this will have an impact on the resulting trajectory.

AUSTRALIA'S COMPETITIVENESS HAS BEEN IMPEDED BY SIGNIFICANT INCREASES IN ENERGY COSTS

AUSTRALIA HAS LOST ITS ENERGY PRICE ADVANTAGE

REAL CHANGE IN RETAIL ENERGY PRICES 2007-2013 (% PPP)

1	Australia (\$52/MWh)	Korea	Norway
2	Norway	United States	United States
3	United States	Norway	Korea
4	Finland	Switzerland	Switzerland
5	Switzerland	Finland	Mexico
6	Mexico	France	Finland
7	United Kingdom	Mexico	Luxembourg
8	Greece	Greece	France
9	Ireland	United Kingdom	Sweden
10	Luxembourg	Sweden	United Kingdom
11	France	Luxembourg	Japan
12	Korea	Japan	Netherlands
13	Germany	Netherlands	Belgium
14	Austria	Belgium	Chile
15	Slovak Republic	Ireland	Austria
16	Czech Republic	Slovenia	Greece
17	Japan	Austria	Slovenia
18	Poland	Australia (\$252/MWh)	Ireland
19	Netherlands	Czech Republic	Denmark
20	Chile	Italy	Czech Republic
21	Belgium	Portugal	Italy
22	Hungary	Denmark	Hungary
23	Italy	Poland	Poland
24	Portugal	Chile	Portugal
25	Denmark	Germany	Slovak Republic
26	Sweden	Slovak Republic	Germany
27	Slovenia	Hungary	Australia (\$444/MWh)



Data source: Australian Alliance to Save Energy (A2SE), 2xEP - Australia's Energy Productivity Opportunity Framing Paper, November 2014

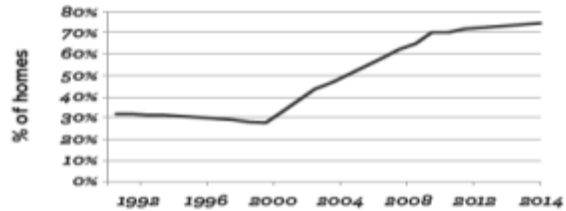
Source: Australian Alliance to Save Energy (Data drawn from World Bank, International Energy Agency and ABS).

Data drawn from ABS, EuroStat and US Energy Information Administration.

THE ENERGY MARKET IS GOING THROUGH DISRUPTIVE CHANGE

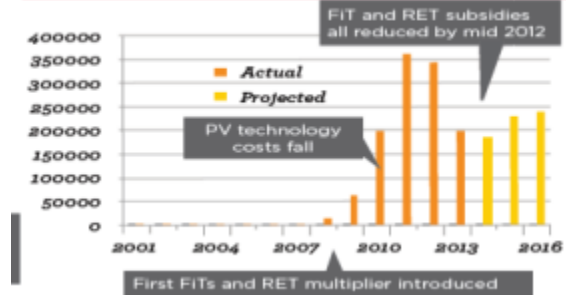
EMERGING TECHNOLOGIES

AIR CONDITIONING UPTAKE



Source: Status of Air Conditioners in Australia report and ABS and Industry analysis.

INSTALLED PV SYSTEMS (DEEMED)



Source: CER data

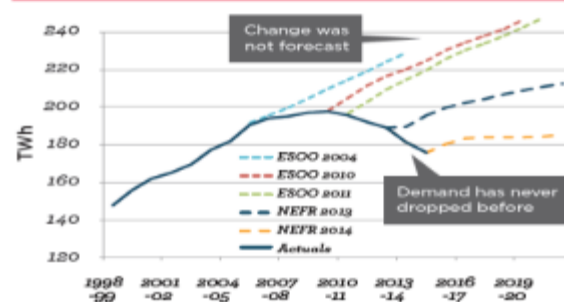
PRICE AND DEMAND PRESSURES

ESTIMATED ELECTRICITY PRICES

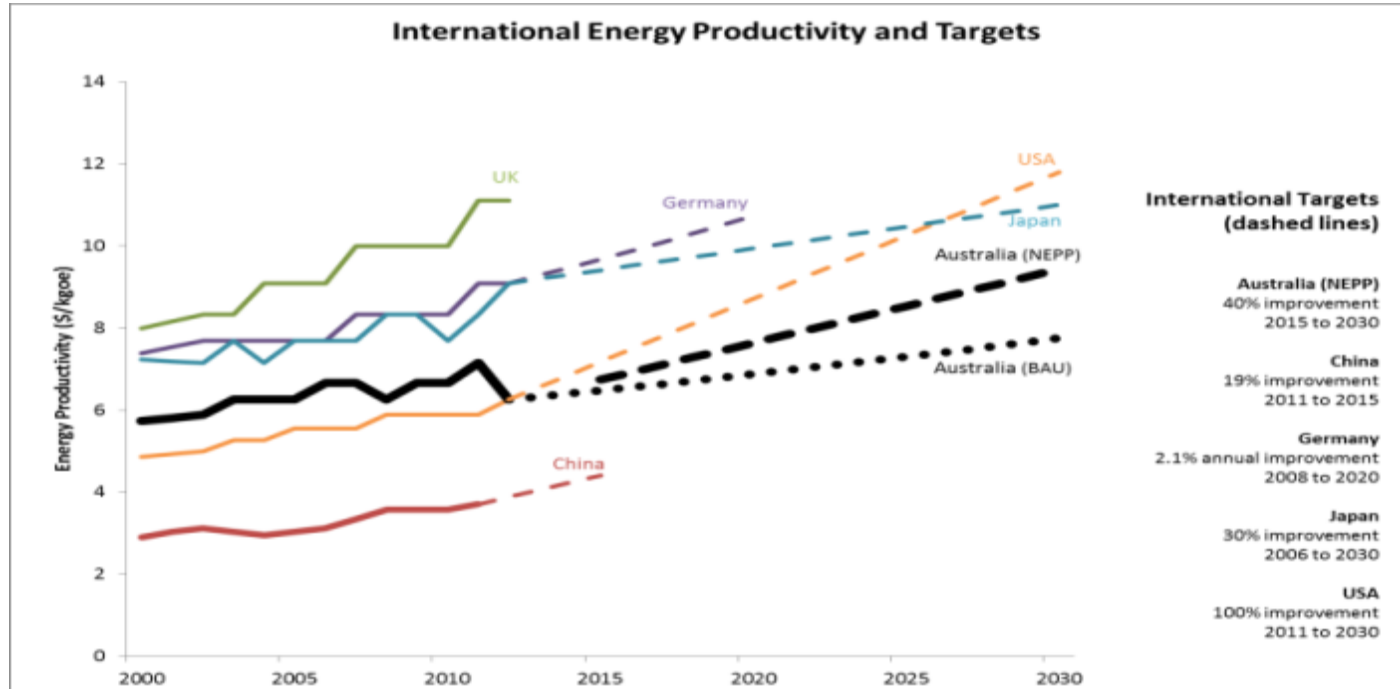


Source – ABS & AEMC Residential Electricity Price Trends Report

DEMAND DROPPING - NOT FORECAST



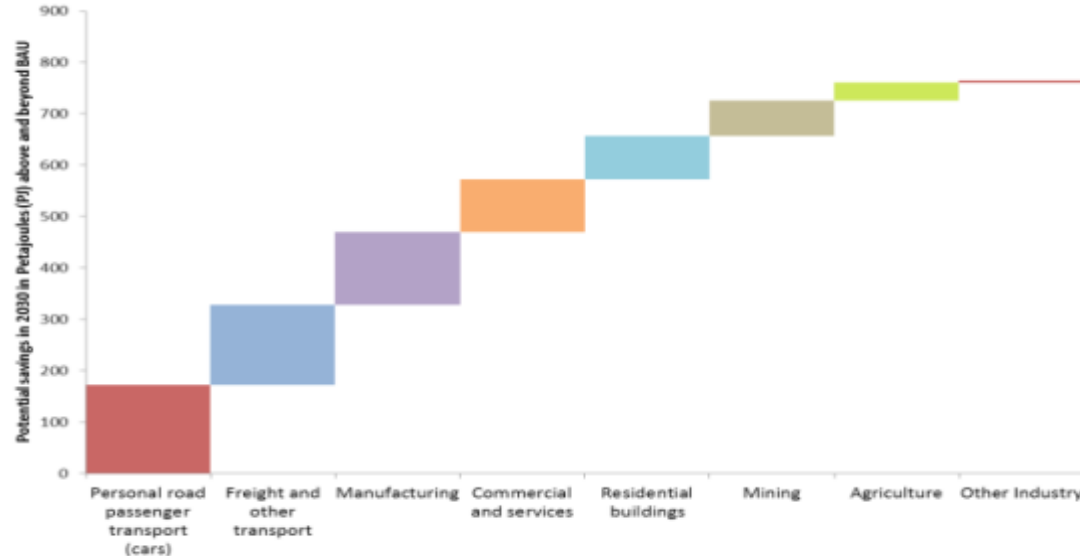
AUSTRALIA'S ENERGY PRODUCTIVITY IS LAGGING BEHIND OUR COMPETITORS



Source – OECD Factbook 2014

THERE ARE ENERGY PRODUCTIVITY OPPORTUNITIES IN MANY SECTORS

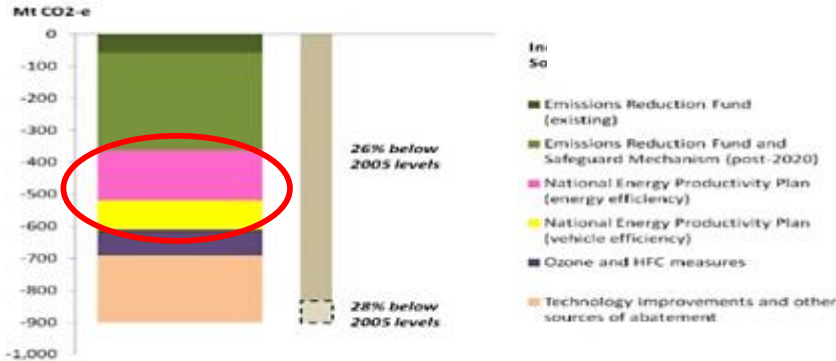
COST EFFECTIVE ENERGY EFFICIENCY OPPORTUNITIES



Source – ClimateWorks data with departmental analysis

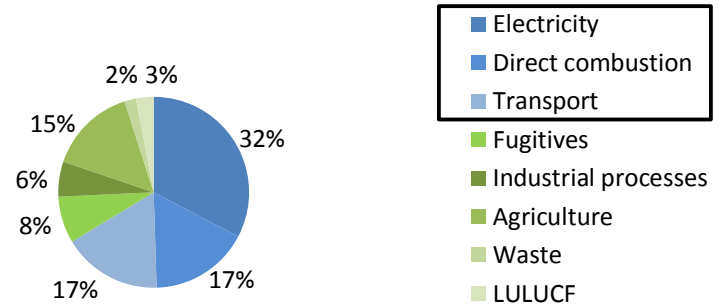
THE NEPP IS ESTIMATED TO MEET A QUARTER OF AUSTRALIA'S 2030 EMISSIONS REDUCTION TARGET

INDICATIVE EMISSIONS REDUCTION SOURCES 2020 TO 2030



Source: Department of Environment
Australian 2030 Emissions Reduction Target
Launch

ENERGY DRIVES MAJORITY OF EMISSIONS



Source: Australian Energy Market Operator Data

National Energy Productivity Plan (NEPP)

Improving Australia's energy productivity means **more value** from the energy we consume.

$$\text{Energy productivity} = \frac{\text{economic output (GDP)}}{\text{energy used (PJ primary)}}$$



WHY improve energy productivity?



Boosting **competitiveness** and growth



Helping families and business manage their energy **costs**



Reducing greenhouse gas **emissions**



WHAT are our goals?

40%
IMPROVEMENT BY 2030



Energy systems that deliver **least cost energy** in the long term interests of consumers

More **informed** energy consumers **managing their energy bills**

2015

Energy efficiency



Energy market reform

Climate change
COORDINATING POLICY



HOW will we get there?

Encouraging more productive consumer **choices** through

- efficient incentives
- empowering consumers
- helping business compete



Promoting more productive energy **services** through

- innovation support
- competitive modern markets
- consumer protections



TIMELINE

