energy savings
Industry Association

ESIA Background Information

Proposed NESS target: saving 10% of electricity and gas consumption by 2030

National ambition

Australia is the developed world's worst performer in energy efficiency[i]. A National Energy Savings Scheme (NESS) will be the most significant and transformative policy driver for delivering energy savings in Australia. A NESS will be the primary mechanism that spearheads a suite of energy efficiency measures. A NESS can contribute to all three horns of the electricity trilemma including helping Australia to meet its emissions reduction target under the Paris Agreement[ii]. All Australian governments, businesses and consumers will benefit at no net cost with nationwide access to a comprehensive range of eligible energy upgrades that will save billions in energy bills and support energy security.[iii] An ambitious NESS target will provide a further decade of certainty to the energy efficiency sector stimulating tens-of thousands of jobs[iv] and hundreds of innovative businesses across Australia.

A NESS has fallen through the Commonwealth cracks

- In 2013 the Commonwealth Government was working on implementing a national scheme and found that a 5% national energy savings target would deliver up to $5.3b from 2015 to 2050.[v]
- In 2017 the Climate Change Authority (CCA) recommended a NESS by 2019 to deliver more. (Refer to Attachment 1)
- In 2017 the COAG Energy Council (EC) committed to Finkel Report recommendations including governments accelerating rollout of energy efficiency measures, but that report failed to consider the CCA's NESS recommendation published just *seven days* prior.
- COAG EC's 2015 National Energy Productivity Plan (NEPP) of 40% energy productivity improvement goal between 2015 and 2030 is an aspirational goal only with no substantial measures to deliver it.[vi]
- COAG EC has acknowledged the success of state-based schemes operating since 2009 and their contribution to the NEPP[vii], but the majority have no target from 2021. (See Chart 1)

Chart 1 Energy Savings Schemes: Targets committed to 2025 (ESIA March 2019)

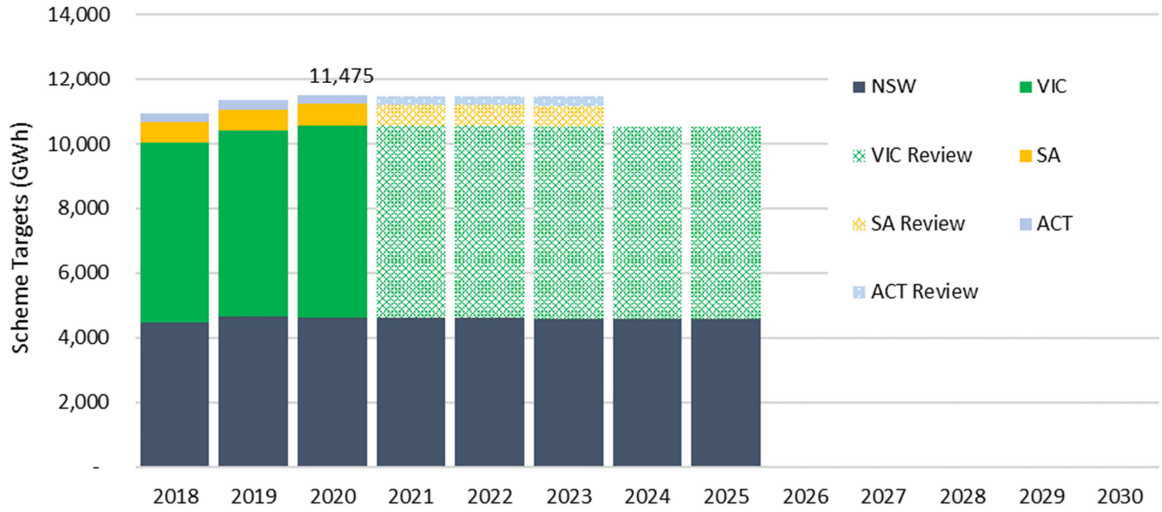
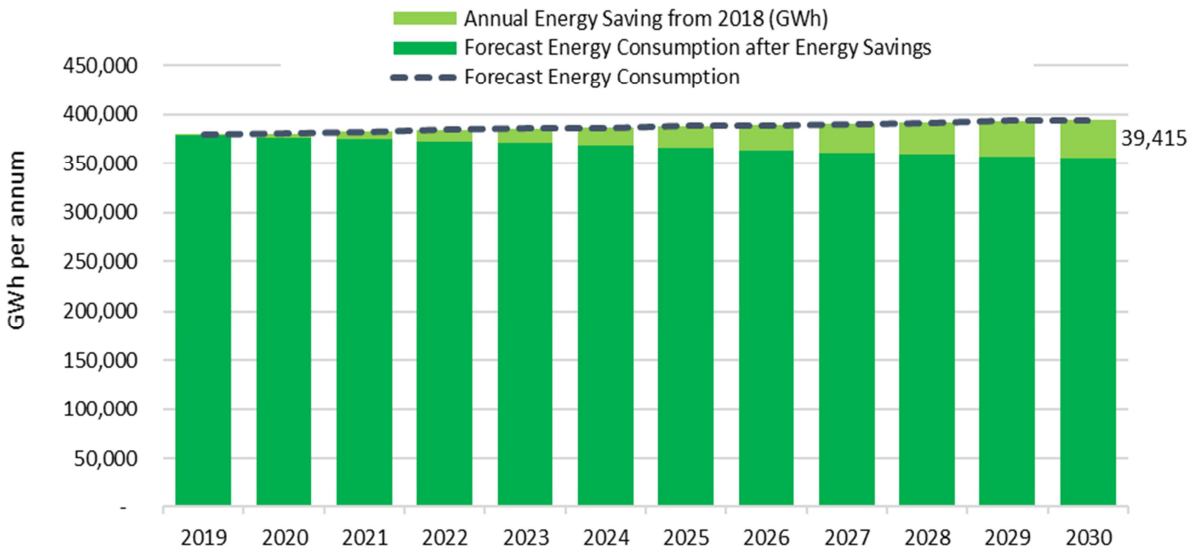


Chart 1 indicates that except for the NSW Energy Savings Scheme (ESS) which has targets committed to 2025, existing schemes' targets are uncommitted including for the Victorian Energy Upgrades (VEU) program, SA Retailer Energy Efficiency Scheme (REES) and ACT Energy Efficiency Improvement Scheme (EEIS). Existing schemes have a combined energy savings target equivalent to 11,475GWh in 2020.[viii] All schemes are in the process of being reviewed.

NESS target saving 10% of electricity and gas consumption by 2030

The Energy Savings Industry Association (ESIA) proposes that a NESS commence from 1 January 2020 with a target increasing progressively in order to achieve savings of 10% of electricity and gas consumption by 2030. (Refer to Chart 2)

Chart 2 National energy consumption and proposed NESS energy savings 2019-2030 (ESIA March 2019)

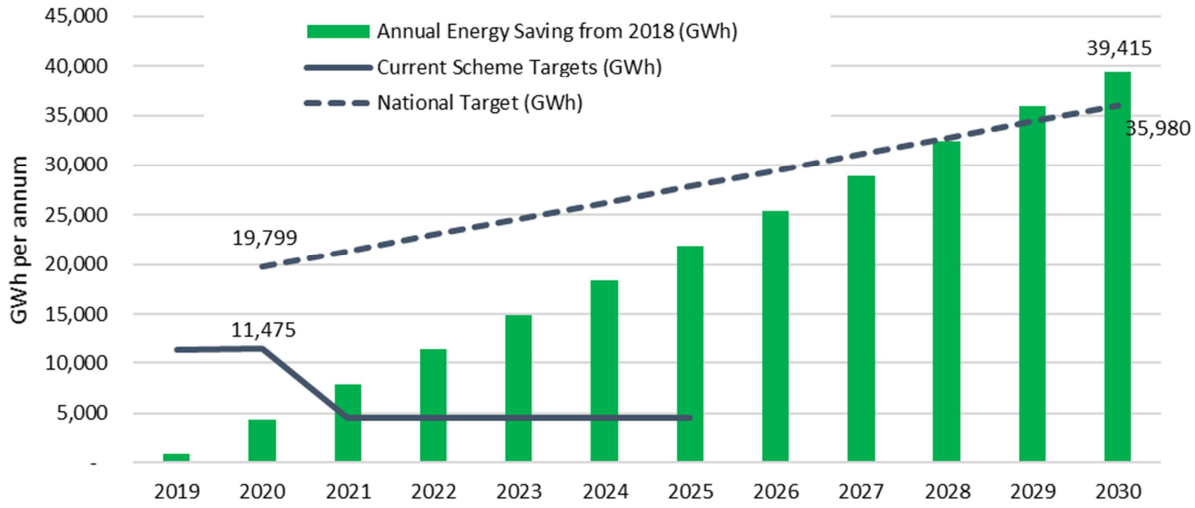


Assumptions for 10% target

The recommended 10% target is based upon:

- electricity and gas consumption in the National Electricity Market (NEM) and the WA South West Interconnected System (SWIS) which is expected to be the equivalent of 379,119GWh in 2019 and growing to 394,154GWh in 2030. These figures incorporate business and residential energy use (including losses) and exclude gas used for power generation and LNG.[ix]
- delivering annual energy savings of 10% by 2030 needing an initial national target of 19,799GWh in 2020 and increasing to 35,980GWh in 2030. (Refer to Chart 3)

Chart 3 Proposed NESS target and annual energy savings 2019-2030 (ESIA March 2019)



Assumptions for energy savings

Chart 3 illustrates a national target ambition from 2020 to 2030, in comparison to existing currently committed scheme targets. Existing targets including Vic, NSW, SA and ACT have an equivalent target of 11,319GWh in 2019 increasing to 11,475 GWh in 2020.[x] In this analysis, for the national target, energy

savings targets have been determined upfront in GWh and would be committed in NESS legislation on an annual basis to 2030. In this analysis, the actual energy savings delivered each year have been based on an assumed deeming[xi] period of eight years. The chart shows a linear trajectory to achieve the 10% by 2030 target that would require a target increase at 2020 of 8,324GWh which could be mobilised under a NESS. Notably, existing scheme targets from 2021 will be determined through reviews during 2019 and 2020. A significant target increase from 2020 will provide a strong signal to the market to deliver upgrades sooner.

NESS to save 4.5 times Liddell's annual electricity output

A NESS could deliver energy savings from both electricity and gas equivalent in electricity terms to 4.5 times the annual output of the Liddell coal-fired power station scheduled to close in 2022. This is based on a NESS target saving 10% of electricity and gas consumption by 2030 which will deliver 39,415GWh energy savings a year by 2030 and based on Liddell's average electricity output of 8,680GWh over the past two years.

Upgrade opportunities

'Low-hanging fruit', quick payback upgrades include:

- **Residential** - water heating, thermal comfort upgrades including heating, cooling and weather sealing, and lighting.
- **Commercial buildings** - lighting and Heating Ventilation and Air Conditioning (HVAC) systems and controls including better fan, compressor and pump systems; and comprehensive building retrofits including better sub-metering so building managers can monitor energy use and make informed adjustments.
- **Industrial** - process and technology improvements; variable speed drives, high efficiency boilers and heat pumps for better use of power, ambient or waste heat; fuel switching; and improved maintenance schedules to reduce losses.

Schemes strengthening worldwide

Around the world over the past decade around 50 energy savings schemes have proven to be the most successful measure for saving energy and addressing the energy trilemma. With increasing pressures, these proven schemes are being strengthened.

Designing the best NESS

Building on the success of existing schemes in across Australia, a NESS should include:

- **further development of upgrade methodologies** to better reflect energy savings and stimulate more savings sooner, particularly for commercial and industrial applications.
- **a Priority Household Target** that overcomes the additional barriers to participation experienced by low income households.
- **scheme administration with a robust compliance framework** and commitment to achieving targets through practical energy savings.
- **a regulator experienced in national regulation**: the Clean Energy Regulator which administers the Renewable Energy Target and Emissions Reduction Fund.
- **ongoing consultation** with experienced peak bodies including the ESIA in design and ongoing review.
- **a suite of complementary measures** delivering benefits spearheaded by the NESS, including:
  - **Information:** appliance energy star rating labels; communication and training programs for installers, distributors and marketers; energy audits; energy reporting standards for large energy users; mandated energy disclosure regulations for all commercial and residential customers
  - **Financial incentives**: (separate to a NESS) highly targeted grants evaluated by audits
  - **Standards and regulations**: Minimum Energy Performance Standards (MEPS) for products including mandated phase-out of inefficient products, particularly once a NESS has driven product efficiency and maximised product uptake. Minimum energy efficiency rating standards for all buildings including new builds and retrofits at point-of-sale and rental.

Attachment 1

Climate Change Authority Report: Towards Next Generation: delivering affordable secure and lower emission power. 2 June 2017

Excerpt: (p46)

5.5.1 A National Energy Savings Scheme

A National Energy Savings Scheme (NESS) would create an obligation, possibly on energy retailers, to implement energy efficiency activities. In the special review, the Authority (2016b) recommended that the Commonwealth and states pursue harmonisation of white certificate schemes through the COAG Energy Council.

The Authority is now of the view that the NESS should be implemented as a Commonwealth measure to build on and eventually replace existing state 'white certificate' schemes (see CCA 2016b) as the COAG process may cause considerable delays.

A NESS can contribute to all three horns of the electricity trilemma. In its 2013 modelling of a National Energy Savings Initiative, the Commonwealth Government estimated that a policy designed to meet an energy savings target of five percent could result in a net benefit of $1.5 to $5.3 billion over the period 2015 to 2050 (Australian Government 2013).

A NESS provides more direct and immediate reductions in energy bills, through increasing uptake and access to efficient technologies. By putting downwards pressure on overall demand and assisting with lowering of peak demand, it could reduce costs in generation and networks and so reduce electricity prices. A NESS could also reduce demand in peak times, for example by targeting particular activities like air-conditioning upgrades, which could assist if the grid is experiencing security issues.

The Commonwealth Government should also consider allowing retailers or generators with obligations under an EIS or LET to meet their obligations with NESS certificates to further lower compliance costs and reduce electricity prices.

More information Email comns@esia.asn.au

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[i] International Energy Efficiency Scorecard 2018, American Council for an Energy Efficient Economy, June 2018.

[ii] In order to meet Australia's Paris Climate Agreement, and stay within a two degrees Celsius temperature increase, the Climate Change Authority recommended that Australia reduce its greenhouse gas emissions to: a 2025 target of 30% below 2000 levels (equivalent to 36% below 2005 levels; and further reductions by 2030 of between 40 and 60% below 2000 levels (equivalent to 45 to 63% below 2005 levels). Towards a Climate Policy Tool Kit: special review of Australia's climate goals and policies, Climate Change Authority, Aug 2016.

[iii] Energy efficiency a $7.7 billion 120,000 job opportunity for Australia, Medial release, ESIA/EEC. 8 Feb 2019.

[iv] Energy Efficiency Employment in Australia, Green Energy Markets. Feb 2019.

[v] In its 2013 modelling of a National Energy Savings Initiative, the Commonwealth Government estimated that a policy designed to meet an energy savings target of five percent could result in a net benefit of $1.5 to $5.3 billion over the period 2015 to 2050 (Australian Government 2013) Footnote 21: This study assumed that a carbon trading scheme was in operation from 2012 to 2050. Towards next generation: delivering affordable secure and lower emission power, Climate Change Authority. 2 June 2017, p46.

[vi] National Energy Productivity Plan Annual Report 2017, COAG Energy Council. Commonwealth of Australia. 2017. p3.

[vii] National Energy Productivity Plan 2015-2030: Boosting competitiveness, managing costs and reducing emissions. COAG Energy Council. Commonwealth of Australia. Dec 2015. p14.

[viii] EECCA Energy Savings Scheme Industry Report 2016-17, EECCA. 15 Nov 2017, p14.

[ix] Based on Australian Energy Market Operator (AEMO) gas and power forecasts to 2030 for residential and commercial and industrial, but excluding gas power generation, which it is assumed will be broadly similar to current levels due to increased solar PV accounting for any growth. (Gas Statement of Opportunities 2018, AEMO, June 2018. Electricity Statement of Opportunities, AEMO. August 2018). NT and off grid systems, mainly in WA, NT and Qld, are not included for simplicity and due to a lack of readily available data.

[x] EECCA Energy Savings Scheme Industry Report 2016-17, EECCA. 15 Nov 2017, p14.

[xi] Deeming refers to how the energy savings for an upgrade are determined over a period of time such as eight years and are based on a number of hours of use, for example for off-the-self product installations like lights.