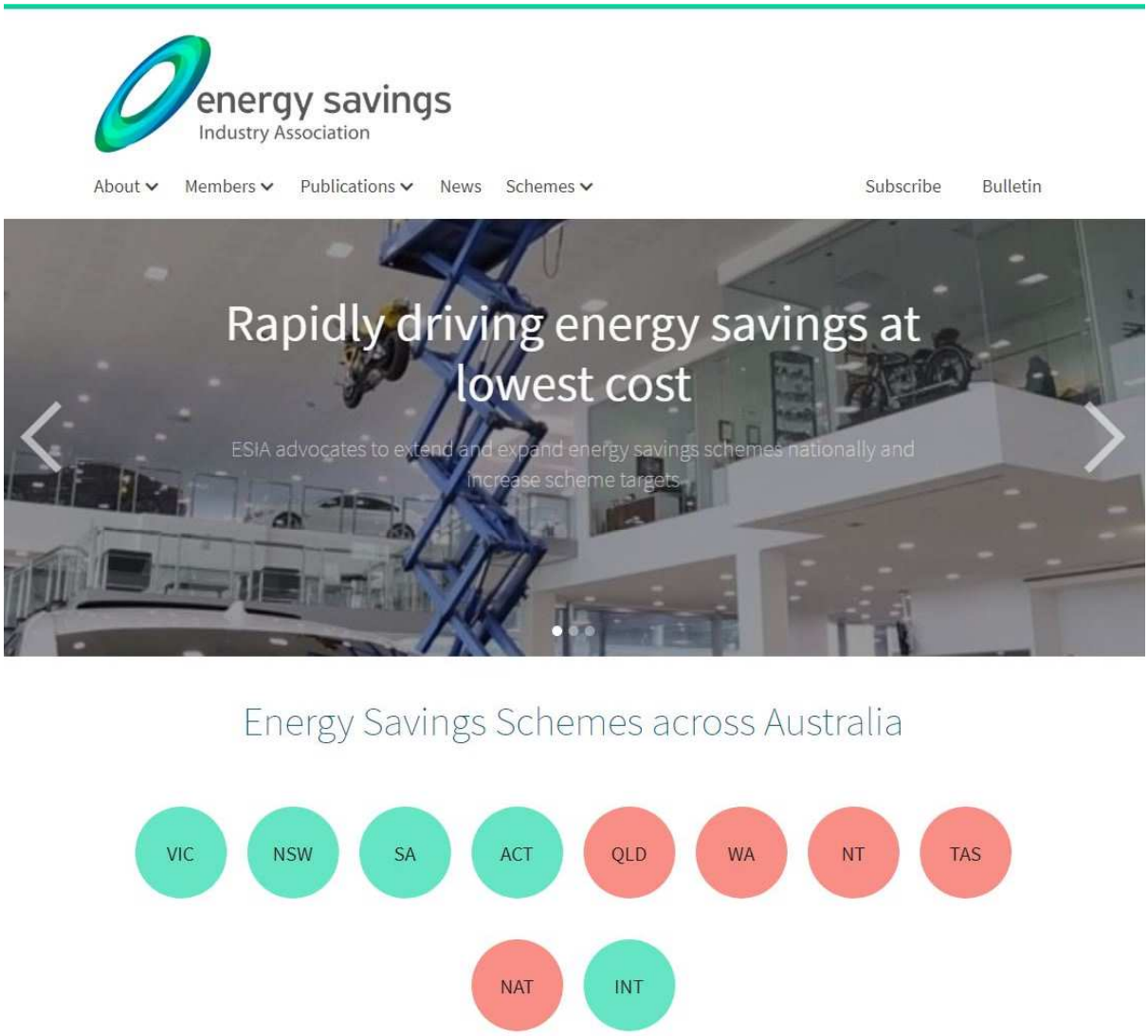
energy savings
Industry Association

Setting ambitious targets for Energy savings schemes Australia-wide 2019-2030

Scorecard:
Saving billions economy-wide

ESIA White Paper
3 July 2018



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1. Rationale

Bi-partisan support needs strengthening

This White Paper is a quick-reference policy-setting guide summarising the case for extending and expanding existing energy savings schemes in Vic, NSW, SA and the ACT and introducing schemes in Qld, WA, NT and Tas from 2019 to 2030. Existing schemes have been supported since 2009 for their strengthening whether it is through:

- increasing the range of energy saving upgrades included under the schemes;
- extension to target end dates; and
- increasing targets.

The sooner energy savings schemes are introduced across Australia and existing targets increased the sooner and more cost-effectively the multiple benefits of energy efficiency will be delivered, saving billions economy-wide.

The Energy Savings Industry Association (ESIA) has determined a direct comparison of targets from 2009-2029 for existing schemes. Based on these assumptions, these schemes:

- will meet combined targets of almost 12 million MWh (12,000 GWh) per annum by 2020 (Appendix A); and
- achieve annual MWh/capita targets of Vic at 0.86, ACT at 0.64, NSW at 0.53 and SA at 0.37. (Appendix B)

Addressing immediate policy drivers and tailoring to local needs

Energy savings schemes are addressing some of the most pressing policy drivers shared by governments across Australia:

- energy bill pain from escalating wholesale and retail electricity prices;
- network upgrades wasting resources to meet avoidable surges in peak demand; and
- drastic action needed to meet our commitment under the Paris Agreement to avoid 2^{O}C rise.

Energy savings schemes are tailored to suit local needs and work most effectively as part of a suite of complementary energy efficiency measures and related targets (eg renewable energy and emission reduction targets). Energy savings schemes are proven to overcome market failures, provide access to upfront financial incentives and drive upgrades across key sectors including households, businesses and governments.

Latest customer experience and economy-wide benefits

The *ESIA Energy Savings Schemes Scorecard 2018* provides a ready reckoner of deliverables including customer experience and economy-wide benefits. The *ESIA Energy Savings Schemes Essential Checklist 2018* illustrates the basics for developing scheme deliverables. The latest analysis of customer experience is provided by the Victorian scheme. In 2018, participating households will save an average of $150 off their energy bills this year, and businesses will save on average around $4,700 annually on their energy bills. (DELWP, Vic Govt, 27 June 2018). The net benefit of achieving the VEU targets for 2016 to 2020 is estimated to be between $1.3 and $3.2 billion. The variation will be determined by the range of activities included in the near future. (VEET Regulations Regulatory Impact Statement, June 2018, p21)

Latest climate change target policy commitments and role of schemes

If rolled out across Australia by 2030, energy saving schemes could deliver one-third of the emissions reductions required by the electricity sector to meet our Paris Commitment. (Appendices C&D)

2. Priority Goals - setting ambitious targets 2019-2030

Ambitious targets for energy savings schemes across Australia from 2019-2030 are priority goals for the ESIA over the next 18 months as governments commence target reviews of existing schemes and consider establishing new schemes. Energy savings schemes complement other mechanisms making them easier and more cost-effective to achieve. (See Figure 2-1)

Figure 2-1 Complementary targets across Australia: ERTs / RETs / EESs

Jurisdiction	Emissions Reduction Target (ERT)	Renewable Energy Target (RET)	Energy Savings Scheme (ESS) Target	Existing Energy Savings Schemes Target settings
National	✓	✓		
Vic	✓	✓	✓	Set to end of 2020 2021 to 2025 target to be set 2019 2026-2029 to be set in 2025
NSW	✓		✓	Set to end of 2025
SA	✓	✓	✓	Set to end of 2020, review 2019
ACT	✓	✓	✓	Set to end of 2020, review in progress 2018
Qld	✓	✓		Considering a scheme during 2018, potential start 2019
WA				Stocktake of energy efficiency initiatives in progress 2018
NT	✓	✓		Stocktake of energy efficiency initiatives in progress 2018
Tas	✓	✓		

Achievements shortlist to 2018 - energy savings schemes

Existing energy savings schemes in Vic, NSW, SA and ACT have delivered an average annual reduction of total electricity consumption of almost four per cent. Achievements up to end 2017:

> 2.3 million households and businesses have participated
> 5 million energy-saving upgrades so far
> 5 million MWh of electricity saved annually
> 5 million tonnes of greenhouse gas emissions avoided
> 4,000 jobs supported
> $1 billion of customer bill savings annually

Energy savings schemes could do much more if expanded, extended and introduced across Australia.

Scorecard 2018 - energy savings schemes

Energy Savings Schemes Scorecard 2018

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Biggest knowledge gap about energy savings schemes:
Customers don't do energy saving upgrades without financial incentives from energy savings schemes because they lack the knowledge, time and money: the schemes overcome these hurdles. Repeated independent research shows this, that's why these schemes were set up and have been extended and expanded since 2009. They save Australians energy and money.

Schemes in Vic, NSW, SA and ACT Delivering	**Afford-ability**	**Reliability & Security**	**Vote winner**
Empowering customers, very popular, proven: >2.3 million households and businesses, >5 million upgrades, 21st century infrastructure	✓	✓	✓
Reduce electricity consumption on average by almost 4% in states with schemes - on par with rooftop solar (upgrades deliver energy savings up to 80%)	✓	✓	✓
Save much more $ than they cost (a ratio of 1:4 for costs versus savings)	✓		✓
4000+ 21st century jobs supported, 100+ new innovative businesses			✓
Customers well protected - rigorous, competitive product quality/service standards	✓		✓
>$1 billion of customer bill savings annually (eg for Vic $150 per year average for participating households and $4,700 for businesses)	✓		✓
Upgrading 2 to 6 light bulbs can offset annual household pass-through costs (eg Vic $11, NSW $10, SA $13, ACT $30)	✓		✓
Can fill the gap of expensive unreliable coal station closures (Liddell)	✓	✓	✓
Much greater energy savings yet to come: new upgrade types in the pipeline	✓	✓	✓
Reduces GHG emissions at lowest cost (even less than renewables)	✓		✓
Other public policy benefits (impacting health & wellbeing, poverty alleviation, local air pollution, disposable income, asset values, resource management)	✓		✓
Goodwill Winner: all current energy savings schemes have been supported under both Labor and Coalition Governments			✓

If Schemes Scrapped	**Afford-ability**	**Reliability & Security**	**Vote winner**
Upgrades won't happen as uptake barriers remain, quick energy savings missed			✘
Higher energy costs and bills			✘
Higher economy-wide costs			✘
Jobs in jeopardy			✘
Businesses, hospitals, schools waste time and money with inefficient infrastructure			✘
Households miss out on energy savings, added health and comfort			✘
Energy savings industry stalls: technology innovation, growth, competition suffer			✘
More money than current pass-through costs wasted on expensive, unproven or less effective alternatives without schemes: education campaigns, energy audits, grants			✘
Blackouts: unreliable coal plant won't get relief without lower energy demand			✘
Energy Affordability, Reliability, Security: harder to achieve and cost more			✘
Badwill Loser: Australians denied access to AUSTRALIA'S MOST SUCCESSFUL ENERGY SAVINGS INITIATIVES - saving energy and money every day with local schemes			✘

Essentials Checklist 2018 - energy savings schemes

Energy savings schemes are tailored to suit local needs. The *ESIA Energy Savings Schemes Essentials Checklist 2018* highlights typical drivers and complementary measures proven to be effective by existing schemes.

Energy Savings Schemes Essentials Checklist 2018

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What	When	How
Set targets	For 2019-2030	Legislated targets with energy retailers provide a measure that industry can achieve . Make them ambitious or progress will be slow . Potentially set predetermined annual increases as this can maintain momentum of upgrades and provide certainty for industry to invest
Set subset targets	For 2019-2030	. Priority Household Target (PHT) to drive uptake for low income and vulnerable households . Audit Target to improve understanding and evaluate most appropriate upgrade potential with key markets
Include all sectors	Start with one, add more	**Sectors:** . Household . Business - SMEs, large commercial and industrial sites . Government - office buildings, services (hospitals, schools, community facilities), amenities (street lighting) and spaces (parks and gardens)
Include 'low hanging fruit' activities	Start with one, add more	**Activities:** . Lighting . Heating Ventilation & Air Conditioning (HVAC) . Building weather sealing (eg insulation) . Appliance upgrades - households (fridges, freezers, clothes dryers, pool pumps) . Appliance upgrades - businesses (refrigerated display cabinet, refrigeration fan motors) . Space heating and cooling . Water heating . Low flow shower roses . In-home display units (TVs)
Include effective methods	Start with one, add more	**Methods:** . Deemed (usually 'off-the shelf' product solutions eg lights where energy savings are determined over a period such as 10 years) . Project based (where measurement and verification of electricity consumption is required over time to determine energy savings eg for an HVAC upgrade in a commercial building, or air conditioning at a gym)
Provide targeted support		. Grants for more complex projects . Targeted marketing in low uptake areas . Provide the market with transparency-of-uptake data to assist with targeting unsaturated markets
Provide complementary initiatives		. Audits for SMEs and Priority households (stand-alone activities or as separate legislated targets) . Demand management response for peak demand (eg energy customers commit to having their appliances turned off at peak times) . Mandated energy disclosure regulations for all commercial and residential buildings . Policies to overcome rental property split incentives (which would assist with reducing the high percentage of renter utility bill defaulters) . Mandated phase out of certain products, particularly once schemes have maximised uptake (eg anticipated Federal Government phase-out of halogens from 2019 has been made possible by the uptake of CFL and LED technologies driven initially by energy savings schemes prior to the technology becoming more affordable)

3. Appendices

A Scheme targets and metrics: direct comparison - conversion to MWh

(This information is a direct excerpt from the EECCA Energy Savings Schemes Report 2017, p14)

Table 3-1 Energy savings schemes: targets to 2009 to 2029 - metrics conversion to MWh provides a direct comparison of schemes operating in Australia. These schemes will meet combined targets of almost 12 million MWh per annum by 2020. For 2017 through to 2020, the largest scheme in MWh is and will continue to be Vic (5,388,128 to 5,936,073 MWh), followed by NSW (4,191,513 to 4,634,701 MWh), SA (638,889 to remain at 638,889) and ACT (260,236 to 264,966 MWh). For Vic, the target in MWh dropped for 2016 when the greenhouse gas abatement coefficient[1] was increased. For NSW, the target in MWh is expected to drop in 2020 based on a drop in demand forecast. For SA, when the metric conversion changed from CO_2-e to GJ, the target dropped for 2015 then increased. For ACT, the target in MWh dropped for 2016.

Table 3-1 Energy savings schemes: targets to 2009 to 2029 - metrics conversion to MWh

Energy savings schemes: targets 2009 to 2029 - metrics conversion to MWh				
Scheme	**VIC**	**NSW**	**SA**	**ACT**
Metric conversion calculation method	Converted from CO_2-e provided in regulations to MWh /0.963 from 2009-2015, and /1.095 from 2016	Converted from CO_2-e target provided in annual reports [2] to MWh/1.01 from 2009-2015, and /1.0 from 2016. [3] Forecast change in demand has been calculated using AEMO 2017 Electricity Statement Opportunities[4]	Converted from CO_2-e to GJ using conversion rate x 4.02 [5] for 2009-2014, then GJ to MWh using conversion /3.6 [6] for all years	Based on actuals and forecasts for electricity demand in ACT provided in a report to ACT Government [7] multiplied by the % requirement of the scheme
Year	**Target**	**Target**	**Target**	**Target**
2009	2,803,738	(½yr from July) 286,255	173,083	
2010	2,803,738	849,509	262,417	
2011	2,803,738	1,400,312	284,750	
2012	5,607,477	1,838,682	284,750	
2013	5,607,477	2,409,367	374,083	207,396
2014	5,607,477	2,672,109	457,833	413,000
2015	5,607,477	2,760,450	333,333	417,340
2016	4,931,507	3,794,614	472,222	258,344
2017	(+9%) 5,388,128	4,191,513	638,889	260,236
2018	(+13%) 5,570,776	4,461,776	638,889	262,128
2019	(+17%) 5,753,425	4,664,335	638,889	263,418
2020	(+20%) 5,936,073	4,634,701	638,889	264,966
2021	(TBA 2021-2029)	4,620,571		
2022		4,611,787		
2023		4,592,763		
2024		4,579,745		
2025		4,584,667		
2026				
2027				
2028				
2029				
Current end date	**2029**	**2025**	**2020**	**2020**

[1] Refer to VEET Proposed Activity Regulation Change Oct 2015 p3.
[2] For links to annual reports, refer to EECCA Energy Savings Schemes Report 2017, p35
[3] IPART Annual Report 2016 p2, footnote 1
[4] https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/NEM-Electricity-Statement-of-Opportunities
[5] REES Annual Report 2015 p9, footnote 13
[6] 1GJ s 0.277778MWh or 1MWh =3.6GJ https://www.convertunits.com/from/gigajoule/to/MWh
[7] Past and projected future components of electricity supply to the ACT, and resultant emissions intensity of electricity supplied. Pitt & Sherry, 26 March 2015. http://www.environment.act.gov.au/__data/assets/pdf_file/0006/737547/15-07412-Attachment-A-Emissions-factor-projection-report.pdf

B Scheme targets and metrics: direct comparison - conversion to MWh/capita

(This information is a direct excerpt from the EECCA Energy Savings Schemes Report 2017, p16)

On a per capita basis, the Vic scheme has been delivering more than the other schemes. Indicative comparisons of 2017 populations against 2017 targets show MWh/capita targets from largest to smallest: Vic at 0.86, ACT at 0.64, NSW at 0.53 and SA at 0.37. Notably, Vic has a higher emissions factor than other jurisdictions and a key objective of that scheme is to reduce emissions.

Table 3-2 Populations of jurisdiction in Australia - 31 Mar 2017 provides the figures used to produce Table 3-3 Energy savings schemes: targets 2009 to 2029 - metrics conversion to MWh/capita. All calculations are based on 2017 population data.[8]

Table 3-2 Populations of jurisdiction in Australia - 31 Mar 2017

Populations of jurisdictions in Australia - at 31 Mar 2017				
Jurisdiction	**VIC**	**NSW**	**SA**	**ACT**
Population	6,290,700	7,837,700	1,721,000	409,100

(ABS, 2017)

Table 3-3 Energy savings schemes: targets 2009 to 2029 - metrics conversion to MWh/capita

Energy savings schemes: targets to 2009 to 2029 - metrics conversion to MWh/capita				
Scheme	**VIC**	**NSW**	**SA**	**ACT**
Year	**Target**	**Target**	**Target**	**Target**
2009	0.45	(½yr from July) 0.04	0.10	
2010	0.45	0.11	0.15	
2011	0.45	0.18	0.17	
2012	0.89	0.23	0.17	
2013	0.89	0.31	0.22	0.51
2014	0.89	0.34	0.27	1.01
2015	0.89	0.35	0.19	1.02
2016	0.78	0.48	0.27	0.63
2017	(+9%) 0.86	0.53	0.37	0.64
2018	(+13%) 0.89	0.57	0.37	0.64
2019	(+17%) 0.91	0.60	0.37	0.64
2020	(+20%) 0.94	0.59	0.37	0.65
2021	[9] 0.94	[10] 0.59		
2022	0.94	0.59		
2023	0.94	0.59		
2024	0.94	0.58		
2025	0.94	0.58		
2026	0.94			
2027	0.94			
2028	0.94			
2029	0.94			
Current End date	**2029**	**2025**	**2020**	**2020**

[8] Prior to 2017, the MWh/capita figures are likely to be slightly understated due to population growth over the period. The post 2017 figures are likely to be slightly overstated as populations are set to increase while scheme targets will not increase significantly. The variation for MWh/capita is not considered to be significant for the purpose of this analysis.

[9] Assumes the target will remain the same 2021-2029, not currently legislated

[10] Assumes the target will remain the same 2021-2025, legislated

C Energy savings schemes can achieve 1/3 of electricity emissions reduction target by 2030

Australia's Paris Climate Commitment

In order to meets Australia's Paris Climate Commitment, and stay within a two degrees Celsius temperature increase, the Climate Change Authority (CCA) recommended that Australia reduce its greenhouse gas emissions to:

- a 2025 target of 30 per cent below 2000 levels (equivalent to 36 per cent below 2005 levels); and
- further reductions by 2030 of between 40 and 60 per cent below 2000 levels (equivalent to 45 to 63 per cent below 2005 levels) [11].

Energy sector doing its fair share

Electricity generation accounts for more than one-third of Australia's emissions, and reductions from this activity are more cost-effective and readily available than other sectors of the economy such as transport and agriculture. The CCA recommended that to meet an overall target of 45 per cent reduction by 2030, emissions from electricity generation should be no more than 60 Mt/a (that is a 69 per cent reduction in emissions from 2005 levels).

Energy savings schemes opportunity

If rolled out across Australia by 2030 and supported by complementary energy efficiency measures, energy saving schemes could deliver an estimated one-third of the electricity emissions reductions needed by the electricity sector to meet Australia's Paris Commitment. (See Figure 3-1)

Figure 3-1 Emissions from Electricity by 2030 (GEM July 2018)

Emissions from Electricity by 2030	**60Mt/a target**
Generation Business as Usual (TWh/a)	281.5
Emissions Business at Usual (Mt/a)	[12] 173.3
Target Mt/a	60.0
Abatement Task (Mt/a)	**113.3**
From energy efficiency from schemes (Mt/a)	[13] 37.8
From low emission generation and other energy efficiency measures (Mt/a)	75.5

[11] Towards a Climate Policy Toolkit: special review on Australia's climate goals and policies, CCA, Aug 2016.

[12] Australia's emissions projections 2017, Department of the Environment and Energy, Australian Government, Dec 2017, p12, Table 3 Sectoral breakdown of 2017 projections results to 2030.

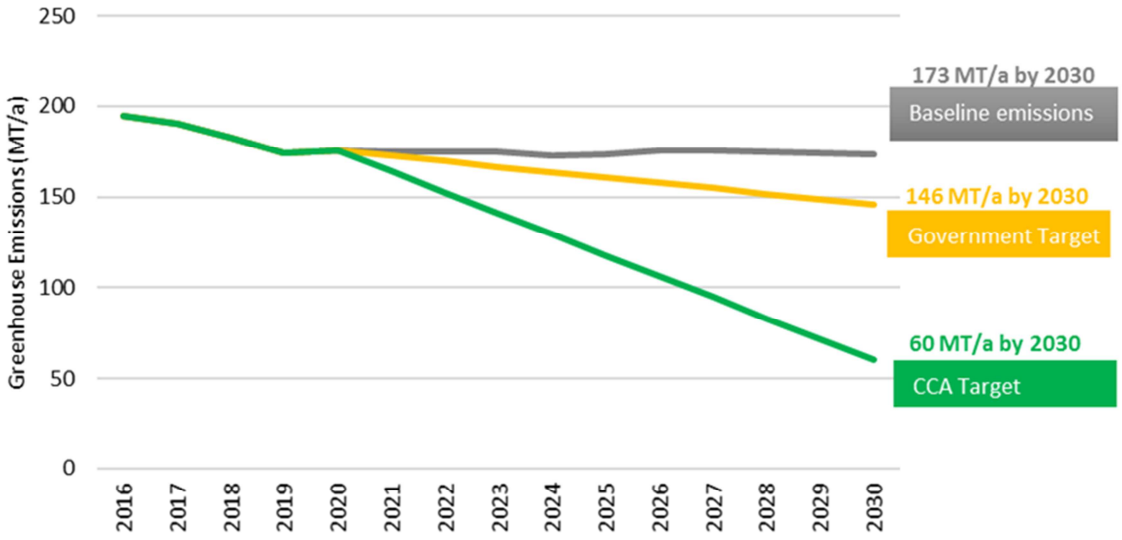
[13] The contribution of energy savings schemes of 37.8Mt/a by 2030 is based on considering as a base reference the target of the largest scheme (Vic) of 6.5Mt/a of abatement by 2020. By 2020, emissions abatement for the Vic scheme could be about 1 Mt/a per capita as the population of Vic is likely to be about 6.5million by 2020. (See previous Table 3-2) If this 2020 abatement target is increased by 25 per cent - which would equate to a 1.25Mt/a abatement per capita, and then rolled out across Australia by 2030, based on an Australia-wide population of 29.8million by 2030, an abatement target of 37Mt/a could be reached by 2030.

D Electricity emissions reduction scenarios and political party target commitments

Figure 3-2 demonstrates two possible scenarios from the electricity sector:

Black line: baseline emissions of 173.3Mt/a by 2030 with Business As Usual (BAU) and no emissions reduction target based on latest national greenhouse gas projections;
Yellow line: this is the Government's target of 26 per cent reductions in electricity emissions from 2005 levels by 2030, that is being incorporated into the National Energy Guarantee (NEG); and
Green line: a target of 60Mt/a by 2030 which **would** meet a target of keeping a temperature rise of less than two degrees based on modelling for the CCA Report. (See Figure 3-2)

Figure 3-2 Electricity Emissions 2016-2030 (GEM July 2018)



Current federal political party target commitments for emissions reductions are summarised in Figure 3-3.

Figure 3-3 Federal political party emissions reduction target commitments (July 2018)

Political Party	Emissions Reduction Target
Federal Coalition Government	26-28% emissions reductions from 2005 levels by 2030
Federal Labor Opposition	45% emissions reductions from 2005 levels by 2030
Federal Greens	63-82% emissions reductions from 2005 levels by 2030

The sooner energy savings schemes are introduced across Australia and existing targets increased the sooner and more cost-effectively emissions reductions will be achieved. The multiple benefits of energy efficiency will also be delivered saving billions economy-wide.

ESIA Rebrand and Membership

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Why rebrand?

The Energy Savings Industry Association (ESIA) was launched on 3 July 2018 by the formerly named Energy Efficiency Certificate Creators Association (EECCA). The new name better reflects the membership which has grown significantly to include product suppliers, service providers and certificate creators accredited under energy savings schemes and complementary initiatives across Australia. Members of the founding group in 2009 were all energy efficiency certificate creators.

Members

Corporate: Auspro Group, Demand Manager, Easy Being Green, Echo Group, Eco Light Up, Ecovantage, Emerald Planet, Energy Mad, Energy Makeovers, Greenbank Environmental, Green Energy Trading, Haneco Lighting Australia, LEDified, MAC Energy Efficiency Group, National Carbon Bank of Australia, Outperformers, Shine On, Specialised Lighting Solutions, Sunny Australia Lighting, The Green Guys Group, Wattly **Associate:** Cyanergy, Energy and Carbon Solutions, Energy Conservation, Energy & Management Services, Green Connection Group, Ozwide Group

Code of Conduct

ESIA members signatory to the ESIA Code of Conduct and are entitled to use the logo:

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More Information - invitation to subscribe

More information about the ESIA, membership and energy savings schemes in Australia is available at **esia.asn.au**

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Please direct all queries regarding this publication and the ESIA to comns@esia.asn.au