Creating ESCs for Energy Efficiency Upgrades

Training Module for the Residential and Small Business Energy Efficiency Project under the HEER Method

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Purpose of training:

To ensure that all participants in the NSW Energy Savings Scheme are aware of their roles and responsibilities so as to deliver the Scheme's aims in a professional, fair, accurate and transparent manner in line with the Scheme requirements.

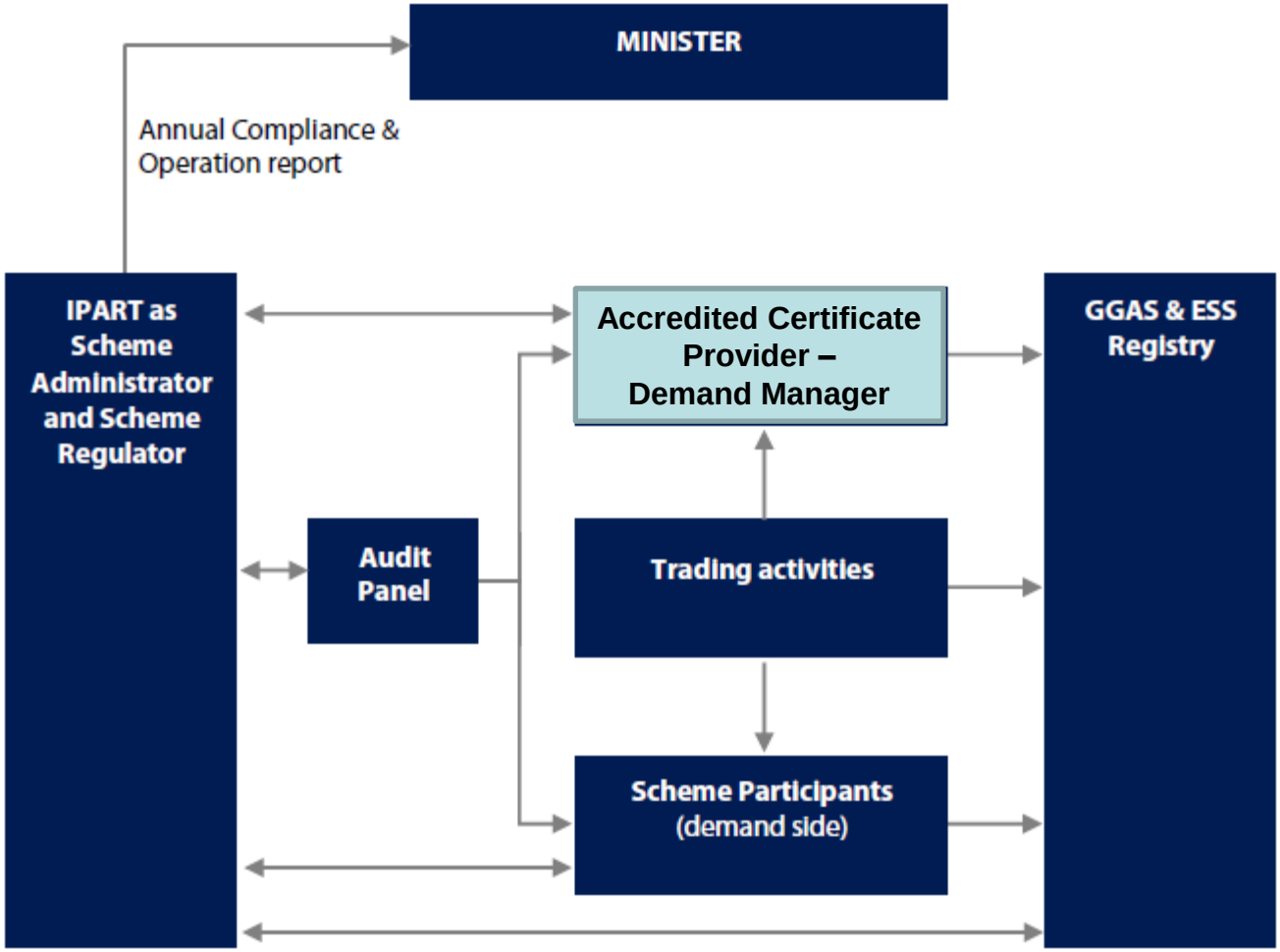
Agenda:

1. Introduction to Demand Manager
2. Introduction to the NSW Energy Savings Scheme
3. The Residential and Small Business Energy Efficiency Project
4. Customer Engagement with End Users
5. Required qualifications and training
6. Quality Assurance

1. About Demand Manager

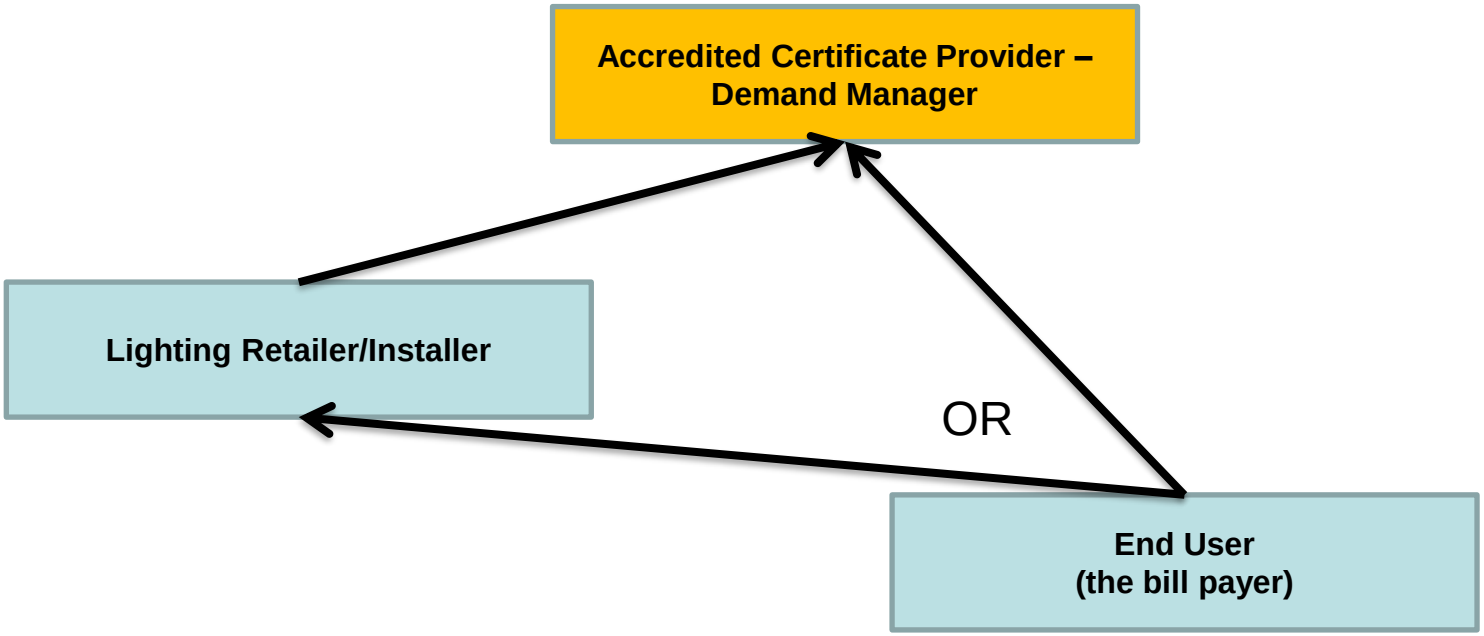
- Launched in 2005 to help Australian businesses deliver sustainable energy and water outcomes.
- Is involved in a range of State and Federal Government sustainability programs, including the NSW Energy Savings Scheme (ESS).
- Is an Accredited Certificate Provider (ACP) under the ESS which permits the creation of Energy Savings Certificates (ESCs).
- Is subjected to regular ESS audits to ensure compliance, hence a strong focus on QA.

1. About Demand Manager



1. About Demand Manager

Demand Manager can work directly with the End User or with a lighting retailer or installer.



For further details of tasks and responsibilities of parties involved refer to Section 4 and 5 of this document as well as the supplementary Customer Engagement document.

2. Energy Savings Scheme

- NSW based voluntary energy efficiency scheme.
- Commenced on 1 July 2009.
- Based on the creation and trading of Energy Saving Certificates (ESCs).
- One ESC represents 1MWh of electricity saved.
- ESCs can only be created by Accredited Certificate Providers (ACPs).
- Demand Manager is an ACP with a number of accreditations including for the HEER Method.
- The legal framework for the ESS is established in the ESS Rule and the Electracy Supply Act and General Regulations.

2. Energy Savings Scheme

- Market for ESCs is created by targets set for electricity retailers in NSW.
- Price fluctuates according to supply and demand – Refer to www.demandmanager.com.au/certificate-prices/
- ESCs have a “Vintage” according to year created – different Vintage ESCs may have a different value.
- Some methodologies allow upfront claiming of ESCs – i.e. lighting can be up to 10 years.
- Projects are not provided, operated or delivered as a mandatory program on behalf of NSW Gov.

2. Energy Savings Scheme

- ACPs are audited and adverse findings can result in forfeiture of ESCs and/or penalties up to $220,000.
- The Nomination Form is the legal instrument which transfers ownership of any right to create ESCs to Demand Manager and it should be made clear to End Users how this process works and what they are signing.
- The use of the Scheme logo is not permitted by ACPs or product/service providers.

2. Energy Savings Scheme

ESS Targets:

2015	5.0%
2016	7.0%
2017	7.5%
2018	8.0%
2019-2025	8.5%

3. DM's Residential and Small Business Energy Efficiency Project

- DM is accredited for the Home Energy Efficiency Retrofit (HEER) Method under the ESS .
- The accreditation permits us to use the Deemed Energy Savings Method of the Energy Savings Rule to create certificates.
- An activity cannot result in a reduction in production or service levels and must not be undertaken to comply with a mandatory legal requirement.

3. DM's Residential and Small Business Energy Efficiency Project

- Upgrades take place in small businesses and residential premises.
- More specifically, DM is accredited for the following types of upgrades.

Residential	Small Businesses
• Heat Pumps • Solar Water Heating • LED Lighting • Pool Pumps • A/C	• Heat Pumps • Solar Water Heating • LED Lighting • A/C

3. DM's Residential and Small Business Energy Efficiency Project

DM undertakes the following activities:

- Adhering to Record Keeping Responsibilities;
- Applying the correct calculation methodologies;
- Verifying all necessary evidence is obtained;
- Submitting registration data into the ESS Portal;
- Subjecting our process and records to internal and external quality assurance audits. This involves desktop reviews and site visits.

3. Specific Requirements

- The exact requirements for HEER upgrades are outlined in IPART's HEER Method Guide which is available from the ESS website (http://www.ess.nsw.gov.au/).
- DM recommends customers to closely read through these requirements.
- In order to simplify the data collection process DM has developed a tablet (or smart phone) based App called Lightwork. Training will be provided to users by DM.
- Below follows an outline of some of the main methodology requirements and matters to consider.

3a. Typical evidence requirements for lighting upgrades

- Electricity Bill
- CCEW
- Tax Invoice and Sales Ledger
- Nomination Form
- Site Assessor Declaration
- Geo-tagged photos
- Manufacturer Data Sheet
- Confirmation of approval implemented technology
- Post Implementation Declaration
- Recycling Certificate or receipt
- Savings calculations

3a. Evidence requirements for heat pumps and solar water heaters

- Site Assessor Declaration
- Geo-tagged photos
- Tax Invoice + Sales Ledger
- Evidence of product acceptance
- Post Implementation Declaration
- Nomination Form
- Savings calculations

3a. Evidence requirements for pool pump upgrades

- Site Assessor Declaration
- Geo-tagged photos
- Manufacturer Specifications
- Screenshot listing pump on Voluntary Energy Rating Labelling Program
- Post Implementation Declaration
- CCEW
- Tax Invoice and sales Ledger
- Nomination Form
- Savings Calculations

3a. Evidence requirements for A/C upgrades

- Electricity Bill (for small businesses)
- Site Assessor Declaration
- Geo-tagged photos
- Screenshot listing GEMS Registry
- Post Implementation Declaration
- CCEW
- Tax Invoice and sales Ledger
- Nomination Form
- Savings Calculations

3b. Nomination Form

- This is a standard template provided by IPART.
- Legal document which enables Demand Manager to create ESCs on behalf of the End-User.
- Must be in the prescribed format with a statement nominating Demand Manager.
- Form must be signed by the End-User **BEFORE** an installation is completed.
- The signee must have legal power to sign on behalf of the Original Energy Saver.
- The signee must be the purchaser of the new technology **and** have ongoing benefits from the upgrade.
- The End User must be provided with a signed copy.

3c. Other templates

In addition to the Nomination Form, the following documents are to be used.

- HEER Fact Sheet: Provides the purchaser with information about the ESS and the HEER method. To be provided to the End User at the start of the upgrade.
- Site Assessor Declaration: Identifies the eligible activities to be implemented at the site prior to the upgrade.
- Post Implementation Declaration: Includes a summary of the implemented activity, statements of compliance with the Scheme requirements, and a declaration from the customer.

3d. Co-contribution from End-User

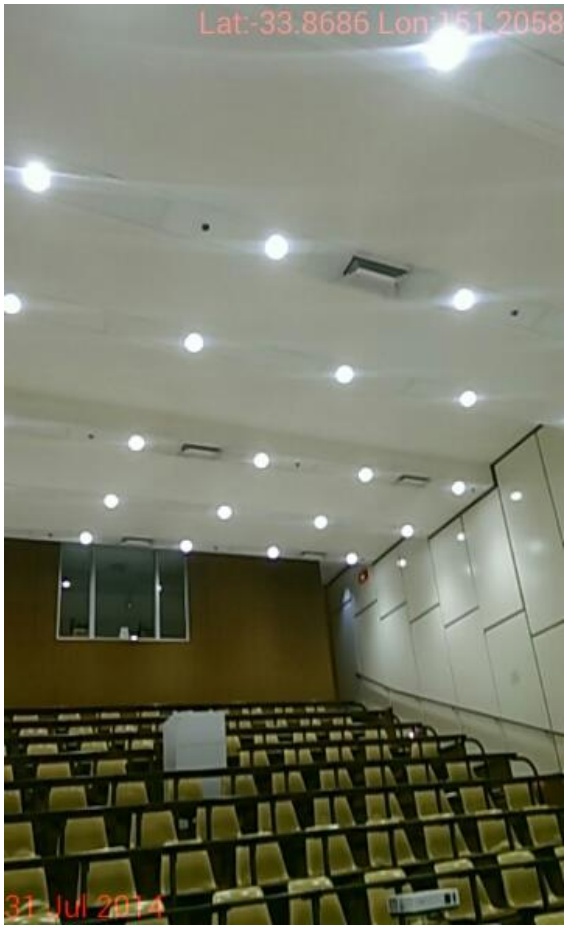
- Under the ESS Rule it is a requirement that the End-User makes a minimum co-contribution to the projects costs, and this minimum amount cannot be reimbursed at any time by any party.
- This co-contribution needs to be at least $30 (ex GST).
- Evidence of this co-contribution is to be obtained in the form of an invoice, and a matching signed sales ledger.
- The payment structure and amounts need to be clear and subject to sounds accounting principles.
- In kind payments are not acceptable.
- DM can only create ESCs once evidence of the minimum co-payment has been obtained.

3e. Photographic Evidence

- Photos are an important source of evidence.
- Photos should be clear and relevant.
- Photographs to clearly show the space and building where upgrades occurred.
- Photos of original and upgraded technologies should show any marking available (e.g. name plates and labels on lamps and ballasts.)
- Photos to be date-stamped and include geotag data showing the exact location where a photo was taken.
- Some example photos are shown on the next slides.

3e. Photographic Evidence

Example 1 – Photo of area that has been upgraded



Geotag Data

Date Stamp

3e. Photographic Evidence

Example 2 – Photos of original lamp and ballast

Date Stamp

Geotag data stored in metadata

3f. Product Acceptance by IPART

- “Emerging” lighting technologies (ELTs) are not as well established as conventional technologies such as fluorescent lights.
- ELTs include LED lights.
- ELTs used under the HEER Method need to be accepted for use under the Scheme prior to creating ESCs.
- In some cases ELTs may have already been accepted previously and they are listed on a Public List.
- In order to get lights accepted specific technical documentation is to be provided to IPART.

3f. Product Acceptance by IPART

- Heat pumps and solar water heaters have to go through a similar acceptance process.
- A list of technologies that can be used for upgrades is published by IPART.
- Certificates can only be claimed for projects with implemented technologies that were accepted at the time of installation.

3g. Removal of old equipment

- In order to ensure that removed equipment is not reused, it needs to be taken off site and appropriately disposed off by the installer.
- In metropolitan areas mercury containing lights must be recycled in an appropriate manner (based on the principles of a product stewardship program such as Fluorocycle).
- A recycling certificate or receipt is to be provided to DM to evidence that lighting equipment has been disposed of.
- In case of pool pump upgrades, photographic evidence is to be provided that the removed pump has been made permanently inoperable.
- Refrigerants must be disposed of in a manner that is compliant with the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989.

3i. Site Specific Requirements

The purpose of a site assessment is to identify opportunities for energy efficiency upgrades and to verify if a site meets all eligibility requirements. The following site and activity specific requirements are to be verified by the retailer/installer:

- Only residential premises and businesses with an annual electricity consumption less that 100 MWh are eligible (recent bill used to determine annual consumption, if close to 100 MWh approval from IPART required).
- Small businesses need to be occupied by a single business in order to be eligible.
- Approval of landlords to upgrade lighting may be required.

3j. Lighting Specific Requirements

Activity Definition	E1 Replace halogen downlight with an LED Luminaire and/or lamp
Eligibility Requirements	1. The existing Lamp must be a Tungsten halogen Lamp (240V), Tungsten halogen Lamp (ELV), or Infrared coated (IRC) halogen Lamp (ELV) as defined in Table A9.1 of Schedule A. 2. The existing Lamp must be a multifaceted reflector Lamp. 3. The existing Lamp must be rated at either 35W or 50W. 4. The existing Lamp and Luminaire must be in working order .
Equipment Requirements	1. The new End-User Equipment must be a LED Lamp only – ELV, LED Lamp and Driver, LED Luminaire-recessed, or an LED Lamp Only – 240V Self Ballasted, as defined in Table A9.1 or Table A9.3 of Schedule A. 2. Any End-User Equipment classified under Table A9.3 must be accepted by the Scheme Administrator as meeting the requirements of Table A9.4 of Schedule A. 3. The new End-User Equipment must have an initial Downward Light Output of ≥462 lumens. 4. The new End-User Equipment must have a beam angle consistent with the original Lamp being replaced. 5. The new End-User Equipment must be compatible with any dimmer installed on the same circuit as the new End-User Equipment.
Implementation Requirements	1. The activity must be performed by a person authorised to carry out electrical wiring work under section 14 (1) of the Home Building Act 1989. 2. When installing a LED Lamp only – 240V Self Ballasted Lamp the existing ELV halogen Control Gear must be removed and not used as part of the Lighting Upgrade. 3. When installing a LED Lamp only – ELV the new End-User Equipment must be compatible with the existing transformer.

3j. Lighting Specific Requirements

Activity Definition	E2 Replacement of a linear halogen floodlight with a high efficiency lamp
Eligibility Requirements	1. The existing Lamp must be a linear halogen floodlight. 2. The existing Lamp must be rated at more than 100W. 3. Existing equipment must be in working order at time of replacement.
Equipment Requirements	1. The new End-User Equipment must be a CFLi or an LED Luminaire – Floodlight, as defined in Table A9.1 or Table A9.3 of Schedule A. 2. Any End-User Equipment classified under Table A9.3 must be accepted by the Scheme Administrator as meeting the requirements of Table A9.4 of Schedule A. 3. CFLs must have a Lamp Life of at least 10,000 hours when measured in accordance with Table A9.6 of Schedule A. 4. The new End-User Equipment must have a beam angle consistent with that of the original Lamp being replaced.
Implementation Requirements	1. The activity must be performed by a person authorised to carry out electrical wiring work under section 14 (1) of the Home Building Act 1989.

3j. Lighting Specific Requirements

Activity Definition	E3 Replacement of PAR lamp with efficient luminaire and/or lamp
Eligibility Requirements	1. The existing Lamp must be a 240V parabolic aluminised reflector (PAR) Lamp. 2. The existing Lamp must be rated at between 80W and 160W. 3. Existing lighting equipment must be in working order at time of replacement.
Equipment Requirements	1. The new End-User Equipment must be a LED Lamp Only – 240V Self Ballasted, CFLi or LED Luminaire – Floodlight as defined in Table A.9.1 or Table A9.3 of Schedule A. 2. Any End-User Equipment classified under Table A9.3 must be accepted by the Scheme Administrator as meeting the requirements of Table A9.4 of Schedule A. 3. CFL Lamps must have a Lamp Life of at least 10,000 hours when measured in accordance with Table A9.6 of Schedule A. 4. The new End-User Equipment must have a beam angle consistent with that of the original Lamp being replaced.
Implementation Requirements	1. The activity must be performed by a person authorised to carry out electrical wiring work under section 14 (1) of the Home Building Act 1989.

3j. Lighting Specific Requirements

Activity Definition	E5 Replace a T8 or T12 luminaire with a LED Luminaire
Eligibility Requirements	1. Must be an existing 2 foot, 3 foot, 4 foot or 5 foot T8 or T12 Fluorescent Luminaire. 2. Existing lighting equipment must be in working order at time of replacement. 3. Existing lighting equipment must not be a luminaire modified with T5 adaptor kit.
Equipment Requirements	1. The new End-User Equipment must be a LED Luminaire – Linear Lamp as defined in Table A9.3 of Schedule A. 2. The new End-User Equipment must not be a Retrofit Luminaire – LED Linear Lamp or Modified Luminaire – LED Linear Lamp as defined in Table A9.3 of Schedule A. 3. Any End-User Equipment classified under Table A9.3 must be accepted by the Scheme Administrator as meeting the requirements of Table A9.4 of Schedule A. 4. Lamp Life must be at least 20,000 hours when measured in accordance with Table A9.6. 5. The new End-User Equipment must be compatible with any dimmer installed on the same circuit as the new End-User Equipment.
Implementation Requirements	1.The activity must be performed by a person authorised to carry out electrical wiring work under section 14 (1) of the Home Building Act 1989.

3j. Lighting Specific Requirements

Activity Definition	E11 Replace an Edison Screw or bayonet cap lamp with an GLS LED Lamp
Eligibility Requirements	1. The existing Lamp must be a 240V fixed ceiling or wall mounted luminaire fixture. 2. The existing Lamp must be an Edison screw or Bayonet Lamp. 3. The existing Lamp must be an Incandescent, halogen or CFL Lamp. 4. The existing Lamp and Luminaire must be in working order. 5. Must be a Lamp only replacement.
Equipment Requirements	1. The new End-User Equipment must be a 240V Edison screw or Bayonet self-ballasted LED Lamp. 2. Any End-User Equipment classified under Table A9.3 of Schedule A must be accepted by the Scheme Administrator as meeting the requirements of Table A9.4 of Schedule A. 3. The new End-User Equipment must be compatible with any dimmer installed on the same circuit as the new End-User Equipment. 4. The new End-User Equipment must have a Light Output the same or higher than the replaced Lamp.
Implementation Requirements	The activity must be performed by a person authorised to carry out electrical wiring work under section 14 (1) of the Home Building Act 1989.

3j.Lighting Specific Requirements

Activity Definition	E13 Replace a T5 Luminaire with a LED Luminaire
Eligibility Requirements	1. Must be an existing 2-foot, 3-foot, 4-foot or 5-foot T5 Luminaire or a luminaire modified with T5 adaptor kit which contains a T5 linear fluorescent Lamp (as defined in Tables A9.1 and A9.3). 2. Existing lighting equipment must be in working order at time of replacement
Equipment Requirements	1. The new End-User Equipment must be a LED Luminaire – Linear Lamp as defined in Table A9.3 of Schedule A. 2. The new End-User Equipment must not be a Retrofit Luminaire – LED Linear Lamp or Modified Luminaire – LED Linear Lamp as defined in Table A9.3 of Schedule A. 3. Any End-User Equipment classified under Table A9.3 must be accepted by the Scheme Administrator as meeting the requirements of Table A9.4 of Schedule A. 4. Lamp Life must be at least 20,000 hours when measured in accordance with Table A9.6. 5. The new End-User Equipment must be compatible with any dimmer installed on the same circuit as the new End-User Equipment.
Implementation Requirements	1. The activity must be performed by a person authorised to carry out electrical wiring work under section 14 (1) of the Home Building Act 1989.

3j.Heat Pump and Solar Water Heater Requirements

- The following hot water upgrades are eligible under the HEER Method.

Activity Definition	Description
D17	REPLACE AN EXISTING ELECTRIC WATER HEATER WITH AN (AIR SOURCE) HEAT PUMP WATER HEATER
D18	REPLACE AN EXISTING ELECTRIC WATER HEATER WITH A SOLAR (ELECTRIC BOOSTED) WATER HEATER
D19	REPLACE AN EXISTING GAS WATER HEATER WITH AN AIR SOURCE HEAT PUMP WATER HEATER
D20	REPLACE AN EXISTING GAS WATER HEATER WITH A SOLAR (ELECTRIC BOOSTED) WATER HEATER
D21	REPLACE AN EXISTING GAS WATER HEATER WITH A SOLAR (GAS BOOSTED) WATER HEATER

- Each type of upgrade results in different energy savings and has a different equation to calculate ESCs.

3j.Heat Pump and Solar Water Heater Requirements

Activity Definition	D17 REPLACE AN EXISTING ELECTRIC WATER HEATER WITH AN (AIR SOURCE) HEAT PUMP WATER HEATER
Eligibility Requirements	1. The existing electric water heater must be an electric resistance storage or instantaneous water heater. 2. The existing electric water heater does not have to be in working order at the time of replacement.
Equipment Requirements	1. The installed End-User Equipment must be an air source heat pump water heater as defined in AS/NZS 4234. 2. The installed End-User Equipment must be certified to AS/NZS 2712. 3. The installed End-User Equipment must achieve minimum annual energy savings, when determined as an air sourced heat pump using a small or medium thermal peak load in accordance with AS/NZS 4234 of: o 60% when modelled in climate zone HP3-AU if the Site is in BCA Climate Zone 2, 3, 4, 5 or 6; o 60% when modelled in climate zone HP5-AU if the Site is in BCA Climate Zone 7 or 8;
Implementation Requirements	1. The existing End-User Equipment must be removed. 2. The replacement End-User Equipment must be installed at a Site in accordance with the Equipment Requirements. 3. The activity, including the removal of any existing End-User Equipment, must be performed or supervised by a suitably qualified licence holder in compliance with the relevant standards and legislation.

Activity Definition	D18 REPLACE AN EXISTING ELECTRIC WATER HEATER WITH A SOLAR (ELECTRIC BOOSTED) WATER HEATER
Eligibility Requirements	1. The existing electric water heater must be an electric resistance storage or instantaneous water heater. 2. The existing electric water heater does not have to be in working order at the time of replacement.
Equipment Requirements	1. The installed End-User Equipment must be a solar water heater with a collector as defined in AS/NZS 4234. 2. The installed End-User Equipment must be certified to AS/NZS 2712. 3. The installed End-User Equipment must achieve minimum annual energy savings of 60% when determined as a solar thermal collector system with supplementary electric resistive heating in AS/NZS 4234 climate zone 3 using a small or medium thermal peak load in accordance with AS/NZS 4234, for all Sites in an ESS Jurisdiction.
Implementation Requirements	1. The existing End-User Equipment must be removed. 2. The replacement End-User Equipment must be installed at a Site in accordance with the Equipment Requirements. 3. The activity, including the removal of any existing End-User Equipment, must be performed or supervised by a suitably qualified licence holder in compliance with the relevant standards and legislation.

3j.Heat Pump and Solar Water Heater Requirements

Activity Definition	D19 REPLACE AN EXISTING GAS WATER HEATER WITH AN AIR SOURCE HEAT PUMP WATER HEATER
Eligibility Requirements	1. The existing electric water heater must be an electric resistance storage or instantaneous water heater. 2. The existing electric water heater does not have to be in working order at the time of replacement.
Equipment Requirements	1. The installed End-User Equipment must be an air source heat pump water heater as defined in AS/NZS 4234. 2. The installed End-User Equipment must be certified to AS/NZS 2712. 3. The installed End-User Equipment must achieve minimum annual energy savings, when determined as an air sourced heat pump using a small or medium thermal peak load in accordance with AS/NZS 4234 of: o 60% when modelled in climate zone HP3-AU if the Site is in BCA Climate Zone 2, 3, 4, 5 or 6; o 60% when modelled in climate zone HP5-AU if the Site is in BCA Climate Zone 7 or 8;
Implementation Requirements	1. The existing End-User Equipment must be removed. 2. The replacement End-User Equipment must be installed at a Site in accordance with the Equipment Requirements. 3. The activity, including the removal of any existing End-User Equipment, must be performed or supervised by a suitably qualified licence holder in compliance with the relevant standards and legislation.

Activity Definition	D20 REPLACE AN EXISTING ELECTRIC WATER HEATER WITH A SOLAR (ELECTRIC BOOSTED) WATER HEATER
Eligibility Requirements	1. The existing electric water heater must be an electric resistance storage or instantaneous water heater. 2. The existing electric water heater does not have to be in working order at the time of replacement.
Equipment Requirements	1. The installed End-User Equipment must be a solar water heater with a collector as defined in AS/NZS 4234. 2. The installed End-User Equipment must be certified to AS/NZS 2712. 3. The installed End-User Equipment must achieve minimum annual energy savings of 60% when determined as a solar thermal collector system with supplementary electric resistive heating in AS/NZS 4234 climate zone 3 using a small or medium thermal peak load in accordance with AS/NZS 4234, for all Sites in an ESS Jurisdiction.
Implementation Requirements	1. The existing End-User Equipment must be removed. 2. The replacement End-User Equipment must be installed at a Site in accordance with the Equipment Requirements. 3. The activity, including the removal of any existing End-User Equipment, must be performed or supervised by a suitably qualified licence holder in compliance with the relevant standards and legislation.

3j.Heat Pump and Solar Water Heater Requirements

Activity Definition	D21 REPLACE AN EXISTING GAS WATER HEATER WITH A SOLAR (GAS BOOSTED) WATER HEATER
Eligibility Requirements	1. The existing electric water heater must be an electric resistance storage or instantaneous water heater. 2. The existing electric water heater does not have to be in working order at the time of replacement.
Equipment Requirements	1. The installed End-User Equipment must be a solar water heater with a collector as defined in AS/NZS 4234. 2. The installed End-User Equipment must be certified to AS/NZS 2712. 3. The installed End-User Equipment must achieve minimum annual energy savings of 60% when determined as a solar thermal collector system with supplementary gas combustion heating through heat exchangers in AS/NZS 4234 climate zone 3 using a small or medium peak thermal load in accordance with AS/NZS 4234, for all Sites in an ESS Jurisdiction.
Implementation Requirements	1. The existing End-User Equipment must be removed. 2. The replacement End-User Equipment must be installed at a Site in accordance with the Equipment Requirements. 3. The activity, including the removal of any existing End-User Equipment, must be performed or supervised by a suitably qualified licence holder in compliance with the relevant standards and legislation.

3j.Pool Pump Replacement Requirements

Activity Definition	D5 REPLACE AN EXISTING POOL PUMP WITH A HIGH EFFICIENCY POOL PUMP
Eligibility Requirements	1. There must be an existing pool pump installed at the Site at time of replacement.
Equipment Requirements	1. The new End-User Equipment must be a product for use with a domestic pool or spa that is a single phase motor and any of the following types: single speed, dual speed, multiple speed or variable speed pump unit. The pump unit must have an input power of not less than 100W and not more than 2500W when tested in accordance with AS 5102.1. 2. The new End-User Equipment must be listed as part of a labelling scheme determined in accordance with the Equipment Energy Efficiency (E3) Committee's Voluntary Energy Rating Labelling Program for Swimming Pool Pump-units: Rules for Participation, April 2010, and achieve a minimum 4.5 star rating when determined in accordance with AS 5102.2. 3. The new End-User Equipment must have a warranty of at least 3 years.
Implementation Requirements	1. The pool pump must be installed by a Licensed plumber and/or electrician, where required by relevant legislation. 2. The decommissioned pool pump must be removed in accordance with relevant safety standards and legislation.

3j.Air-conditioning installation requirements

Activity Definition	D16 INSTALL A NEW HIGH EFFICIENCY AIR CONDITIONER OR REPLACE AN EXISTING AIR CONDITIONER WITH A HIGH EFFICIENCY AIR CONDITIONER
Eligibility Requirements	1. This activity must be an installation of a new high efficiency air conditioner or a replacement of an existing air conditioner (whether operational or not) with a high efficiency air conditioner.
Equipment Requirements	1. The New End-User Equipment or replacement End-User Equipment must be registered in the GEMS Registry as complying with the Greenhouse and Energy Minimum Standards (Air Conditioners up to 65kW) Determination 2019. 2. If the New End-User Equipment or replacement End-User Equipment has a Cooling Capacity recorded in the GEMS Registry: a. It must have a Residential TCSPF_mixed value, as recorded in the GEMS Registry, equal to or greater than the Minimum Residential TCSPF_mixed value for the corresponding Product Type and Cooling Capacity in Table D16.4; or b. If it does not have a Residential TCSPF_mixed value recorded in the GEMS Registry, then it must have a Rated AEER in the GEMS Registry equal to or greater than the Minimum Rated AEER for the Product Type and Cooling Capacity in Table D16.5. 3. If the New End-User Equipment or replacement End-User Equipment has a Heating Capacity recorded in the GEMS Registry, and is installed in the hot or average zone as defined in Table A27: a. It must have a Residential HSPF_mixed value, as recorded in the GEMS Registry, equal to or greater than the Minimum Residential HSPF_mixed value for the same Product Type and Cooling Capacity in Table D16.4; or b. If it does not have a Residential HSPF_mixed value recorded in the GEMS Registry, then it must have a Rated ACOP in the GEMS Registry equal to or greater than the Minimum Rated ACOP for the same Product Type and Cooling Capacity in Table D16.5. 4. If the New End-User Equipment or replacement End-User Equipment has a Heating Capacity recorded in the GEMS Registry, and is installed in the cold zone as defined in Table A27: a. It must have a Residential HSPF_cold value, as recorded in the GEMS Registry, equal to or greater than the Minimum Residential HSPF_cold value for the same Product Type and Cooling Capacity in Table D16.4; or b. If it does not have a Residential HSPF_cold value recorded in the GEMS Registry, then it must have a Rated ACOP in the GEMS Registry equal.
Implementation Requirements	1. The existing End-User Equipment must be removed. 2. The New End-User Equipment or replacement End-User Equipment must be installed. 3. The activity, including the removal of any existing End-User Equipment, must be performed or supervised by a suitably qualified license holder in compliance with the relevant standards and legislation.

4. Customer Engagement with End Users

- DM is responsible for all activities that are part of projects for which ESCs are created under our accreditation.
- This includes activities conducted by DM staff, and activities conducted by third parties (e.g. lighting retailers, installers, salespeople etc.).
- Representative must be aged 18 years or over (unless they are an apprentice supervised by a licensed electrician) and must be:
  - An employee of DM; or
  - A direct contractor of DM; or
  - An employee of another company that has a legally binding contract with DM; or
  - A contractor of another company that has a legally binding contract with DM.

4. Customer Engagement with End Users

- DM is required to have a Contractual Agreement in place with representatives undertaking aspects of an upgrade (e.g. retailers and installers).
- This Contractual Agreement is to be signed prior to a representative conducting activities under DM's RESA.
- DM must maintain a register of representatives.
- Representatives must be aware of their responsibilities under the ESS and DM's RESA and will be provided with information/training by DM.
- The guidelines outlined on the following slides apply to the engagement with customers.

4. Customer Engagement with End Users

- Principles of openness, transparency and honesty.
- Explain the contents and function of the Nomination Form.
- All End Users to be provided with a HEER Fact Sheet and explanation of its content prior to signing the Nomination Form.
- All parties directly dealing with End Users are expected to adhere to, and to inform the customers about, the following matters:
- This is not a mandatory scheme;
- Don’t present yourself as a representative of the ESS, IPART or the NSW Government;

4. Customer Engagement with End Users

- Your products are not endorsed or recommended by the NSW Government;
- Outline the different parties involved and their roles (e.g. the ACP DM);
- Explain and demonstrate the installation work/process and technical features of the technology installed;
- Where applicable installed lights need to be compatible with dimmers and not be flickering;
- Replace faulty lights upon request of the End User;
- Lights need to be implemented, not just supplied.
- Do not misrepresent the services being undertaken;

4. Customer Engagement with End Users

- Explain that IPART or ESS auditors may request information to verify that ESCs are properly created, or to obtain access to site to verify the physical installation;
- Provide full assistance to such requests;
- Representatives (e.g. installers) need to appropriately identify themselves (photo ID);
- Explain the process to be followed when customers are not satisfied (e.g. contact details);
- Contact details of Demand Manager.

5. Training and qualification requirements

Representatives involved in upgrades must be appropriately trained (prior to performing any activities under the ESS) and have the appropriate qualifications. This includes:

- Completing this training;

- Receiving instructions on how to use Lightwork (where relevant);

- Be a licensed electrician or be supervised by a licensed electrician.

Each implementation must comply with the Electricity Supply Act 1995, the Electricity Supply (General) Regulation 2014, and the ESS Rule.

5. Training and qualification requirements

Representatives must comply with all legislative or regulatory requirements that are relevant to performing their role. This may include but is not limited to:

- Telemarketing, door-to-door sales and consumer rights under the Australian Consumer Law;
- Protection of Privacy and Information (Privacy and Personal Information Protection Act 1998 and the Privacy and Personal Information Protection Regulation 2014);
- WH&S regulations (Work Health and Safety Act 2019 and Work Health and Safety Regulations 2017);
- The Gas and Electrical (Consumer Safety) Act 2017 and Gas and Electrical (Consumer Safety) Regulation 2018;
- Any other relevant statutory requirements.

6. Quality Assurance

Demand Manager has an internal quality assurance procedure to help ensure that the ESCs that are created are legitimate and correct. This process may include:

- Reviewing paperwork and crosschecking information (Desktop Review).
- Telephone surveys of the Original Energy Savers.
- Site visits.

Demand Manager is also periodically audited by third party auditors who may conduct:

- Reviews of paperwork and the crosschecking of information.
- Telephone surveys or email surveys of select jobs asking questions to the Original Energy Savers.
- Site visits on selected jobs to confirm the quantity of lights, and the type of light installed.

Demand Manager

For any questions contact:

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