

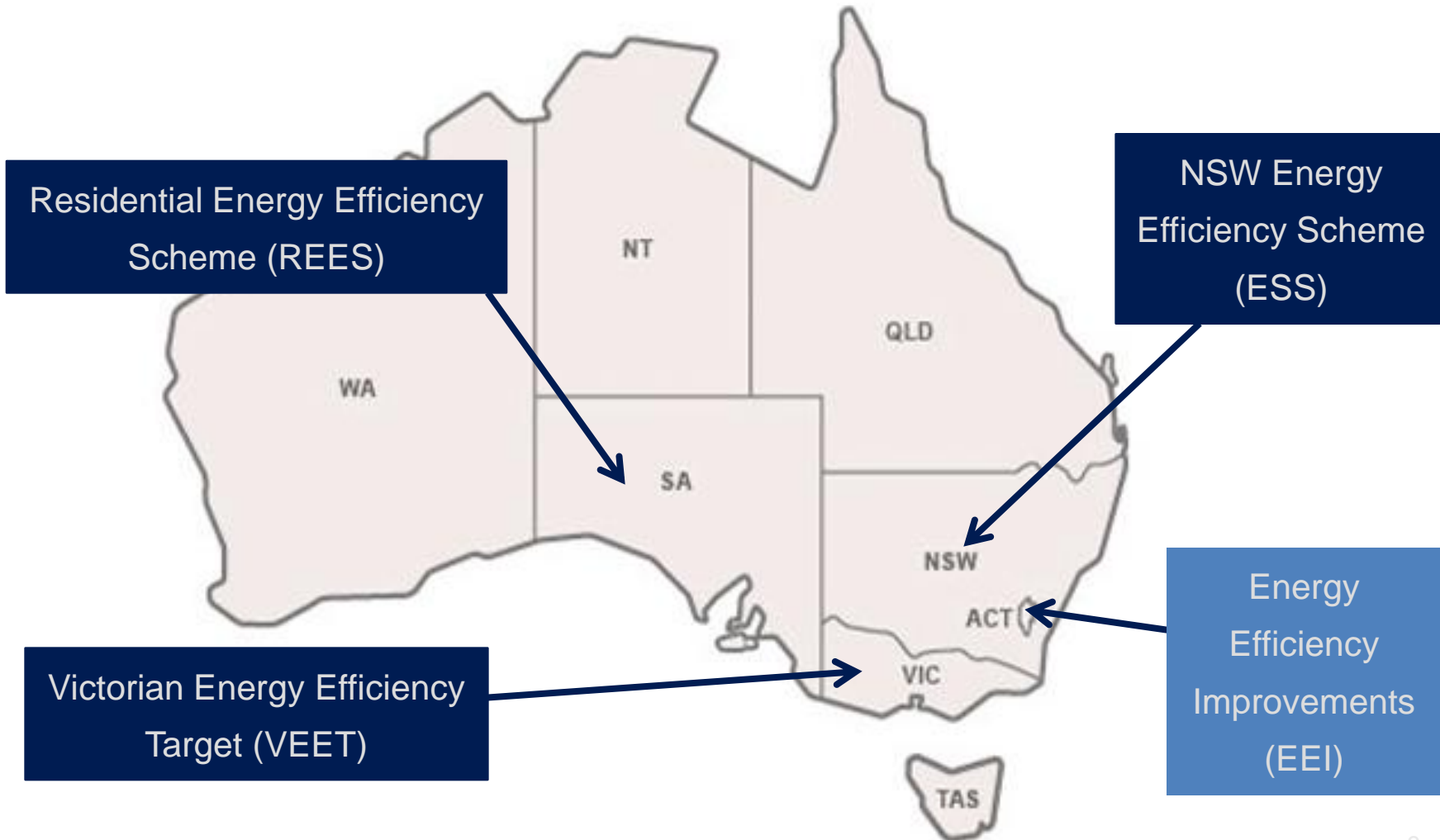
# Australia's experience with energy provider obligations

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April 18 2012

# Australian energy efficiency schemes



# Australian energy efficiency schemes

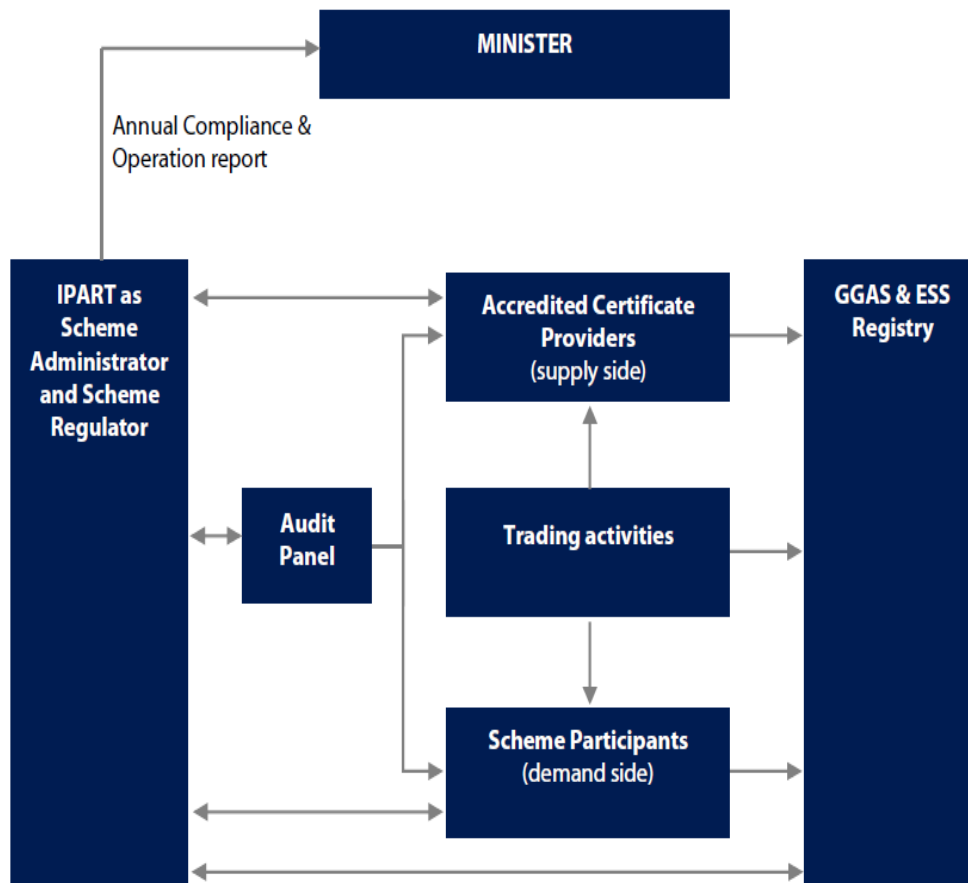
ESS (NSW)	VEET (VIC)	EEl (ACT - proposed)	REES (SA)
Currency = Energy Savings Certificate (ESCs)	Currency = Efficiency Certificates (VEECs)	Not yet defined but likely to be non certificate based	Not a trading Scheme. Energy retailers must provide energy audits & EE activities
1 ESC = 1 tonne CO <sub>2</sub> e	1 VEET = 1 tonne CO <sub>2</sub> e	Not yet defined	Measured in CO <sub>2</sub> e
Population NSW = 7,303,700	Population Vic = 5,624,100	Population ACT = 365,400	Population SA = 1,657,000
Started 1 July 2009 2012 Target ~ 2.4 Million ESCs Calendar year based	Started 1 Jan 2009. Target in 1 <sup>st</sup> 3 yrs = 2.7 Million tonnes pa 2012 -15 Target - 5.4 Million VEECs pa Calendar year based	Targets will be defined each year, but not due to commence until 1 January 2013	Started 2009 2012 Target = 255,000 tonne CO <sub>2</sub> e
Operate until 2020 or replaced by a national scheme	Operate in 3 year phases until 2029	3 Year phases subject to review, operate until 2015 or replaced by a national scheme	6 year Scheme, operated in 3 year phases until 2014
Majority of activities in business sector, some residential and industrial activities	Was focused on residential sector activities solely, but recently expanded into business sector	Residential and small and medium-sized enterprise sector – priority for low income hseholds	Focused solely on residential sector
Only electricity based energy savings are eligible	Both electricity and gas savings are eligible	Both electricity and gas savings are eligible	All household energy consumption eligible
Liabe Parties: All Electricity Retailers, Generators & NEM Market Customers (33 Mandatory Participants). Obligation enforced through license conditions. Liability = % share of liable electricity sales.	Liabe Parties: Only large energy retailers serving 5,000 or more customers (approximately 12 of 22 in VIC Mandatory Participants). Must surrender VEECs equal to liability. Obligation set out in Regulation.	Liabe Parties: Tier 1 (at least 500GWh annual sales – only 1 in ACT) or Tier 2 (less than 500GWh annual sales Mandatory Participants)	Liabe Parties: Only large energy retailers serving 5,000 or more customers (7 Mandatory Participants). Obligation set out in Regulation
Calculation methods flexible to accommodate several different activity types	11 categories of prescribed activity types	Includes both project-based flexible energy savings activities and predetermined list of prescribed eligible activities	Flexible activities available to all SA households and energy auditing made available for low income households

# NSW Energy Savings Scheme (ESS)

- ▼ ESS commenced on 1 July 2009 – in NSW only
- ▼ Mandatory scheme – established by legislation  
Electricity retailers are the liable parties
- ▼ Market based mechanism that involves the creation and trading of Energy Savings Certificates (ESCs)
- ▼ Not a funding or grants program – a trading scheme
- ▼ IPART is both Scheme Administrator and Regulator
  - ▼ we accredit companies to create certificates
  - ▼ we monitor compliance by obligated parties

# Administrative Structure of ESS

Figure A.1 Structure of the ESS



## Legislation:

- ▼ Electricity Supply Act 1995 (the Act)
- ▼ Electricity Supply Regulation 2001 (the Regulation)
- ▼ Energy Savings Scheme Rule (ESS Rule) – define eligible activities
- ▼ Will run to end 2020 unless replaced by a national scheme

# How the Scheme works

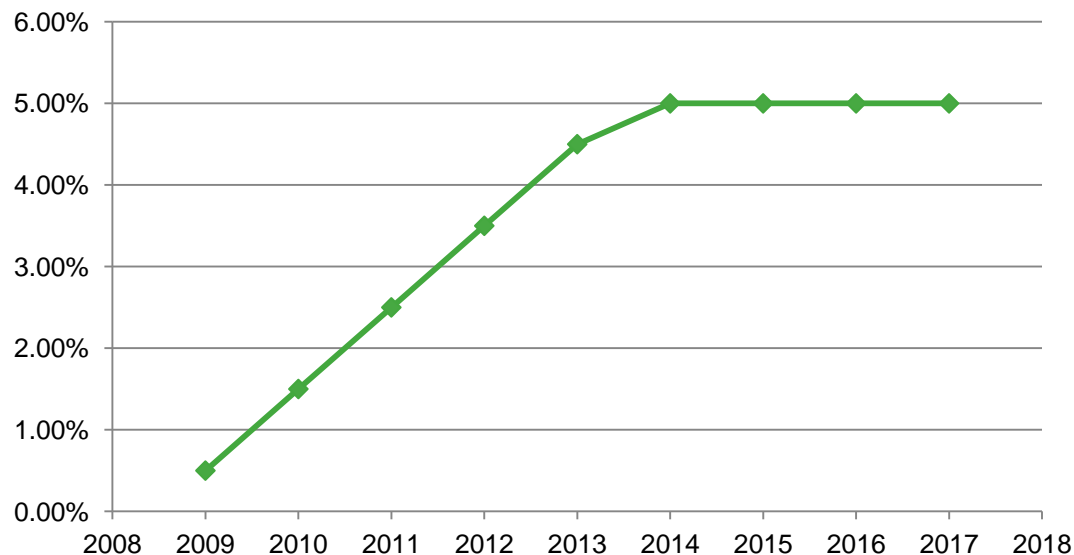
- ▼ Obligation placed on electricity retailers to acquire energy savings. Can do this by:
  - ▼ carrying out energy savings activities themselves and have these recognised by IPART to create ESCs, or
  - ▼ buying ESCs from other accredited providers
- ▼ ESCs are created from activities in the residential, commercial and industrial sectors
  - ▼ must apply to IPART to be accredited to create ESCs
  - ▼ ESCs trade for around \$31 per certificate on spot market
- ▼ Retailers surrender ESCs against their individual target (based on their share of total electricity sales in NSW), or pay a penalty

# Characteristics of the ESS

- ▼ Encourages least cost energy efficiency solutions
- ▼ Uses tradeable certificates – price set by market
  - ▼ 1 ESC = 1 tonne of CO<sub>2</sub>-e; bankable, transferable
- ▼ Has broad coverage – residential, commercial and industrial sectors
- ▼ Broad range of eligible activities with scope to expand
  - ▼ HVAC, pumps, lighting, appliances, refrigeration etc
- ▼ Broad range of methodologies to calculate savings
  - ▼ Deeming, upfront calculations, on-going assessment
- ▼ Robust audit and compliance regime
  - ▼ Use of 3rd party independent auditors; risk based approach

# Scheme targets drive demand for ESCs

- ▼ **Targets set in legislation**
- ▼ **2011 target was 2.5% of annual liable electricity sales or approximately 1,400 GWh**
  - ▼ surrender of ~1.4 million ESCs to avoid paying penalties
- ▼ **By 2014, target will be 5% of annual liable electricity sales or about 3,000 GWh per annum in energy savings**
  - ▼ surrender of ~3.0 million ESCs to avoid paying penalties



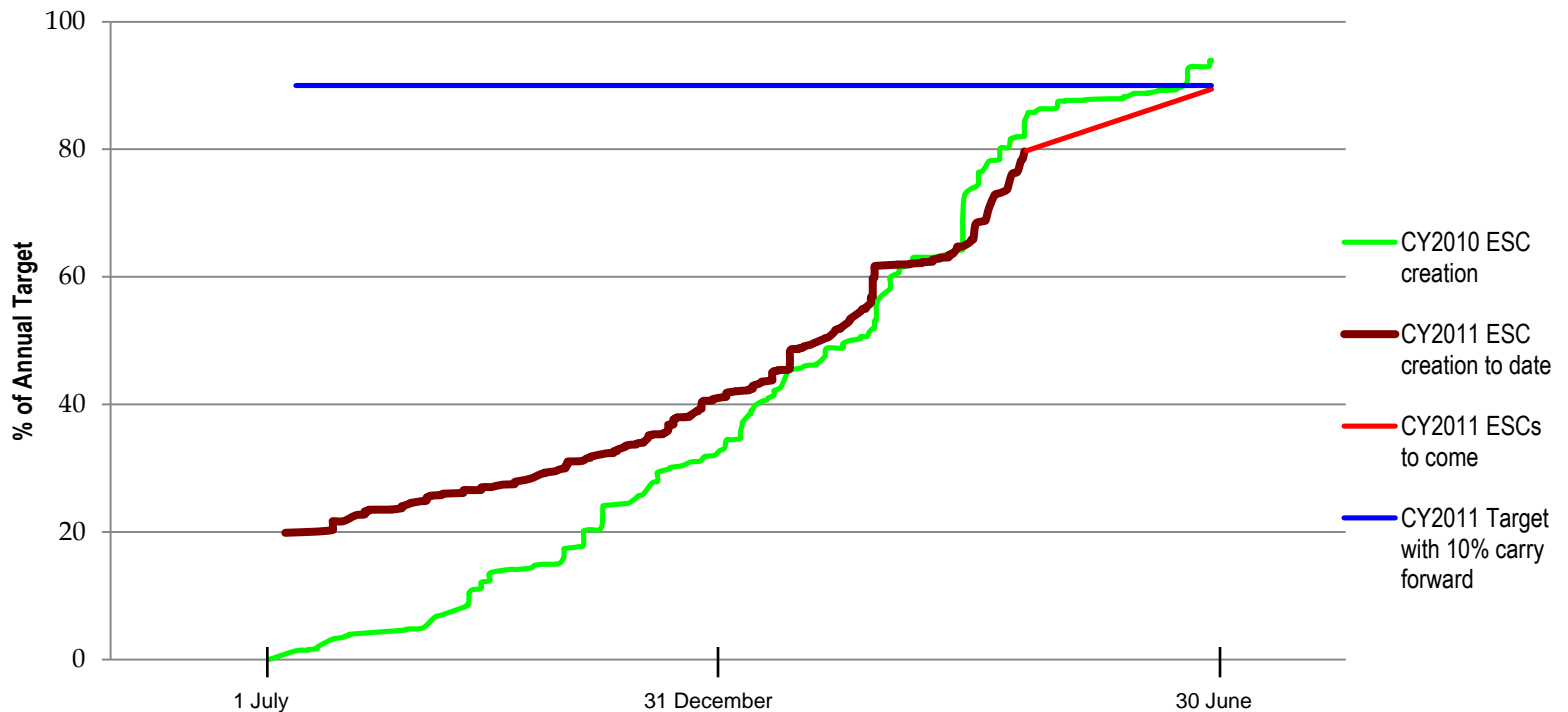


# Compliance with ESS (electricity retailers)

- ▼ 31 Scheme Participants
- ▼ Compliance deadline – 18 March
- ▼ Annual Energy Savings Statements must be signed by auditor unless an exemption has been granted
- ▼ If no electricity purchases in NSW, then nil return
- ▼ Scheme Participants can request an amendment and have until June to complete surrenders or pay a penalty. Can carry forward up to 10% of liability
- ▼ Most Scheme Participants enter into forward contracts for certificates

# ESC Supply & Demand for CY2010 & 11

ESC registered as % of Annual Target. CY2011 includes un-surrendered prior vintage ESCs



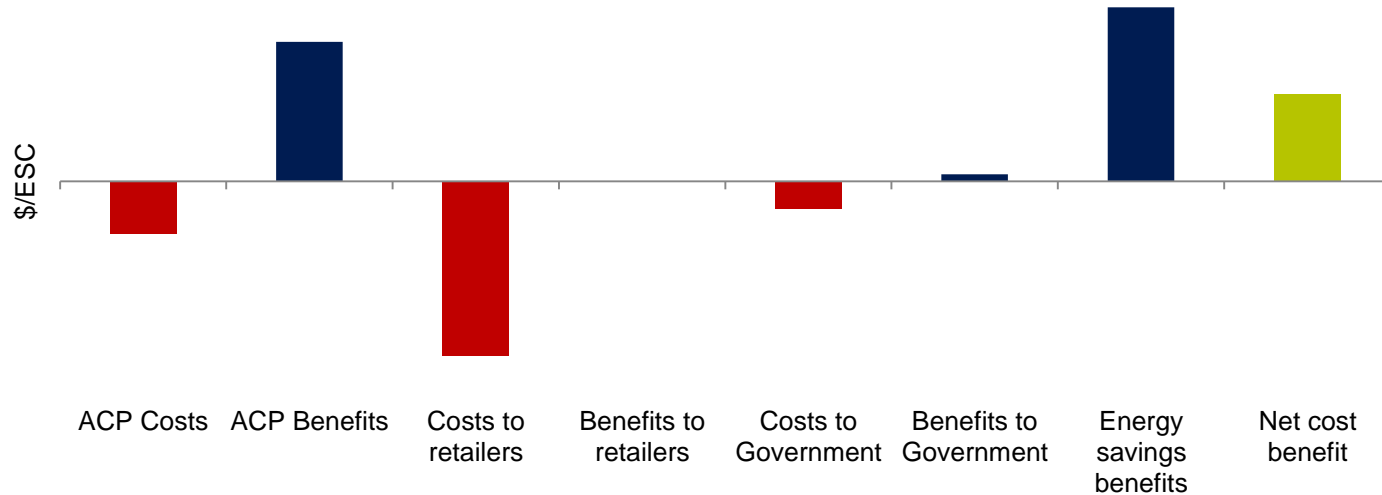
# The lifecycle of a ESC



# Cost effectiveness of ESS

- ▼ Databuild Research & Solutions prepared report “*Cost Effectiveness Analysis of ESS*”
  - ▼ Covered first 18 months of scheme
  - ▼ Investigated how scheme participants and project providers (ACPs) were delivering the scheme
  - ▼ Quantified costs associated with delivery of projects
  - ▼ Showed that business costs of ACPs for 2009 and 2010 was significantly lower than the selling price for ESCs
  - ▼ Concluded ESS makes both financial and environmental sense

# Cost effectiveness of ESS



- ▼ Costs to participants and businesses small compared to ESC value
- ▼ Average cost for each ESC created was \$15
- ▼ Value of energy saved was conservatively \$40
- ▼ Total net benefit of ~\$24.50 per ESC

# Costs and obligations to participate

- ▼ \$500 Application Fee – once off
- ▼ Annual Reporting – pro forma statement
  - ▼ Report future creation and any changes to project
  - ▼ Not required for small projects with one-off creation of ESCs
- ▼ Audits - based on risk assessment
  - ▼ Nature of project, ESC volume, compliance history
  - ▼ Costs range from \$8,000 - \$25,000 per audit
- ▼ ESC registration fee - \$0.70 per certificate
- ▼ Penalties enforced for contraventions


# ESS Rule - Calculation Methods

Applicants must use one of the specified Calculation Methods:

- ▼ Project Impact Assessment Method (PIAM)
- ▼ Metered Baseline Method(s) (MBM)
- ▼ Deemed Energy Savings Method(s) (DESM)
  - ▼ Commercial Lighting Formula (CLF)
  - ▼ Default Savings Factors (DSF)

# Equipment types and calculation methods

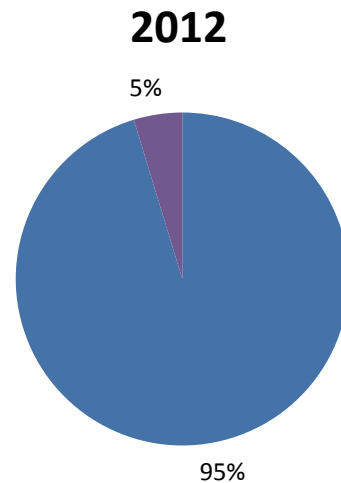
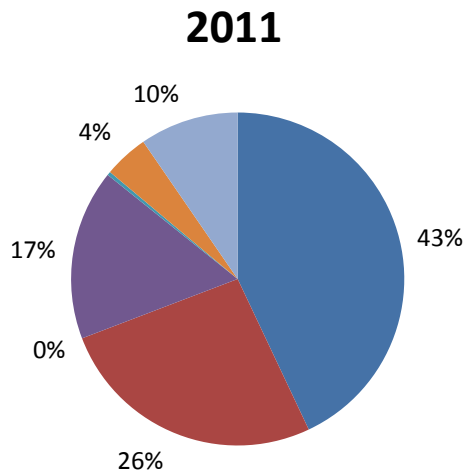
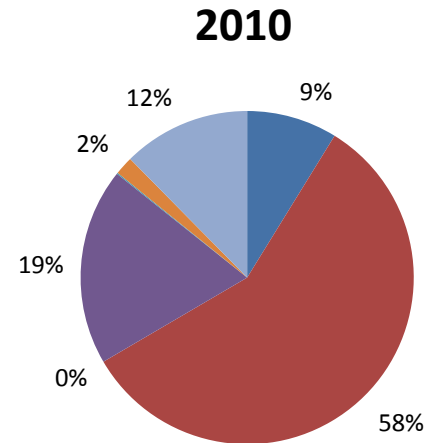
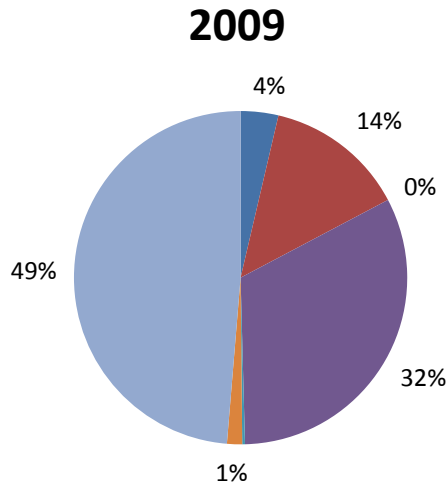
Activity	PIAM	MBM	DESM CLF	DESM DSF
Residential Lighting				Yes
Commercial Lighting	Yes	Yes	Yes	Yes
Whitegoods Sales & Removals				Yes
Showerhead Replacement				No
Improved NABERS ratings		Yes		
Commercial equipment	Yes	Yes		
Industrial equipment	Yes	Yes		
Industrial sites & processes	Yes	Yes		



Air  
Compressors  
HVAC Chillers  
Refrigeration

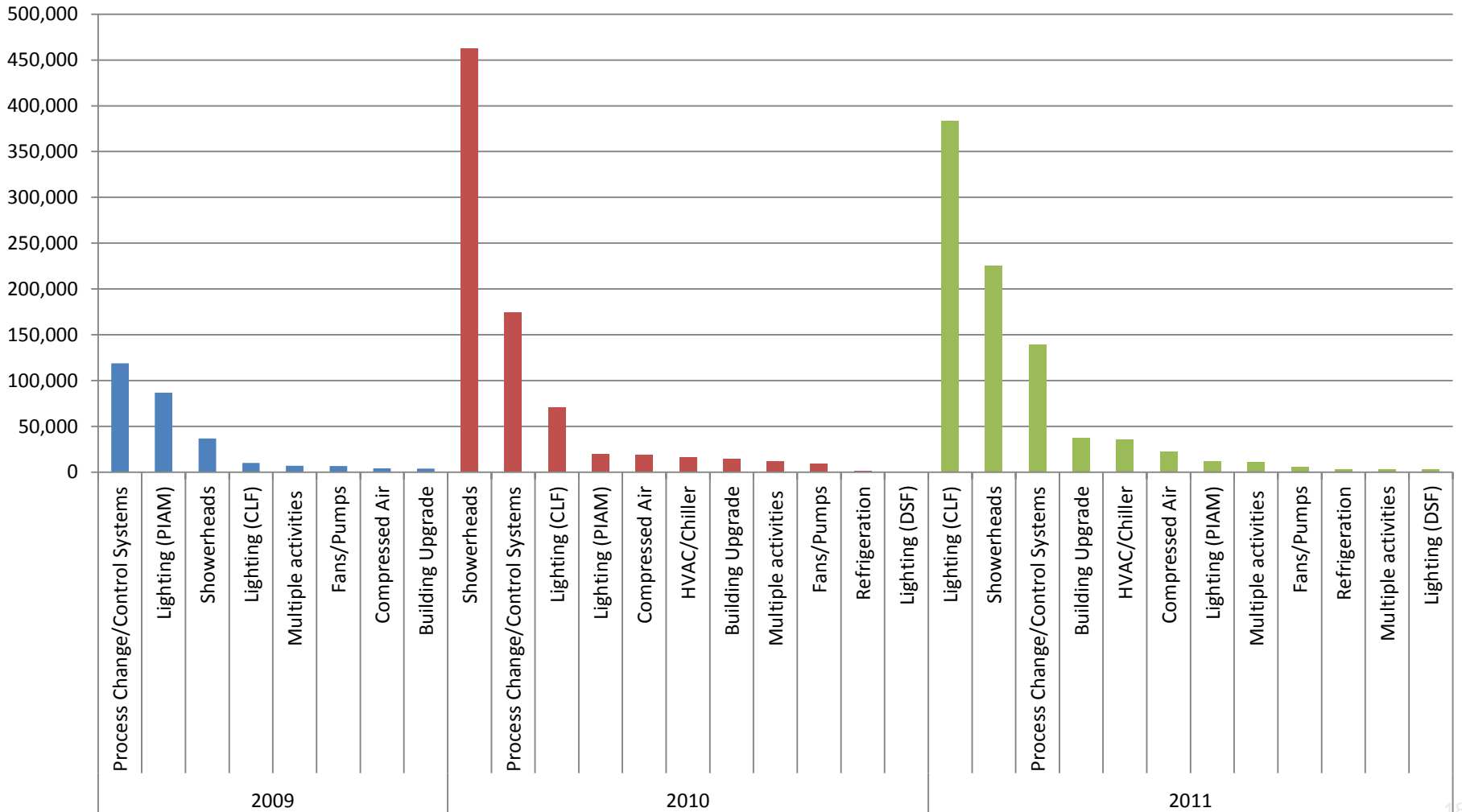


# Certificates created by methodology



- Commercial Lighting Formula
- Default Savings Factors
- Power Factor Correction
- Baseline per unit of output
- Baseline unaffected by output
- Normalised by NABERS scheme
- Project Impact Assessment Method

# Certificates created by project group



# Independent audits used for validation and verification

- ▼ Audits conducted by auditors on ESS Audit Panel
- ▼ Audits check ESC creation & record keeping
- ▼ Audit regimes based on risk matrix

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		Consequence – quantum of invalidly created ESCs		
		Minor	Moderate	Severe
Likelihood of invalid ESC creation occurring	High	Medium Risk	High Risk	Extreme Risk
	Medium	Low Risk	Medium Risk	High Risk
	Low	Low Risk	Medium Risk	Medium Risk

# How has ESS performed?

Vintage	Certificates created	Certificates forfeited*	Forfeit rate
2009	277,042	1,137	0.41%
2010	802,022	114,950^	12.54%^
2011	887,204	3,392	0.38%
2012	44,478	0	0.00%

Data as at 5 April 2012


\*Note: Certificates forfeited include certificates incorrectly created when registering

^2010 total forfeits largely due to showerhead over-creation


# Lessons learned

- ▼ Balance between upfront assessment & ongoing compliance audits
- ▼ Encouraging applications from long-term / sustainable businesses – especially industrial sector
- ▼ Tailoring audit regime to project risk e.g. phone surveys for 3<sup>rd</sup> party business models
- ▼ Importance of clear Scheme documentation – new website, new application documents
- ▼ Improving efficiency of application assessment process - pre-application workshops
- ▼ Being responsive to changes in market (ie growth in commercial lighting)

www.ess.nsw.gov.au



- HOME
- OVERVIEW OF THE SCHEME
- BENEFITS
- CASE STUDIES
- HOW THE SCHEME WORKS
- HOW TO BE INVOLVED
- PROJECTS AND EQUIPMENT
- HOW TO APPLY FOR ACCREDITATION
- For Accredited Certificate Providers
- For Liable Entities
- For Auditors
- Registry
- Common questions




The Energy Savings Scheme reduces electricity consumption in NSW by creating financial incentives for energy saving activities


▶ THE SCHEME IN MORE DETAIL

### How can I be involved?


Choose the option that best describes you.



▶ businesses who want to save energy




▶ consultants and service providers




▶ householders

### What is included in the scheme?


There are many ways to reduce electricity.




Commercial and residential



Manufacturing





Commercial buildings



Lighting

#### CERTIFICATE STATISTICS

 <b>1,734,085</b> <small>Total certificates</small>	 <b>800,629</b> <small>Number surrendered</small>
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933,456 live certificates are yet to be surrendered.

#### NEWS, EVENTS & UPDATES

- ▶ [Application workshop - 19 April 2012](#)  
19/04/2012
- ▶ [Application workshop - 22 March 2012](#)  
22/03/2012

Thank you