



Energy Efficiency Training Week

Financing Energy Efficiency – Market based instruments

Industry Stream

Patrick Crittenden, Energy Efficiency in Emerging Economies, IEA
Bangkok, 3 April 2019

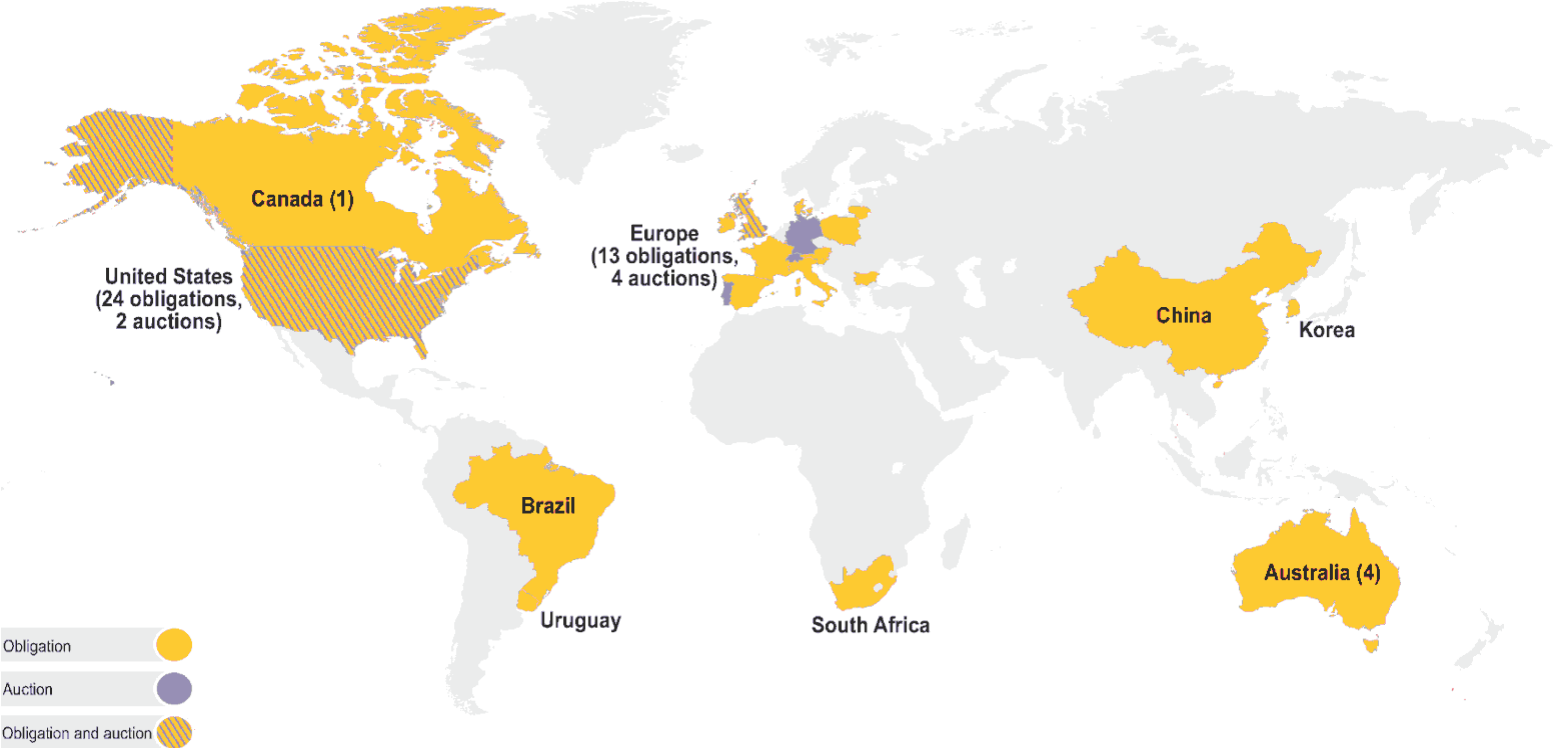
 IEA #energyefficientworld

- What are Market-based Instruments?
- Why should policy makers include them in their energy efficiency toolbox?
- Case study of the NSW (Australia) Energy Savings Scheme
- Group activity – The “Hypothetical Energy Savings Scheme”
- Learning from other energy efficiency policies and programmes

Market Based Instruments for energy efficiency:

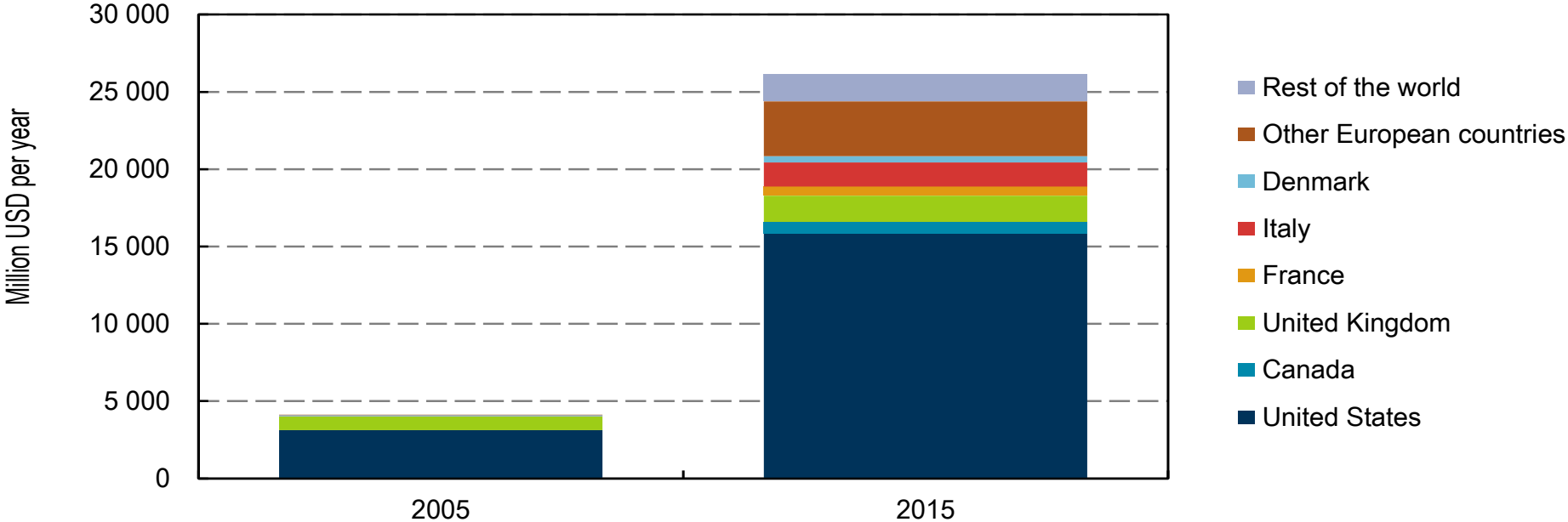
- Use market forces to minimise the cost of saving energy
- Set a policy framework specifying the outcome (e.g. energy savings, cost-effectiveness) to be delivered by market actors, without prescribing the delivery mechanisms and the measures to be used.

Market-based Instruments for energy efficiency – where can they be found?



The number of Market Based Instruments has quadrupled over the last ten years

Investment through Market-based Instruments



The amount of investment generated by Market Based Instruments has increased six-fold over the last decade



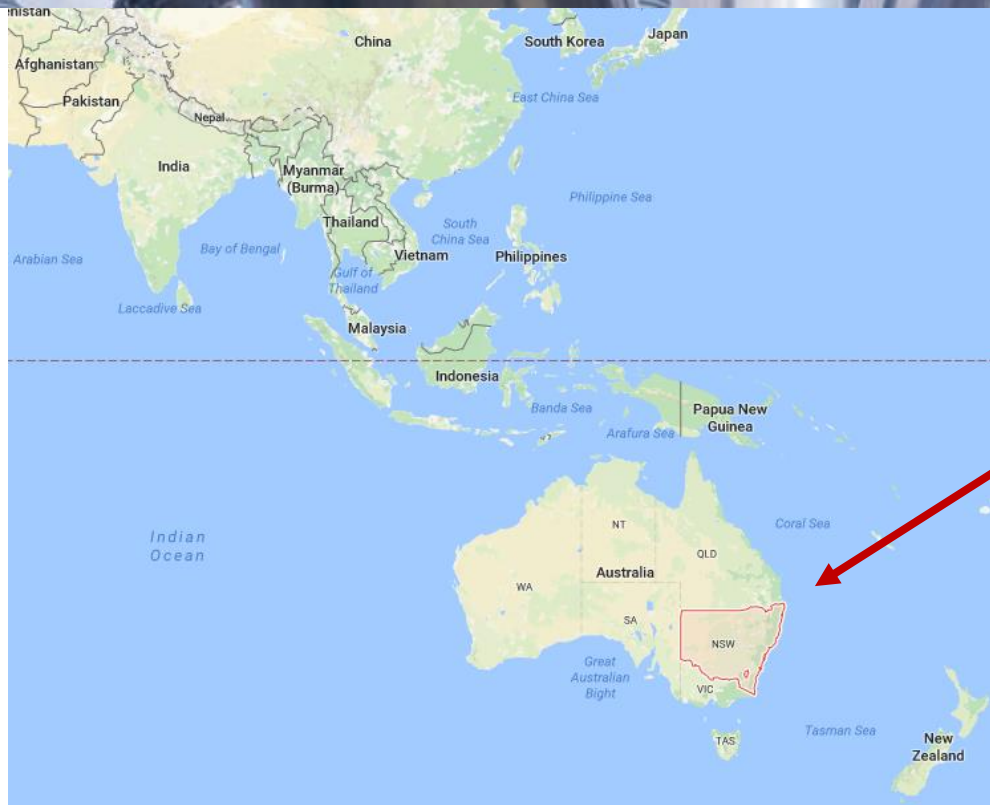
**ENERGY
SAVINGS SCHEME**

Case Study

NSW Energy Savings Scheme




**ENERGY
SAVINGS SCHEME**



**New
South
Wales
(NSW)**



New
South
Wales
(NSW)



Regulator

***OBLIGATION TO
SAVE ENERGY***

Energy
retailer
s

Energy
Users

ENERGY

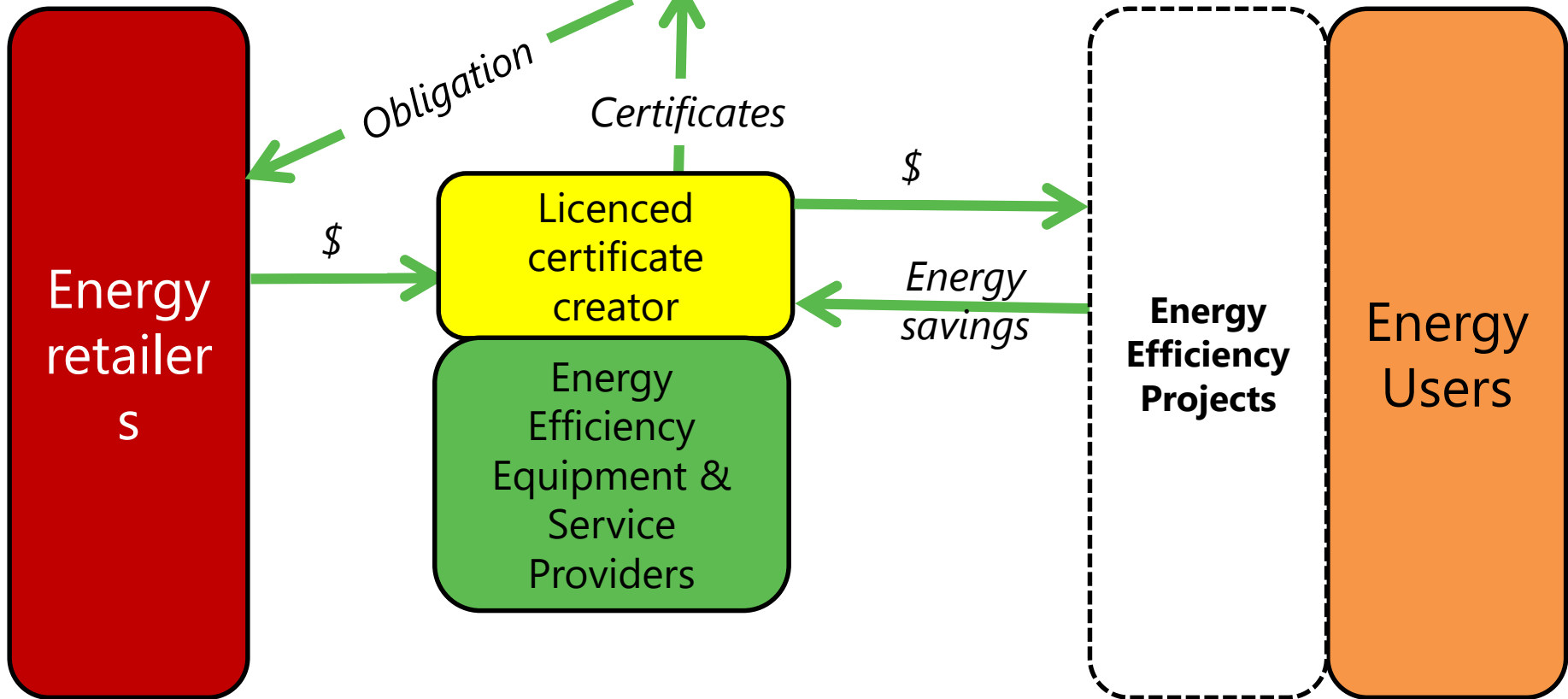
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Energy saving targets on NSW retailers 2009 - 2025



Year	Energy Savings Target
2009*	1.0%
2010	1.5%
2011	2.5%
2012	3.5%
2013	4.5%
2014	5.0%
2015	5.0%
2016	7.0%
2017	7.5%
2018	8.0%
2019-2025	8.5%

Regulator



Regulator

Energy
retailer
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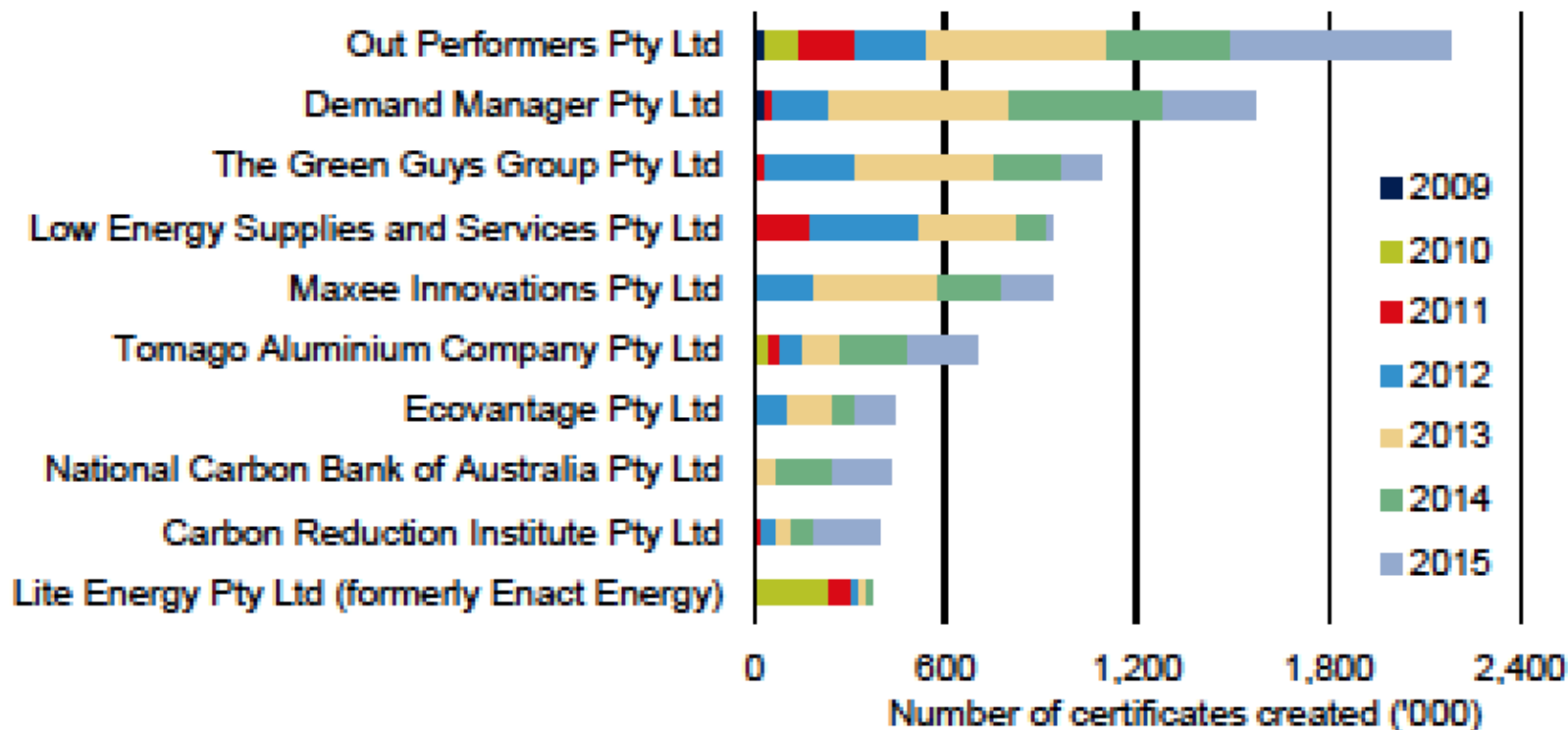
1. Issue licences to certificate creators
2. Monitor compliance
3. Review & improve the scheme
4. Determine measurement methodologies

Licenced
certificate
creator

Energy
Efficiency
Equipment &
Service
Providers

Energy
Users

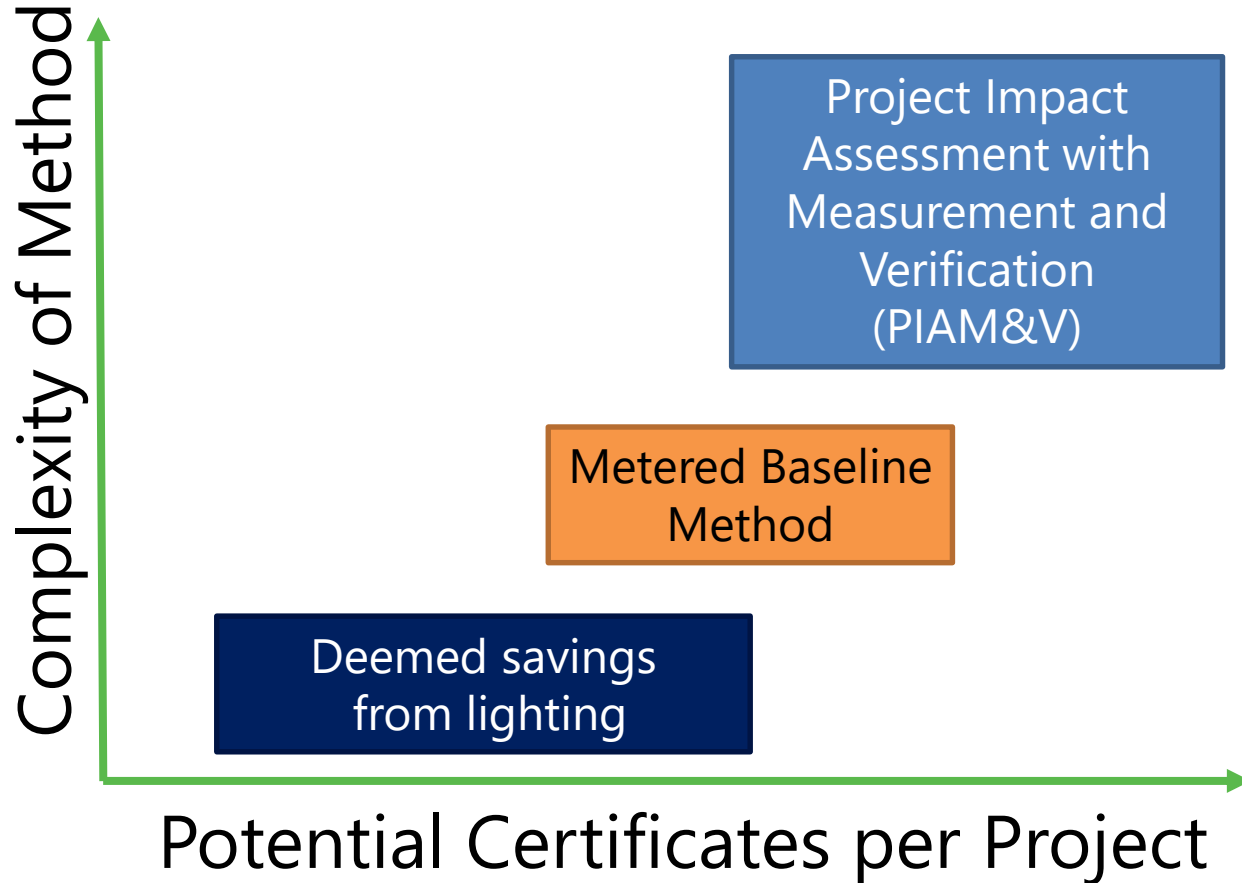
Issuing licences - 10 largest Accredited Certificate Providers 2016



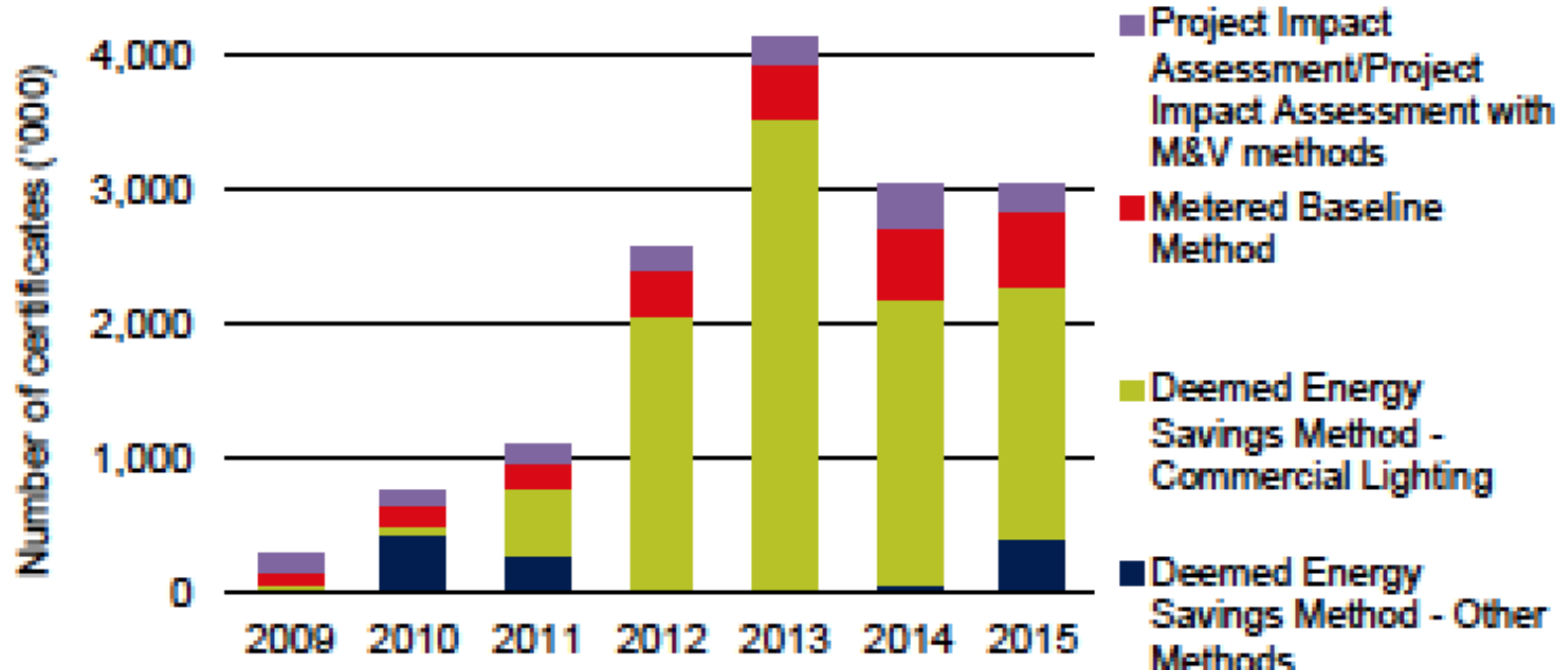
Data source: ESS Registry as at 30 June 2016.

- Reasons for improper creation of certificates
 - Using incorrect data or calculation factors
 - Making input errors or rounding errors in calculation
 - Retaining insufficient or inconsistent evidence to support certificate claims
 - Creating certificates from a project where a reduction in service and/or productive
 - Creating certificates in relation to equipment that had not been accepted for use

- Expanding the scheme to include gas savings
- Extending the scheme to 2025
- Increasing the energy savings targets from 2016
- Enhancing the scheme administration, compliance and enforcement arrangements



Creation of certificates by calculation method



Energy Users

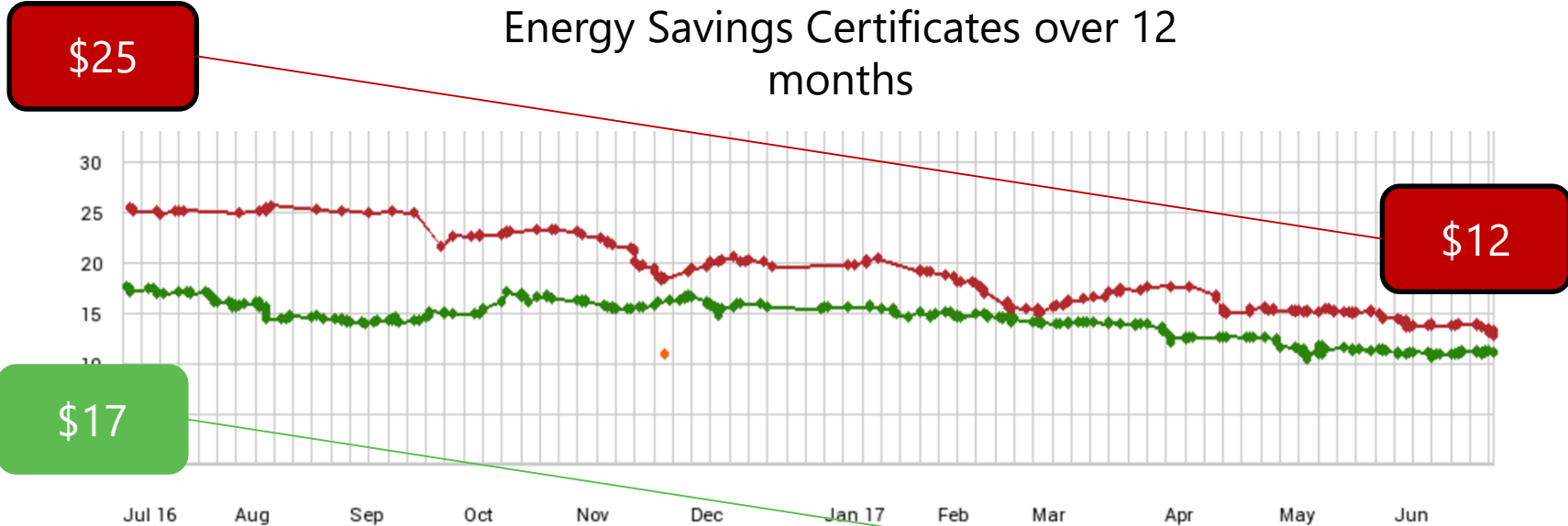
- Energy efficiency objectives
- Revenue stream timing
- M&V capacity
- Project size / replicability
- Risk appetite



Market prices for certificates change over time

- Spot prices for Energy Savings Certificates (NSW) and the Victorian Energy Saving Certificates (VEEC)

Energy Savings Certificates over 12 months



Victorian Energy Savings Certificates over 12 months

- Italy's white certificate scheme
 - Commenced in 2005
 - Over 24 million tonnes of oil equivalent saved to date
 - Companies with energy managers can create certificates



- India's Perform Achieve and Trade Scheme
 - Government sets energy consumption targets for individual firms
 - Enterprise achieves energy targets through energy savings or purchase energy savings certificates generated by companies that have gone beyond their target





ASEAN
THAILAND 2019

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