

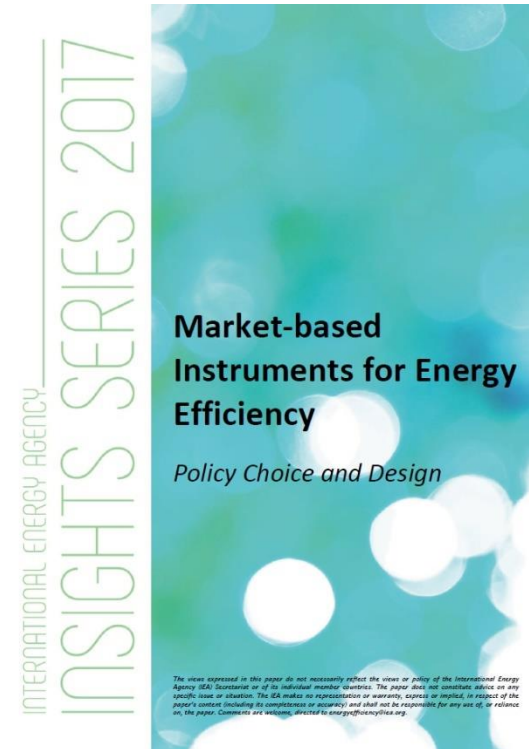


## **Market-based Instruments for Energy Efficiency**

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Samuel Thomas (IEA) and Jan Rosenow (RAP)  
White Certificate Club, Paris, 30<sup>th</sup> June 2017

- Instruments that are
  - Facilitated by a policy framework specifying the outcome
    - energy savings,
    - emissions reductions,
    - capacity resources,
    - fuel poverty alleviation
  - Delivered by market actors
  - Without prescribing the delivery mechanism and the measures to be used

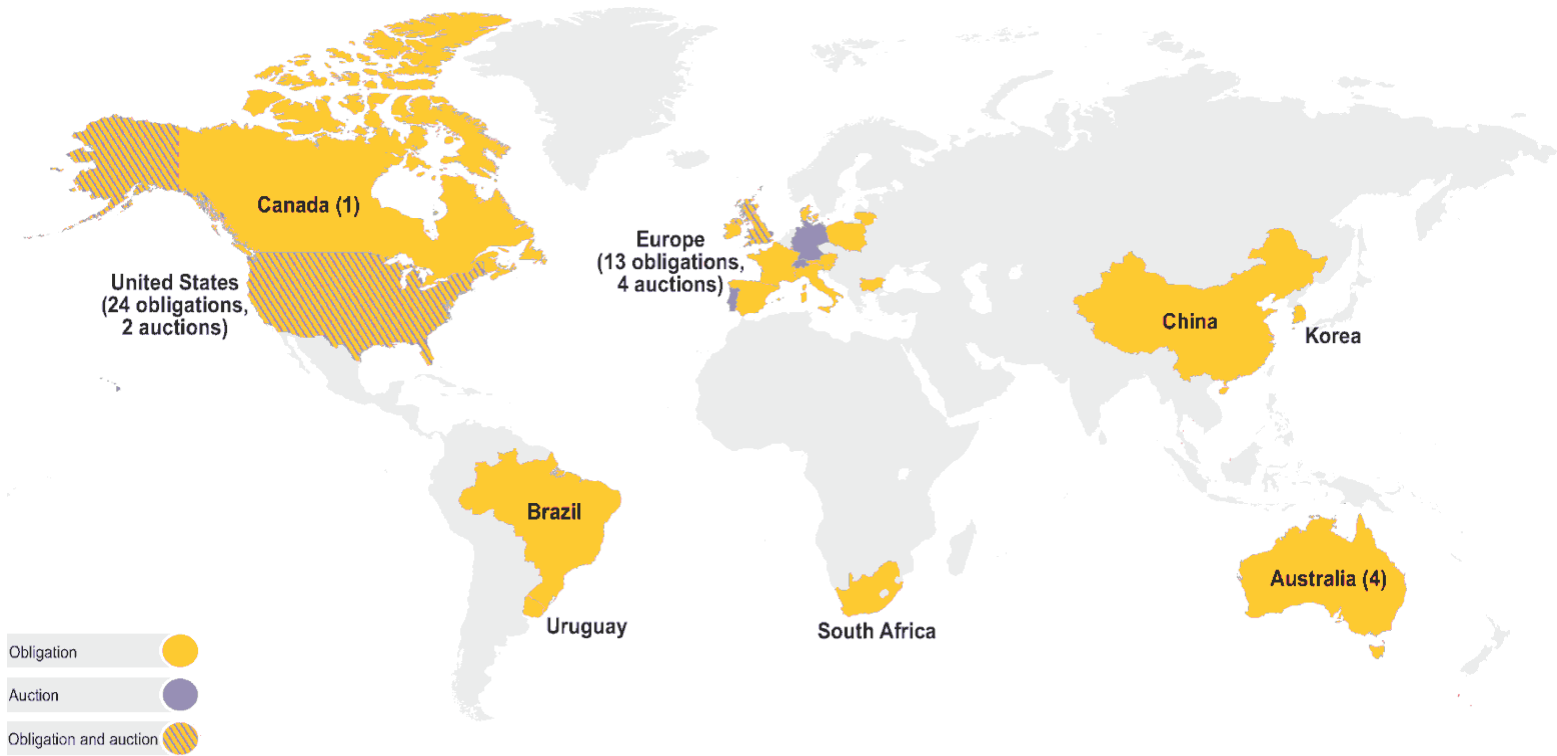


**MBIs offer potential for policy maker to access more cost-effective efficiency gains**

		<b>Funds</b>	
		<i>Predetermined</i>	<i>Not predetermined</i>
<b>Savings</b>	<i>Predetermined</i>	most obligations in vertically integrated markets	most obligations in unbundled competitive markets
	<i>Not predetermined</i>	energy efficiency auctions	capacity market auctions

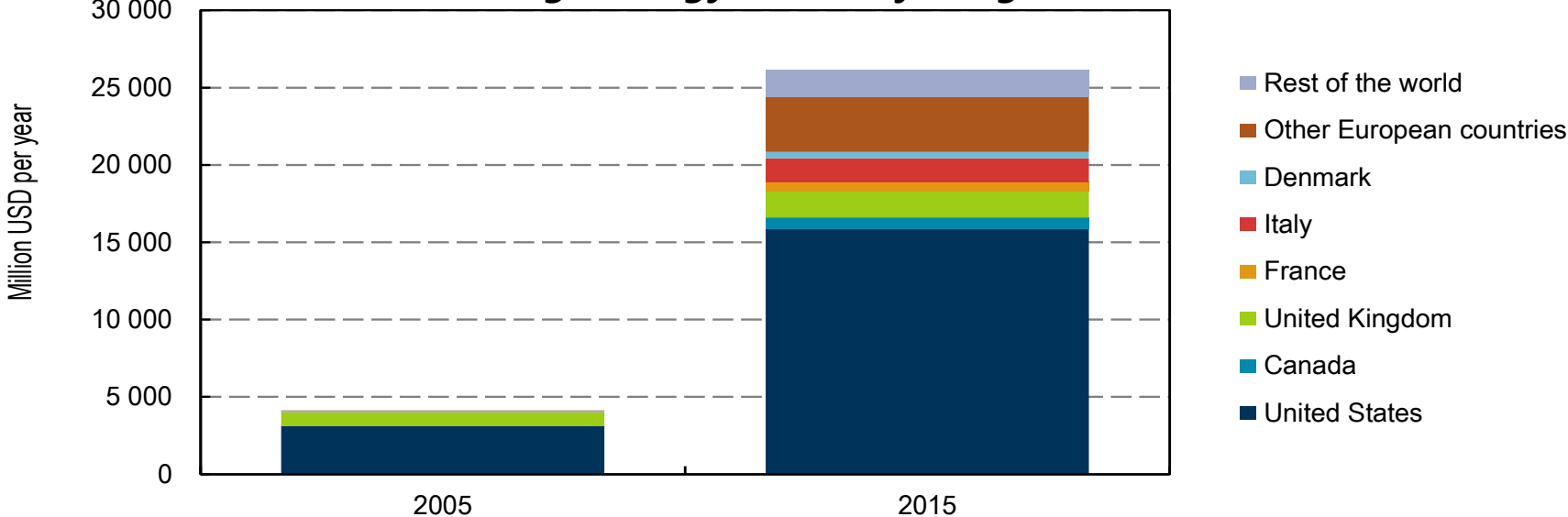
**No conclusive evidence that one is better than the other**

# MBIs for energy efficiency – where can they be found?



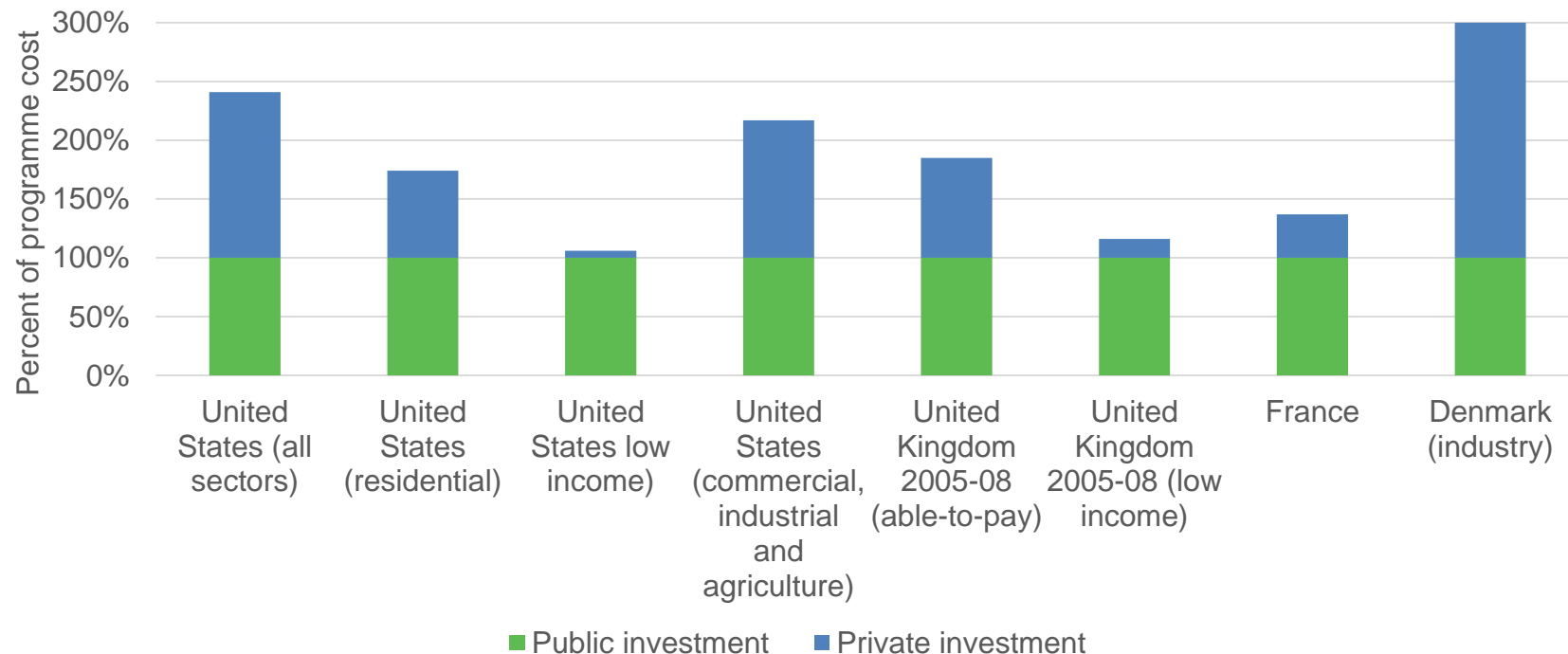
The number of MBIs has quadrupled over the last ten years

## Investment through energy efficiency obligations and auctions



The amount of investment generated by MBIs has increased six-fold over the last decade

# Different MBIs reveal different leverage ratios



**Policy design can have a big impact on programme leverage**

	Leverage ratio low	Leverage ratio high
<b>Aggressiveness of target or ambition level</b>	High	Low
<b>Focus on low-income beneficiaries</b>	Yes	No
<b>Approach to additionality</b>	Stringent	Relaxed
<b>Sectors</b>	Low-income residential sector	Commercial, public and industrial sector

Policy design can have a big impact on programme leverage

Context shaping instrument design

Structural factors

Existing policies

Historical, political and cultural factors

## General design features of MBIs

Fuel coverage

Lifetimes

Eligible measures

Evaluation

Sectors

Calculation of savings

Monitoring & verification

## Obligation-specific design features

Obligated parties

Customers

Target

Cost recovery

Banking and borrowing

Trading

Penalties

## Auction-specific design features

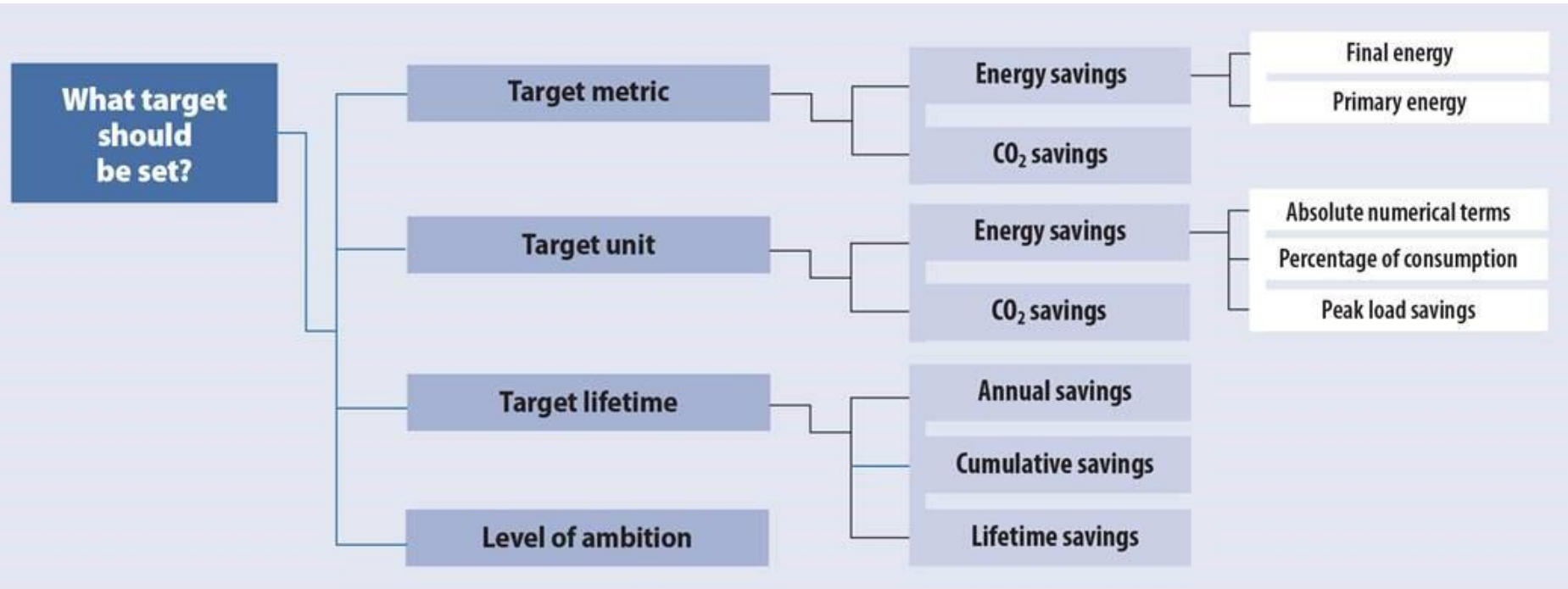
Pricing and payment

Project size

Competition with energy supply

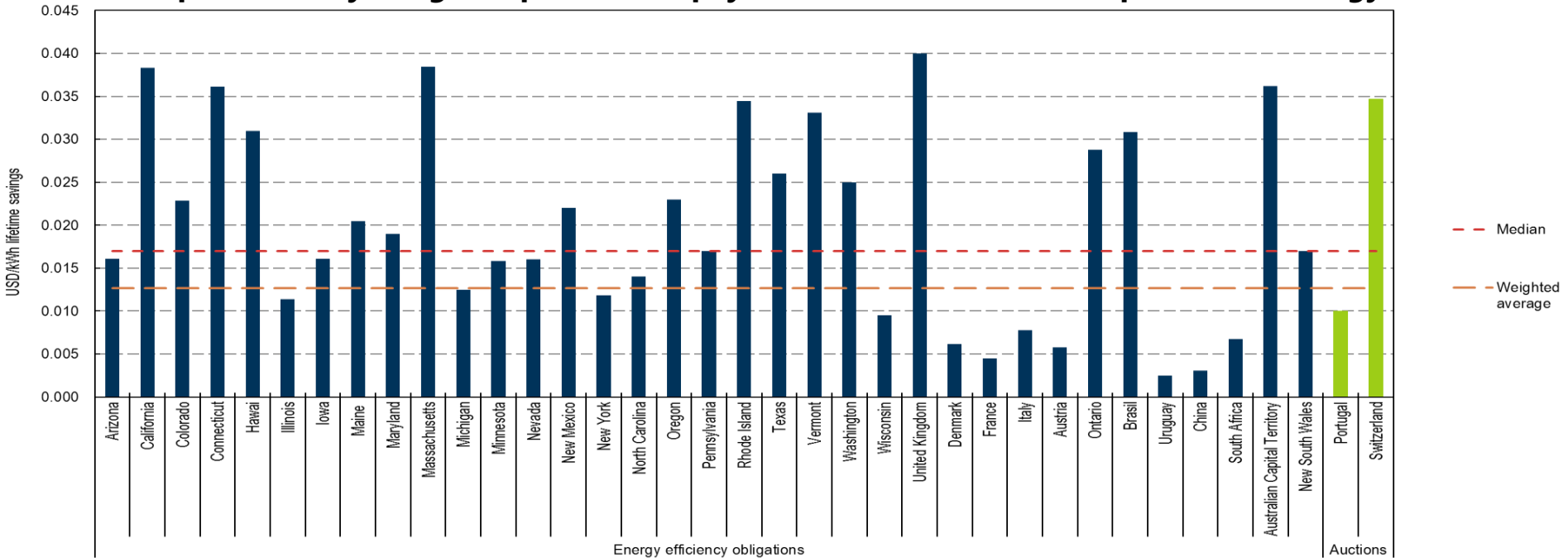
Plentiful option menu to choose from for designing market-based instruments needs to be tailored to (policy and cultural) context





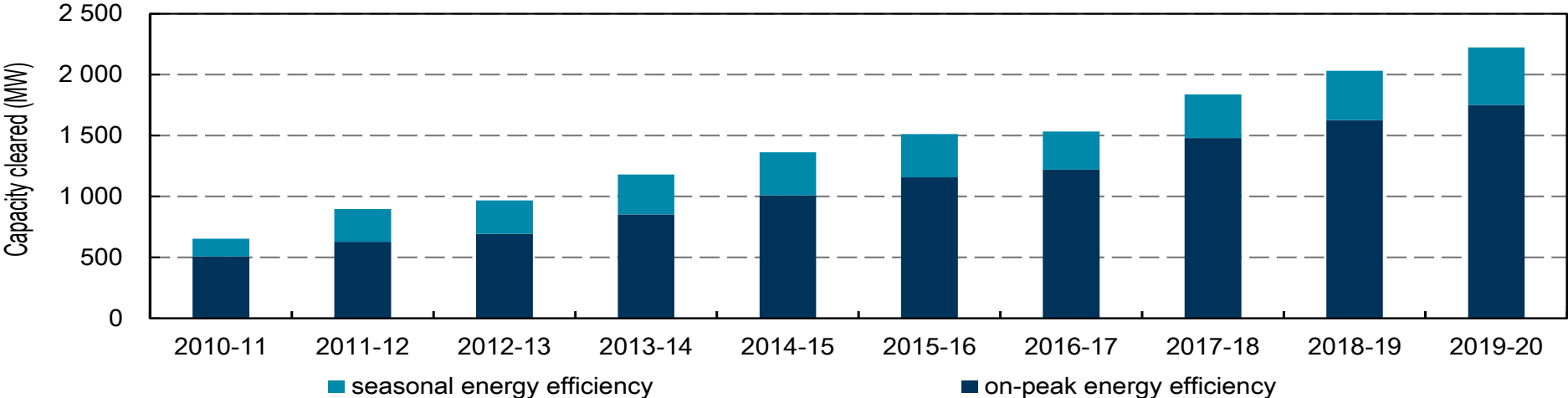
# Considerable variation in cost among programmes

## Expenditure by obligated parties and payments to auction winners per unit of energy saved



**MBIs are saving significant amounts of energy for less than the cost of supply**

## Energy efficiency savings successfully cleared in the ISO-NE capacity market

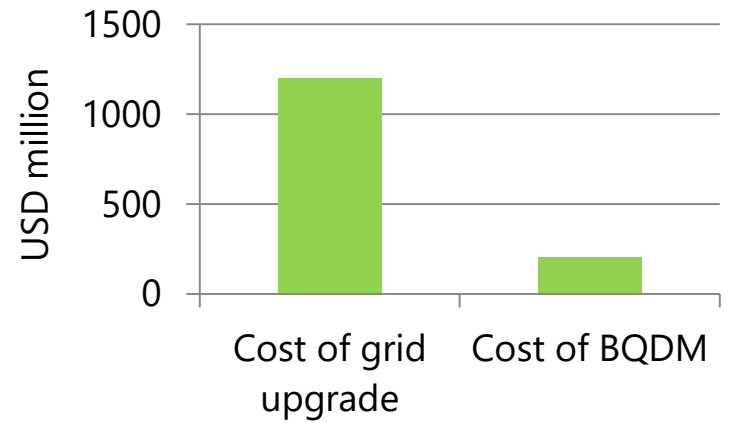


Capacity auctions reward energy efficiency for just one of the multiple benefits they provide

- Brooklyn-Queens Demand Management (launched 2014): Customer-based efficiency and other distributed resources in order to avoid or defer grid upgrade



Goal: Reduce load by at least 52 MW for periods as long as 12 hours per day in peak summer days

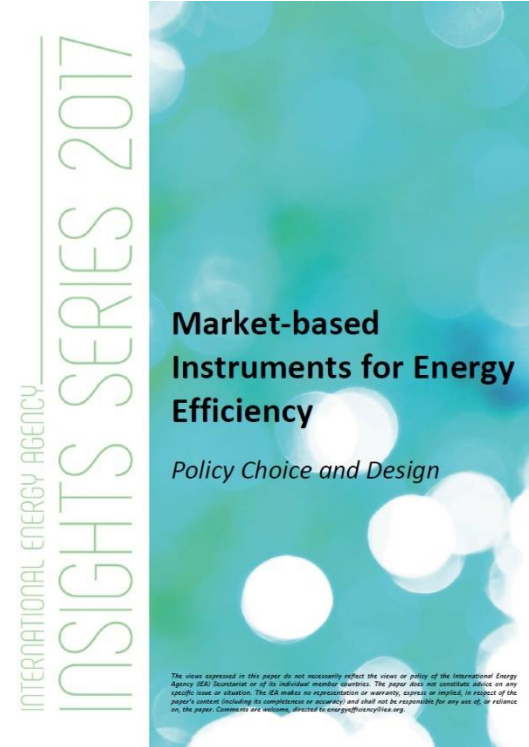


- Efficiency measures in 3 700 SMEs, 1 000 multi-family buildings, and 2200 homes
- SMEs saving an average of USD 3 500 on their power bills each year

**Market-based instruments as part of demand side management can avoid costly investment in grid services and benefit customers**

- MBIs put a premium on good policy design and implementation.
- MBIs must work within existing policy frameworks.
- Flexible programme design that permits savings to be delivered across a broad range of customers and fuels has proven to be a sound approach.
- Programme rules should be as simple as possible but as complex as necessary.
- Independent monitoring, verification and evaluation are vital for the integrity of programmes.

# Report: Market-based Instruments for Energy Efficiency Policy Choice and Design





**RAP<sup>®</sup>**