



sanedi

South African National Energy
Development Institute (SOCI) Ltd.



SOUTH AFRICA

IEA DSM 41st EXCo Meeting

25 April 2013

ENERGY INNOVATION FOR LIFE



mandate

The *National Energy Act, 2008* (Act No. 34 of 2008), Section 7 (2) provides for **SANEDI** to direct, monitor and conduct *energy research and development*, as well as undertake measures to promote *energy efficiency* throughout the economy.



FLY THE FLAG
for South Africa

Some Key Facts



2011

41 194 MW

Maximum self-generated capacity

237 430 GWh

Total production

4.7 m

Customers



16 304 MW

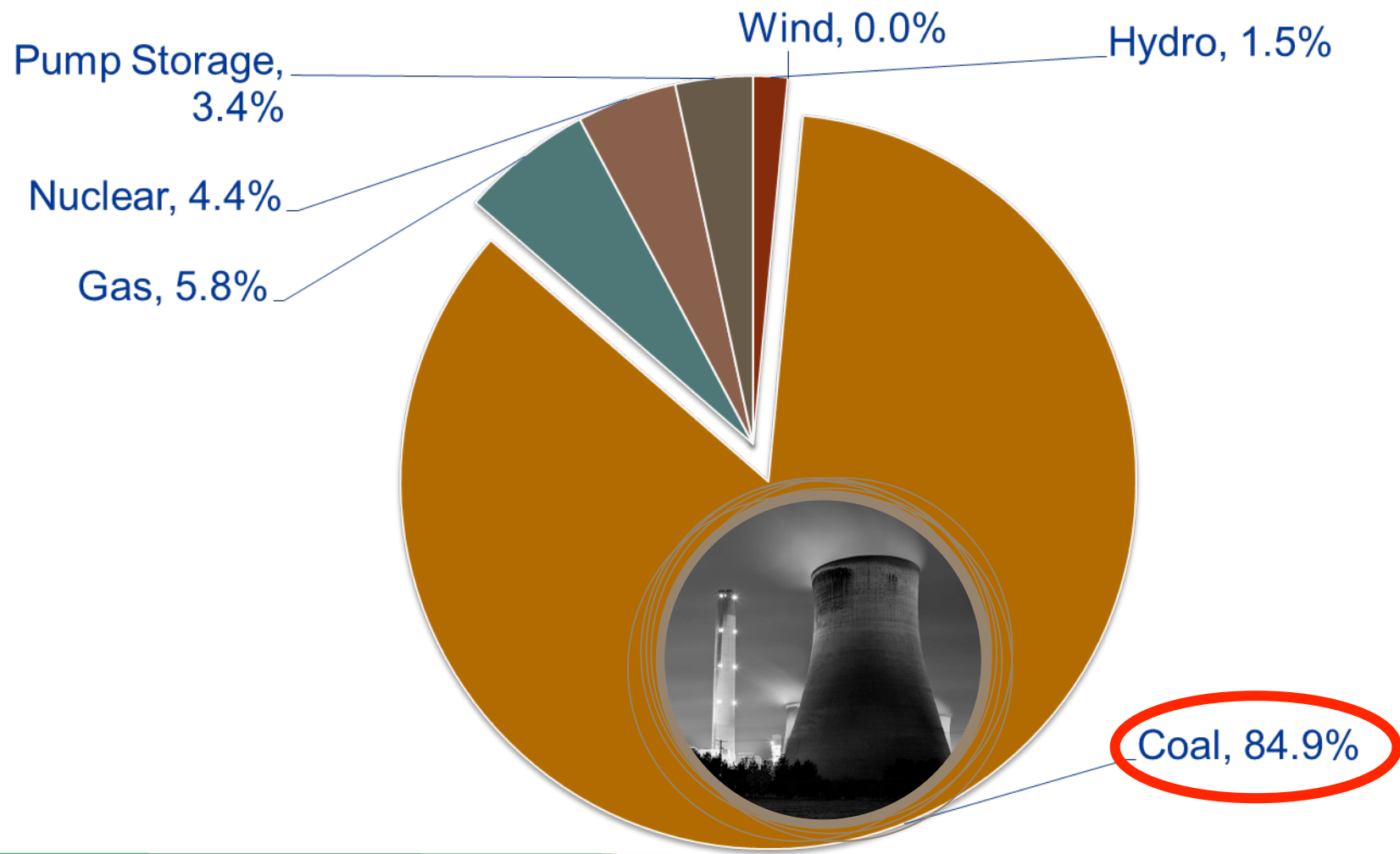
Build Programme

Additional capacity by 2017

80 000 MW

Total capacity by 2026

South Africa's Current Capacity Mix



Planned 'Generation' Expansion



Project	Projections								Total
	11/12 FY	12/13 FY	13/14 FY	14/15 FY	15/16 FY	16/17 FY	17/18 FY	18/19 FY	
Grootvlei, (return to service)	160	30							190
Komati, (return to service)	225	200							425
Arnot capacity upgrade, (coal fired)		30							30
Medupi, (coal fired)			794	794	1 588	794	794		4 764
Kusile, (coal fired)				800	800	800	800	1 600	4 800
Ingula, (pumped storage)				1 332					1 332
Sere wind farm, (renewable)			100						100
TOTAL (MW)	385	260	894	3 387	2 388	1 594	1 594	1 600	11 641

In addition, Eskom has commenced the development of a 100MW CSP plant



Medupi



Kusile - Unit 1 Turbine Pedestal



Central Grids

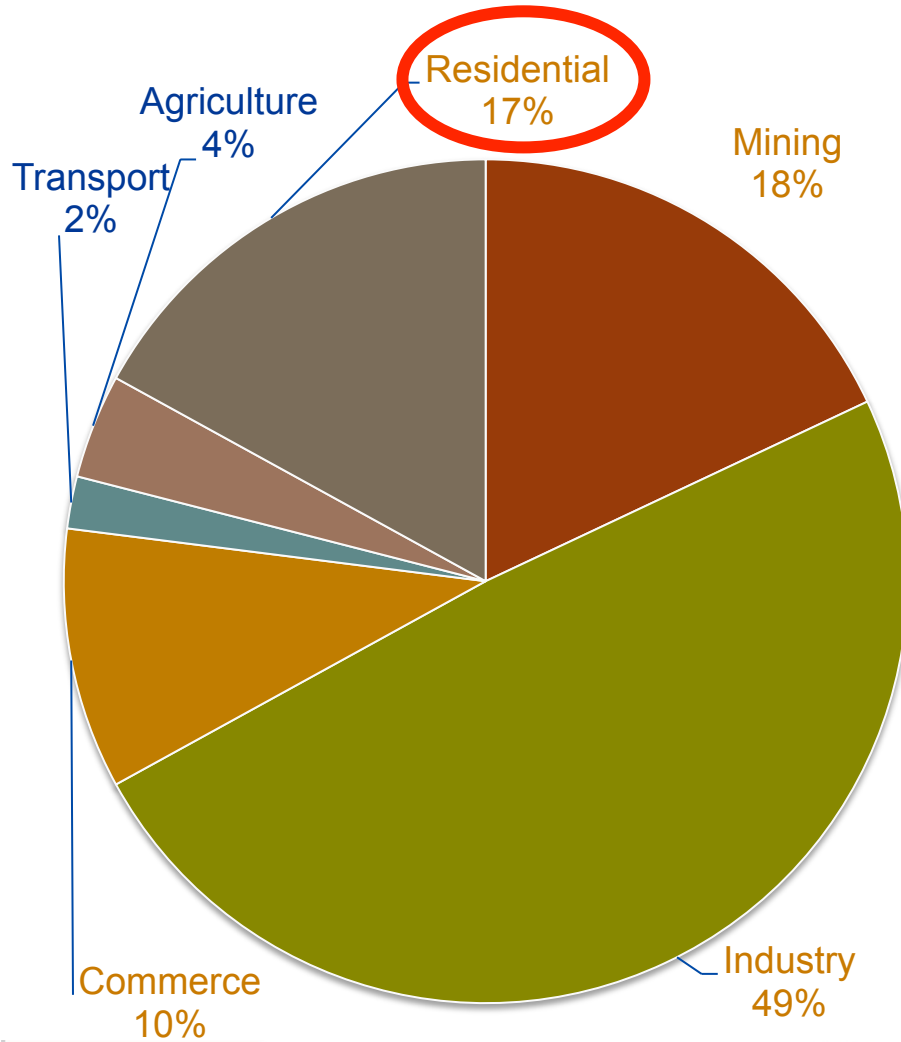


Ingula - Bramhoek dam

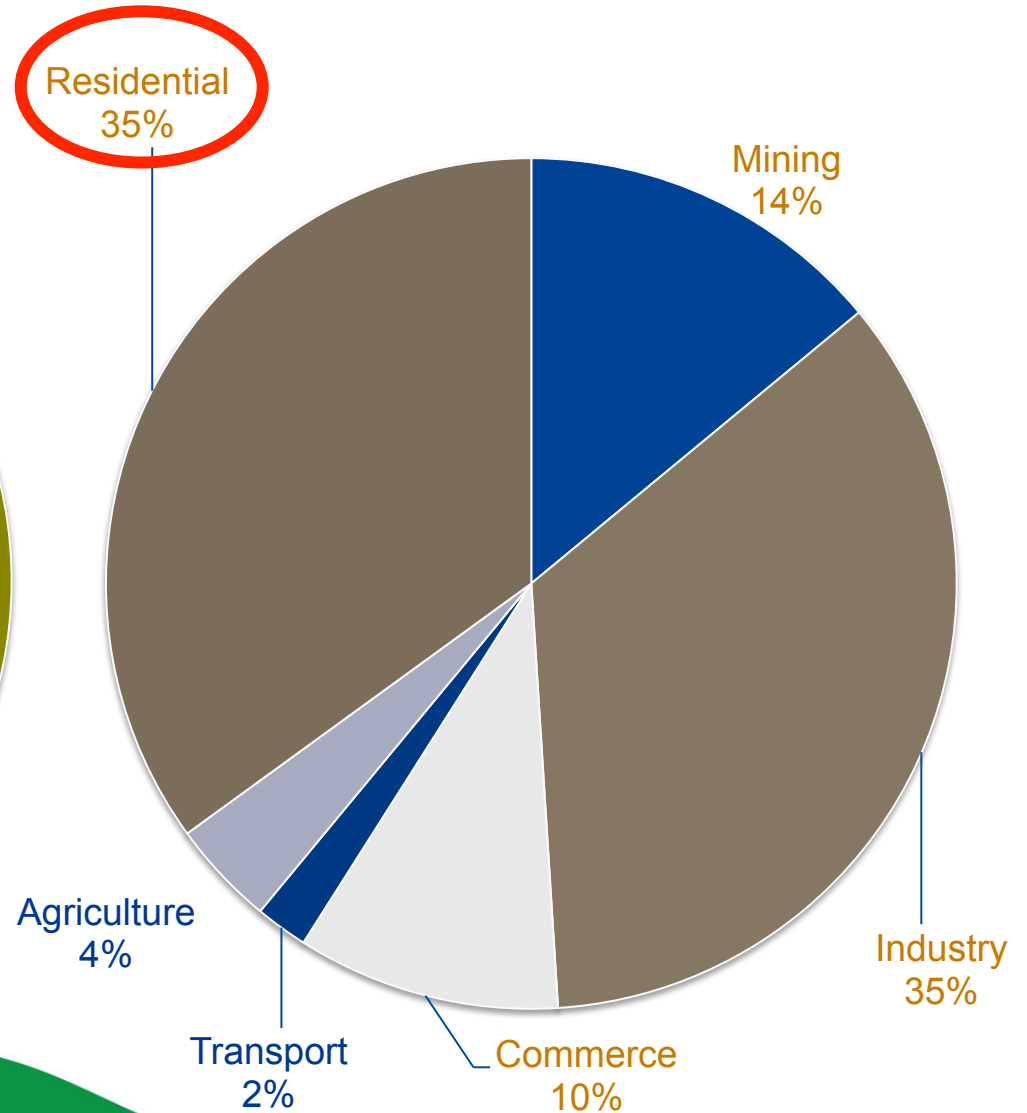
Consumption per Sector



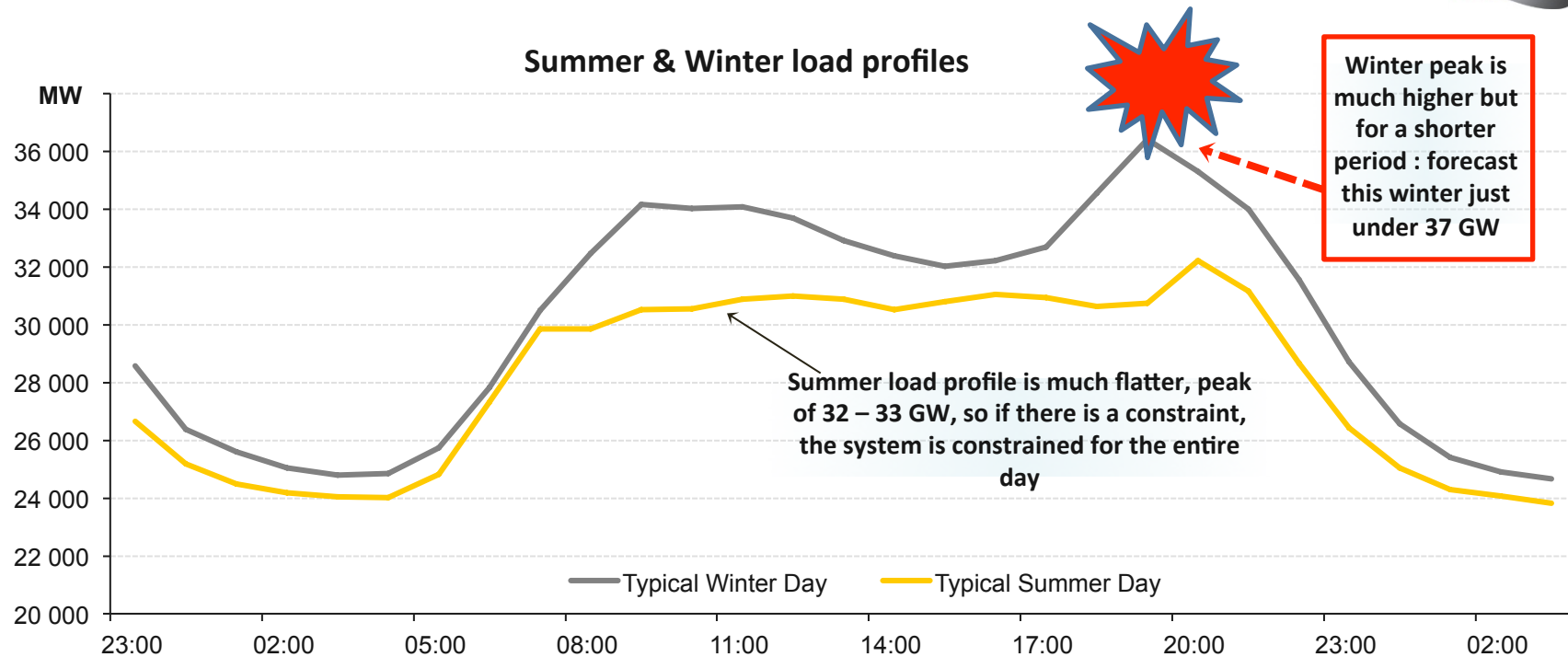
Consumption



Demand

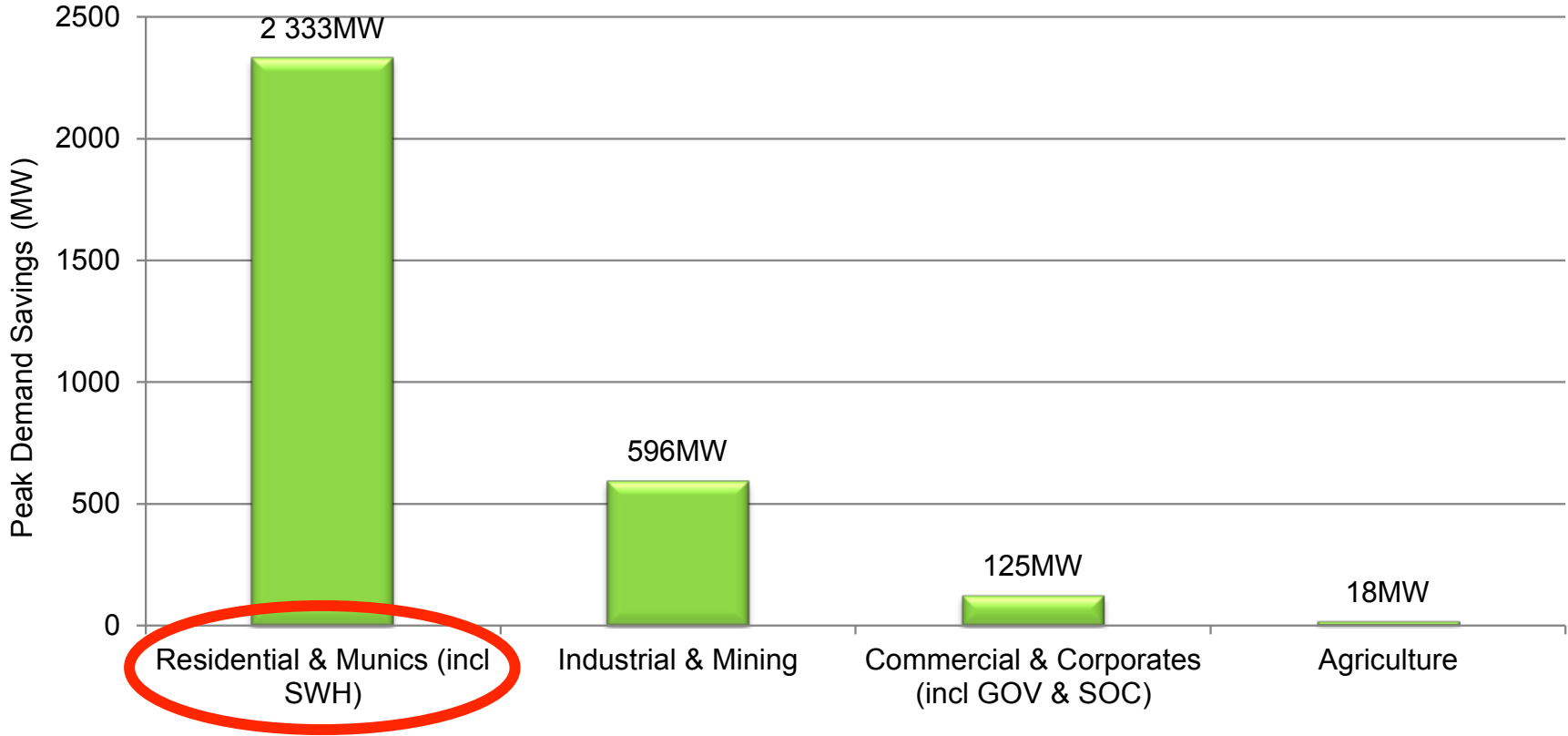


SA Peak Consumption Periods



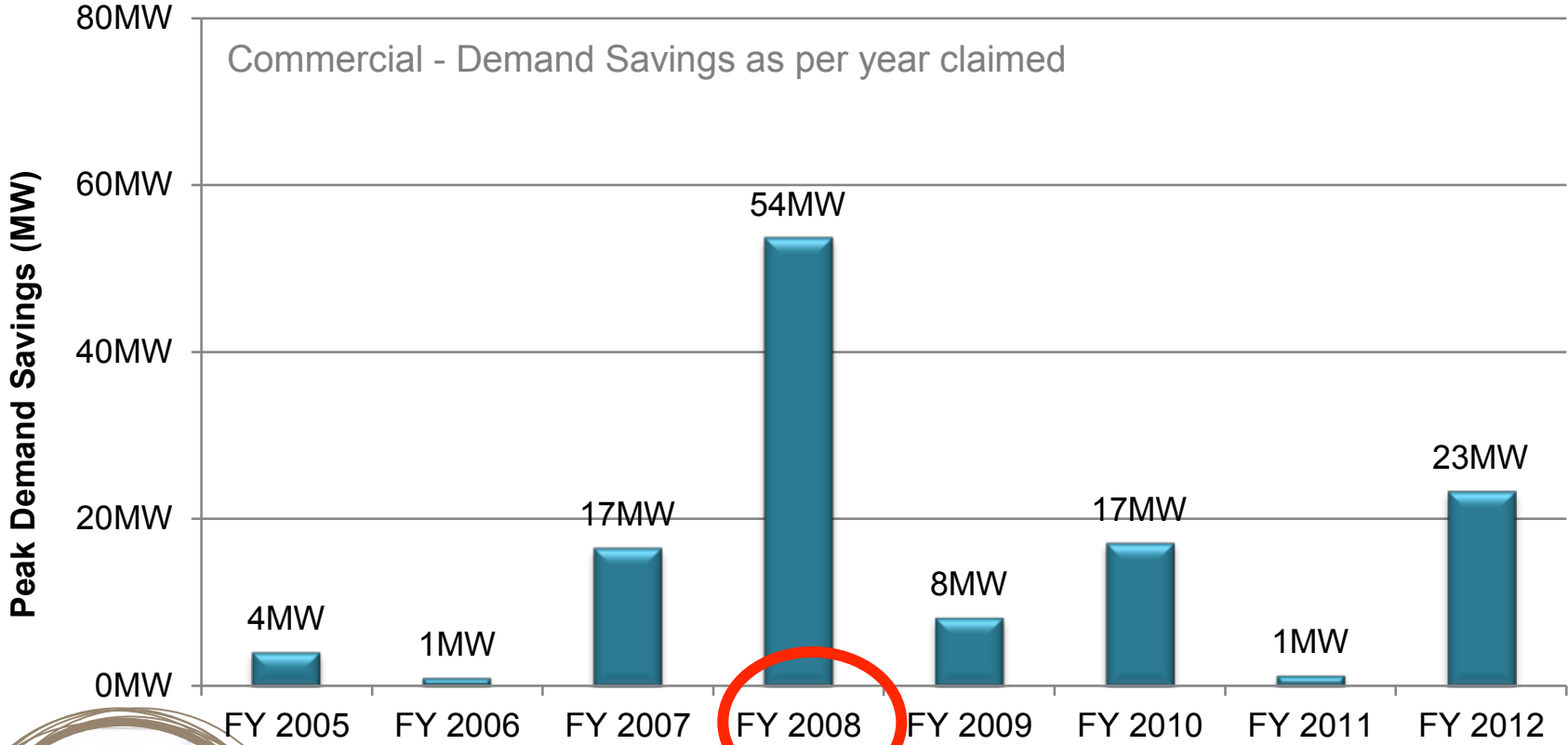
- Most planned maintenance is done in summer, when demand is lower, so that maximum capacity is available to meet demand at winter peak. (Note: Southern Hemisphere)
- A colder-than-expected winter puts added pressure on the system: for every **1 degree Centigrade decrease** in winter temperature, electricity demand increases by **600 - 700 MW** during the evening peak; a warmer than expected **summer increases air-conditioning load** and demand can increase by up to **400 MW**.

Demand Savings Achievement



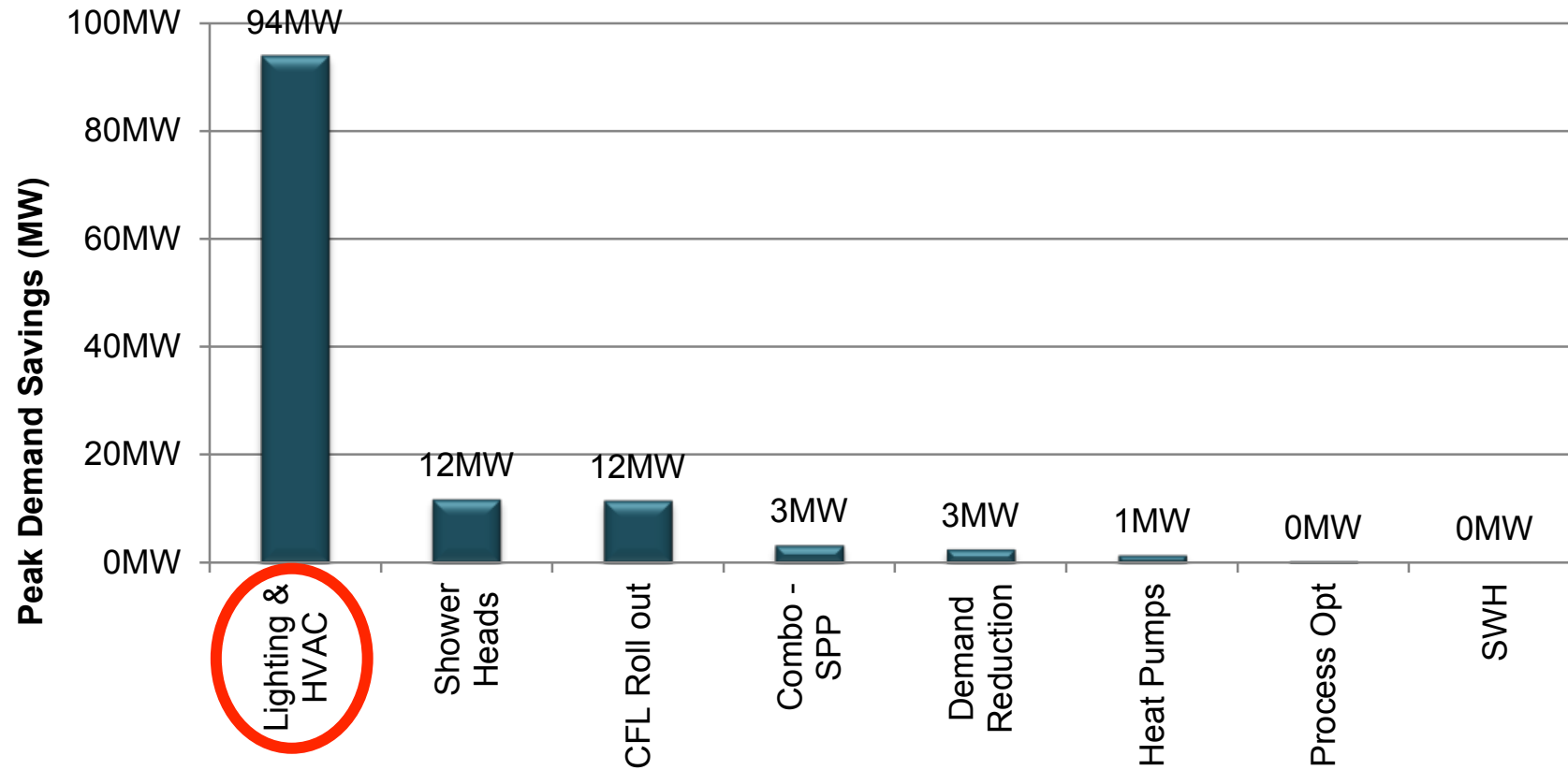
Approximately **3 073MW** of demand savings 'claimed', but only **347MW** were verified in FY 2012

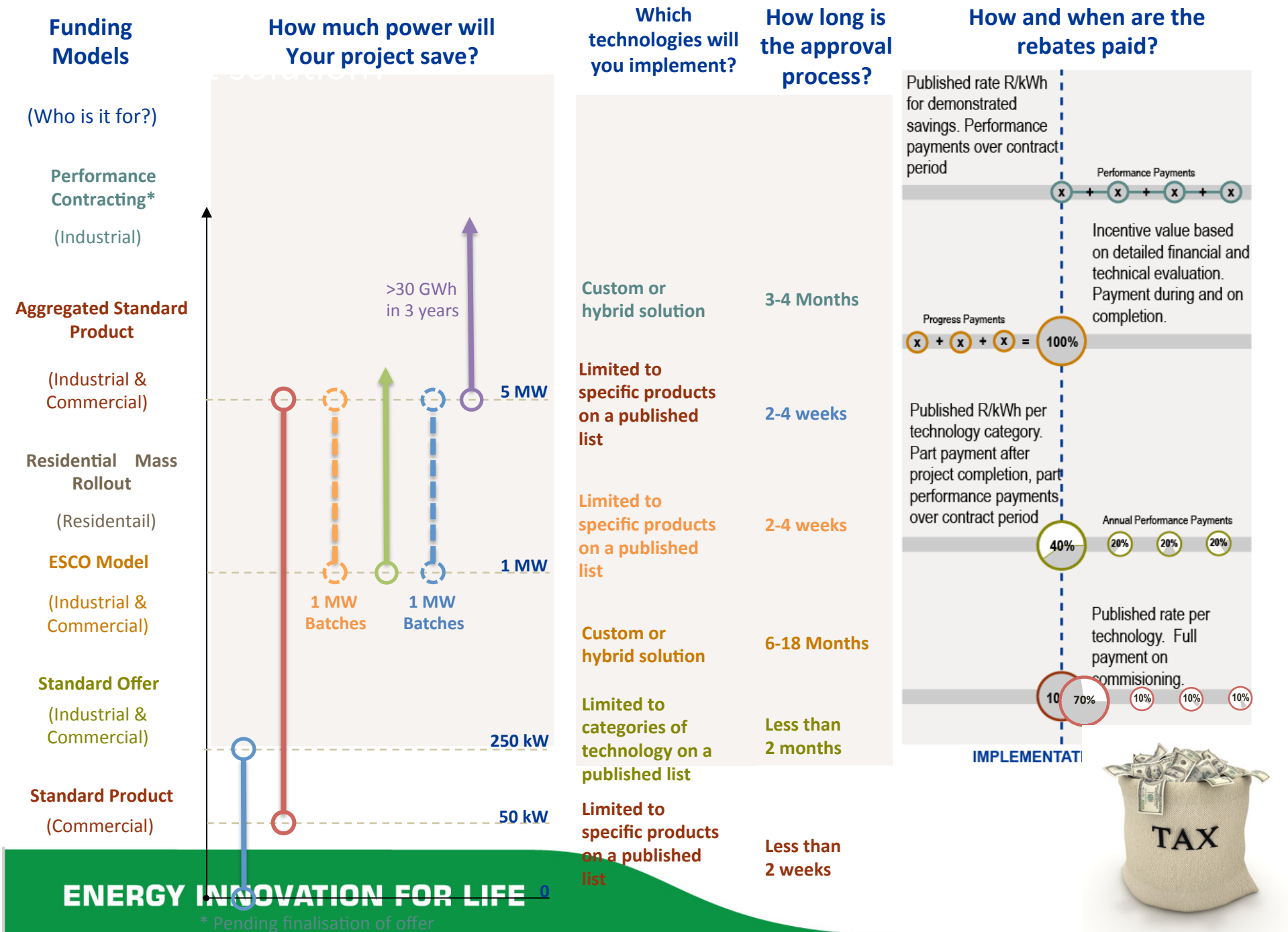
Demand Savings - Commercial



Commercial Sector has contributed 125MW to the demand savings !

Technologies - Commercial





Questions?



🌱 Duplication and/ or linkages to other initiatives:-

- *Clean Energy Ministerial, (CEM);*
- *SE4All;*
- *IPEEC;*
- *Etc.?*

🌱 Transition from DSM to IDM?

🌱 Value of joining at this stage?



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**THANK
YOU**

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