

Integration New & Renewable Energy into the Grid

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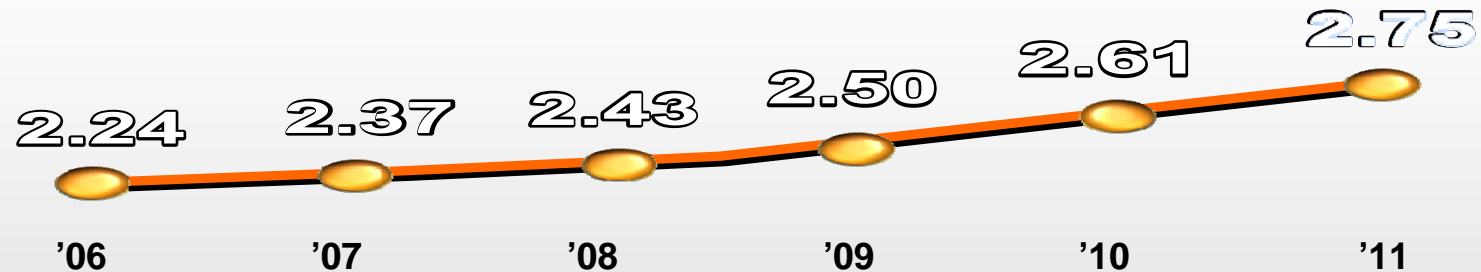
New & Renewable Energy Center,

Korea Energy Management Corporation (KEMCO)



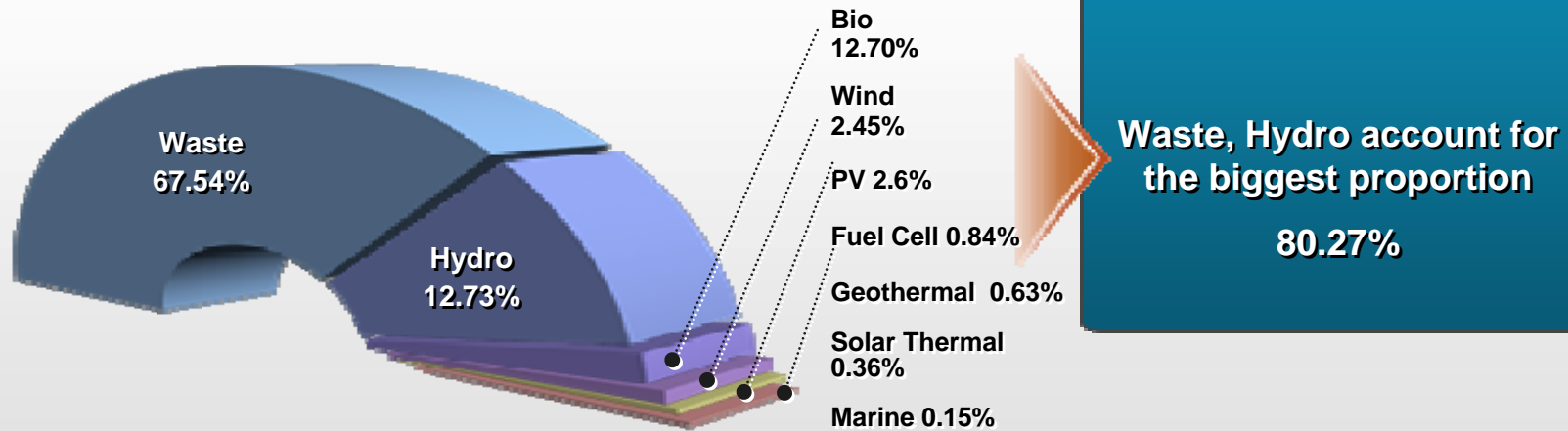
1. Korea's NRE status

<NRE Share in TPES (%)>



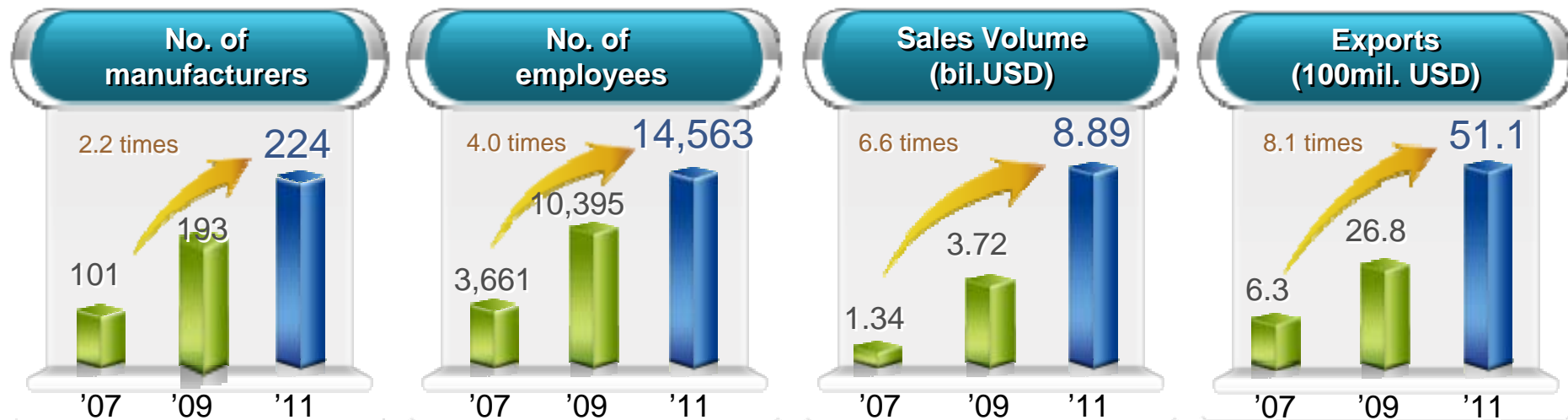
Annual Growth Rate : 10.2% ('06 - '11)

< Breakdown of NRE share (2011) >



2. Korea's NRE Industry

- Korea's NRE industry has been growing by leaps and bounds in recent years.



Still small by global standards, but Korea's NRE industry has shown the potential for a new national growth engine

3. Achievements – PV Industry



With its complete value-chain, Korea is one of the most competitive players in global PV market

	World's Production Capacity	Korea	
		Production Capacity	Market Share
Poly-silicon	144,100 ton	18,960 ton	13%
Solar Cell	17,800MW	1,381MW	8%
Module	17,690MW	1,939MW	11%

4. Achievements - Wind Industry

Wind

Existing industrial base:
Heavy industries such as
Electricity, Shipbuilding



Establishment of
Industrial Structure
with Huge Potential

Manufacturers



Employees



Production
(bil. USD)

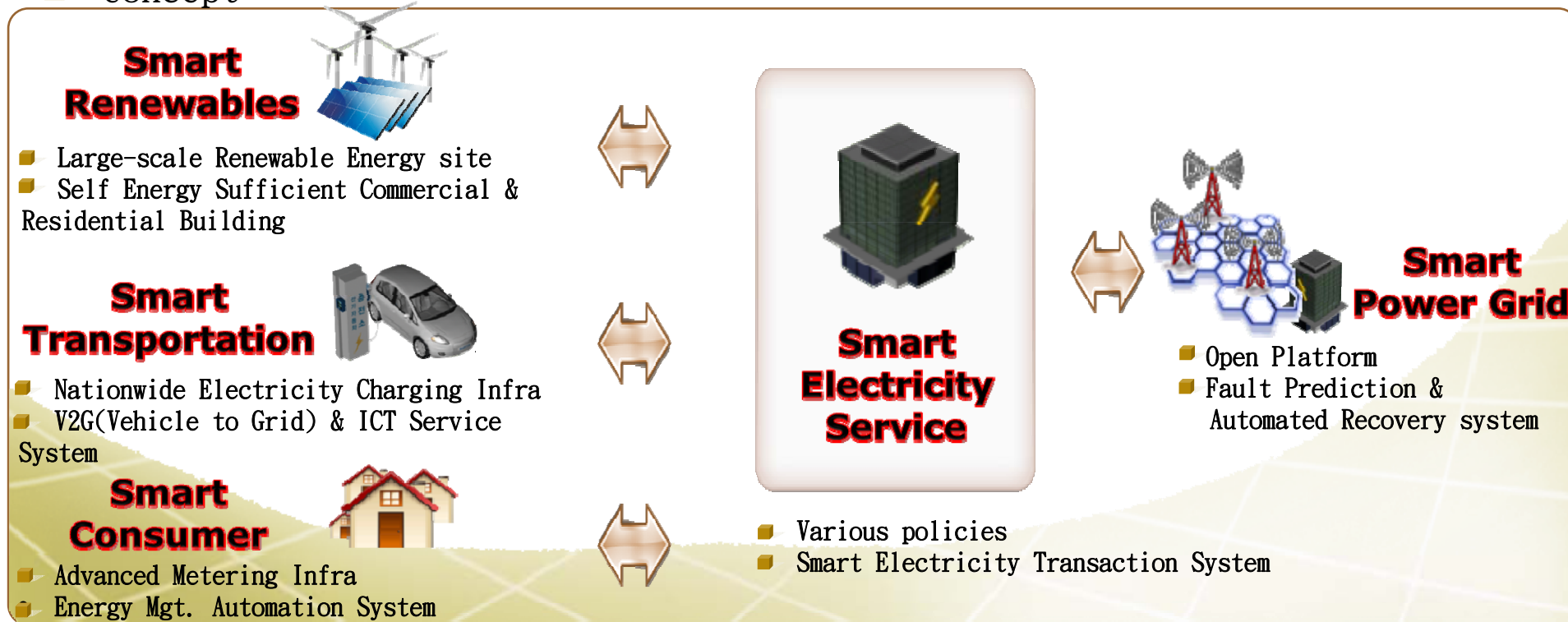


Exports
(100 mil. USD)



5. Smart Grid(Smart City) – Jeju Island

Concept



Target

	1st Phase(' 10~' 12)	2nd Phase('13~' 20)	3rd Phase('21~' 30)
	Technology Verification	Customer Intellectualization	Whole Grid Intellectualization
	(Budget) 1.2 bil. USD	(Budget) 8.9 bil. USD	(Budget) 17.3 bil. USD
Investment	27.5 bil USD for R&D and Infra By 2030 (Private 24.8 bil, Public 2.7 bil)		
Benefit	Reduce Energy Import 47 bil USD / Saving 3.2 bil USD Newly Power Plants Construction		

* Ref : Korea Smart Grid Institute

6. Establishing Infrastructure for ICT

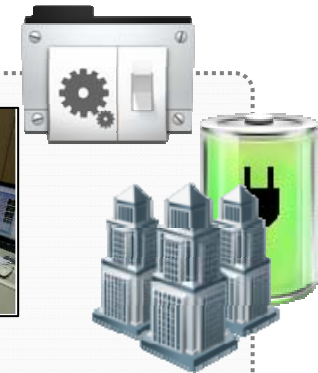
STEP 1. H/W Upgrade - Energy Audit

- (KEMCO) Achieving ave. 9.6% energy saving rate through conducting domestic and international energy audit with within 2 years pay back periods results



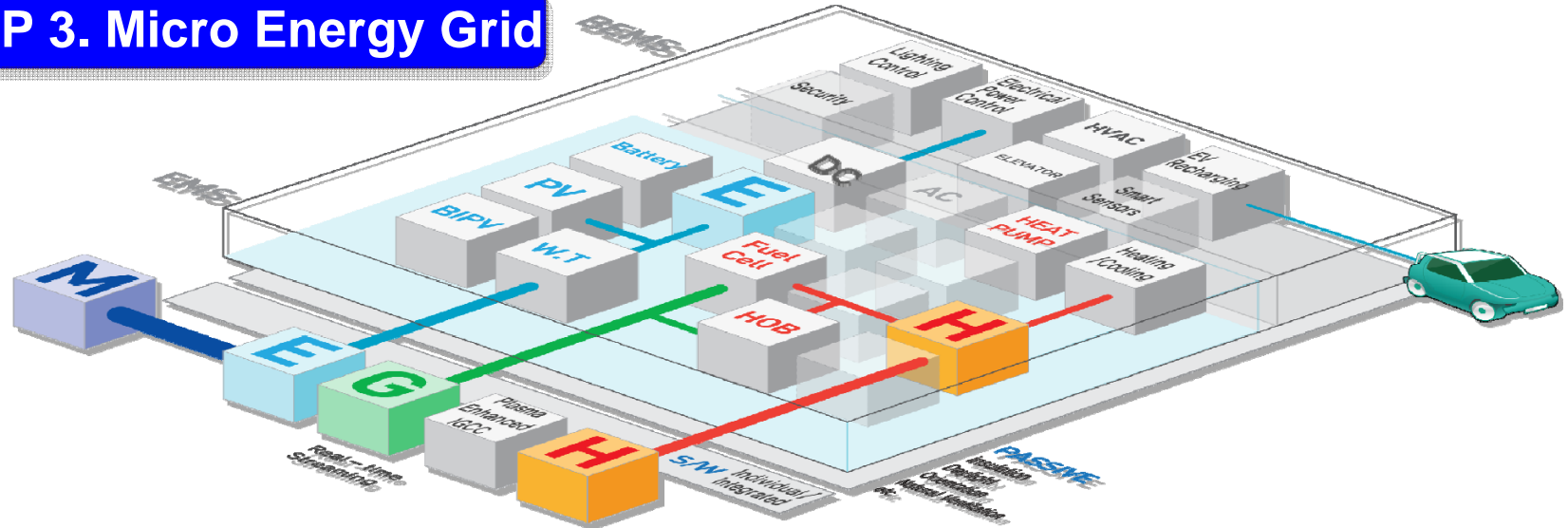
STEP 2. S/W Upgrade- BEMS

- (KEMCO) Currently 3 demo pilots are running and implementing 'KS' (Korean Standards) with expecting ave. 10% energy saving result

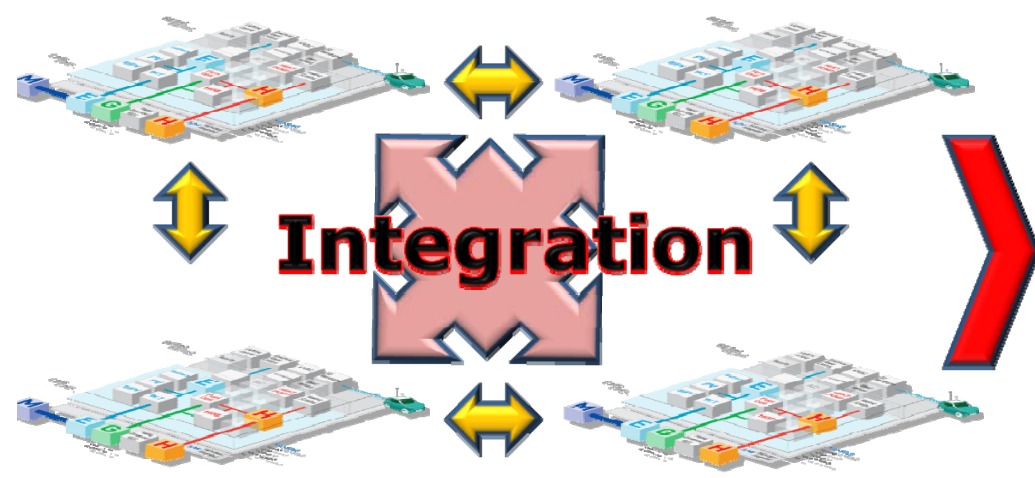


7. Application of ICT on Grid in Korea

STEP 3. Micro Energy Grid



STEP 4. Expanding MEG to Smart City



Thank you.

Creating a Smart & Green Lifestyle

KEMCO' s vision is in line with the
new national development paradigm of Green Growth

- ☛ Climate Change Mitigation
- ☛ Energy Efficiency Upgrade
- ☛ New & Renewable Energy Deployment