



# Fuel Cell Deployment and the Current Industry Trend in Korea

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## Household/Building

**(Household)** Forged the FC market through government deployment scheme with a focus on PEMFC (2010~)

|                          | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|--------------------------|------|------|------|------|------|------|-------|
| the number of household  | 957  | 292  | 245  | 232  | 207  | 316  | 2,249 |
| Deployment capacity (kW) | 209  | 292  | 245  | 232  | 207  | 313  | 1,498 |

**(Building)** Enlarged the market through government support programs such as, ‘Incentive for Building installation’, ‘Obligation in Public Institutions\*’, ‘Municipal government deployment scheme’

< Incentive for Building installation scheme >

|                          | ~2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total      |
|--------------------------|-------|------|------|------|------|------|------------|
| the number of Building   | 14    | 4    | 3    | 10   | 20   | 29   | <b>80</b>  |
| Deployment capacity (kW) | 22    | 16   | 53   | 160  | 391  | 278  | <b>920</b> |

\* Obligation of Fuel cell installation scheme (No. of Case/Capacity): 5 cases/89kW (2014) → 13 cases/168kW (2015)



## Power Generation

- **Big company participation stimulated with the implementation of RPS**
- **Installation cost diminished with technology development**

Installation unit cost(KRW) of 1MW; 62 billion (2011) to 56 billion (2014) and to 46 billion (2015)

|                    | 2012 | 2013 | 2014 | 2015 | Total |
|--------------------|------|------|------|------|-------|
| # of installations | 3    | 14   | 5    | 4    | 26    |
| Capacity(MW)       | 11   | 104  | 35   | 14   | 163   |

## Transportation

- **Hyundai underwent feasibility demonstration on FCV in 2012, and embarked on FCV mass-production (Hyundai ix35) first in the world. (2013.02)**
  - \* Planned to deploy 42 vehicles in Korea(2013~2015), **Started putting on sale in the U.S. (2014)**, Chosen ‘best engines 10’ in 2015 by Wardsauto, Sold about 270 vehicles (2015)
- **Operating ten H2 refueling stations mainly in petrochemical complex and Seoul metropolitan region (2015)**



## Industry trend

- Including 'POSCO energy', 'Doosan fuel cell', eleven FC manufacturing companies are operating (2015)
- With the acquisition of 'Fuel Cell Power', 'Clear Edge Power', Doosan nurtured FC as its one of the major businesses (2014~)
  - \* To achieve household, building fuel cell industrialization and market extension, Doosan established production line that is capable of producing 6 thousand vehicles annually
- LG established 'LG Fuel Cell Systems' with the acquisition of 'Rolls-Royce Fuel Cell Systems' in 2012. LG is about to roll out SOFC for power generation in 2017