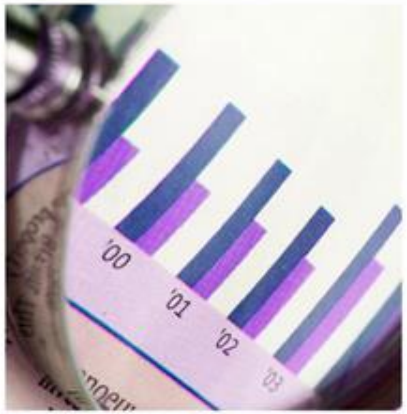






Trends in the World Traditional & Renewable Heating Markets





Krystyna Dawson
BSRIA WMI

June 2014

BSRIA
www.bsria.co.uk

BSRIA WMI

BSRIA Worldwide Market Intelligence



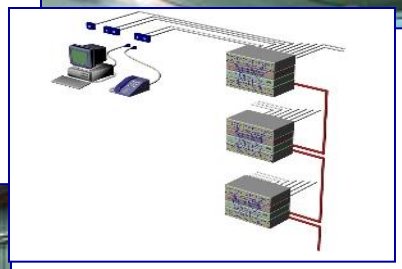
















- Turnover £3.7 million for 2013

  40% multi-client
  60% private client including management consultancy

- Research across 94 countries
- 35 permanent multi-lingual analysts and
- 35 independent consultants
- Offices in China, US, Brazil, UK, France, Spain, Germany, partners in other countries
- Japan office opening shortly
- Global network of associates eg. JARN

BSRIA Regular Multi-Client Studies 2013 & 2014

Renewables

Worldwide Heat Pumps

Worldwide Solar Thermal

Micro CHP

Fuel Cells

Gas Heat Pumps

Hybrid Heat Pumps

Residential Heat Recovery

Commercial Heat Pumps

Commercial Solar Thermal

Solar PV

Air Conditioning

Worldwide Review and In-depth

Air handling units & fan coils

Chillers

Large packaged & close control

Splits

Windows & moveables

Brand & Distribution

Refrigeration

Heating

Annual **Worldwide Review**

Domestic boilers

Commercial boilers

Water heaters

Radiators & under-floor heating

HVAC 2020

Integration/overlap

Smart

Environmental Controls

Security

Lighting controls

Fire Detection

Smart Homes

Energy Management

IT

Annual **Worldwide Review**

Structured cabling

Data centres

Wireless

Passive optical LAN

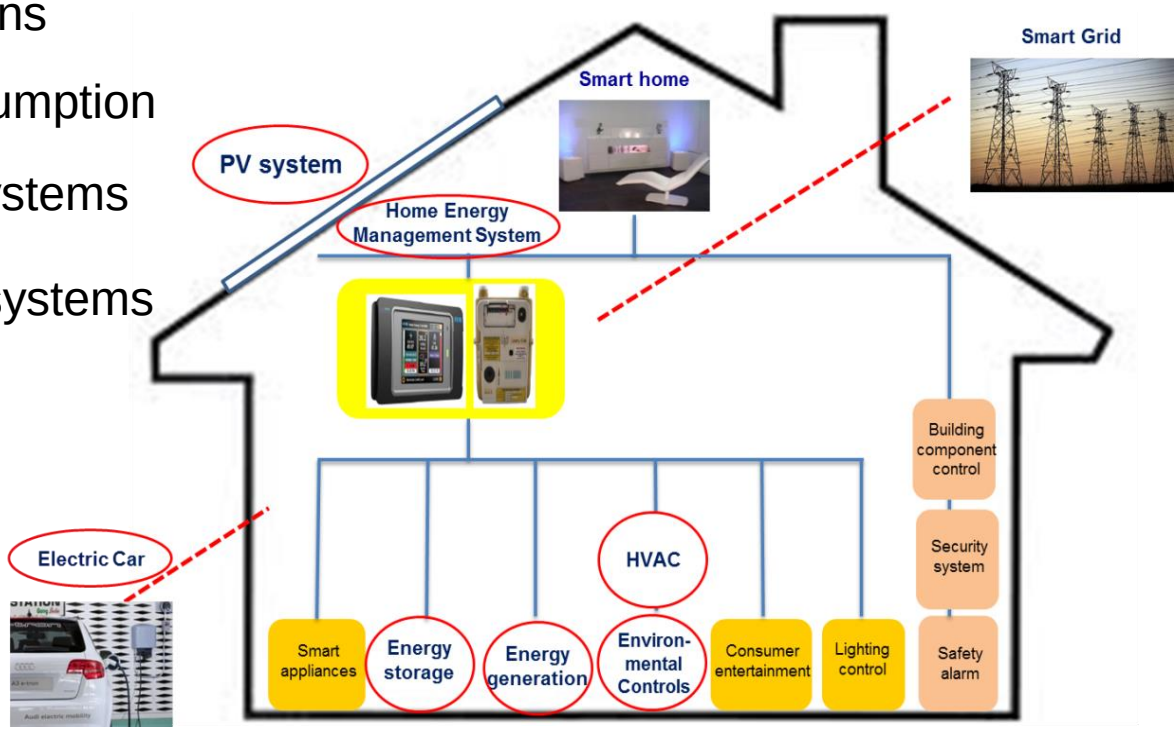
IT Convergence

	Air Conditioning	Heating	Renewables	Cabling
Europe	11	18	14	11
Asia Pacific	11	6	6	5
Americas	4	5	3	3
Middle East, India & Africa	3	7	4	

Policy long term impact on dwellings – Europe

Kyoto Protocol → Reduction of CO2 emissions → EU 20/20/20 targets → EU Plan for Renewable Policy after 2020 → EU Roadmap 2050

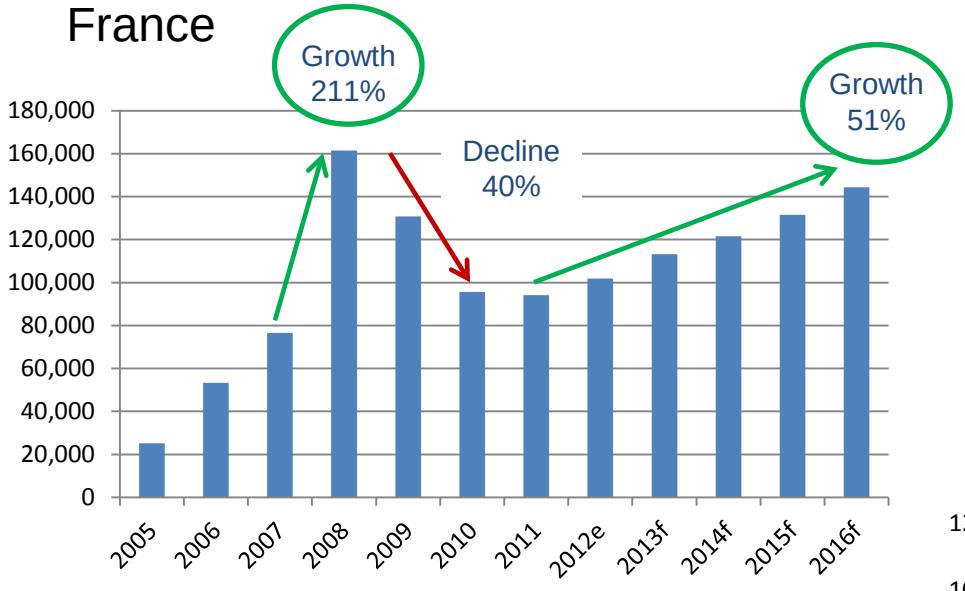
- Reduction of CO2 emissions
- Reduction of energy consumption
- Efficiency of products & systems
- Integration of products & systems



Source: BSRIA

Policy & incentives impact on HP sales – Europe

France



Source: BSRIA

2006
- Existing tax credit have been raised to 50%
- Quick rise in fossil fuel prices but low electricity price

2010
- Reduction of tax credit to 25% for A/W HP (15% in 2012)
- Announced increase in electricity price
- High tax credit and FiT for PV
- SHW HP receive 40% tax credit (reduced to 15% in 2014)

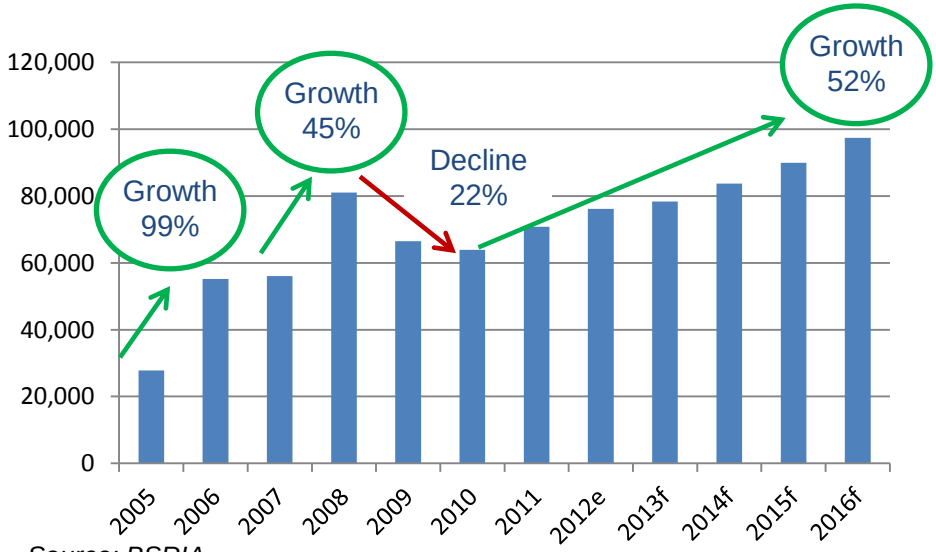
Germany

2006
- Low interest loans
- Lower electricity tariffs from utilities
- Market driven by new dwellings that was going strong

2008
- HP included in market incentive program

2010
- HP financial support available for existing dwellings only

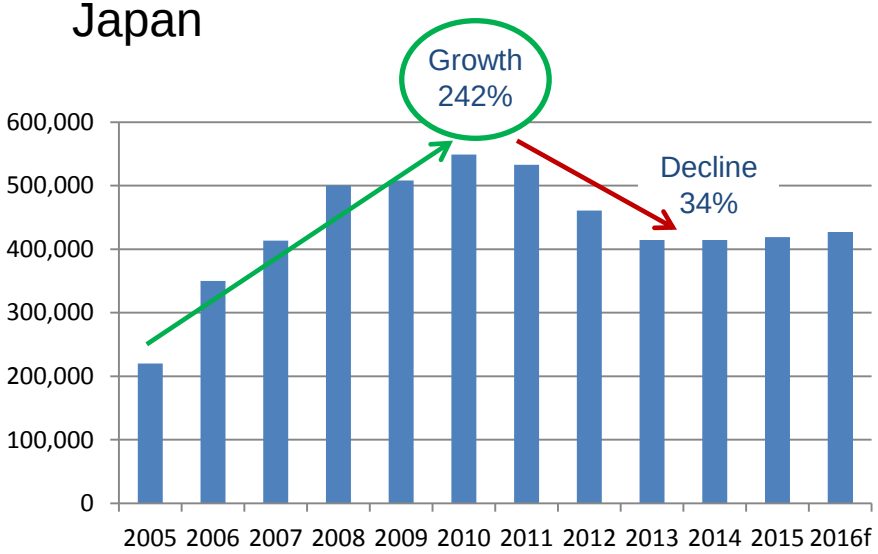
Quick rise of electricity prices slows market growth



Source: BSRIA

Policy & incentives impact on HP sales – Japan / US

Japan



Source: BSRIA

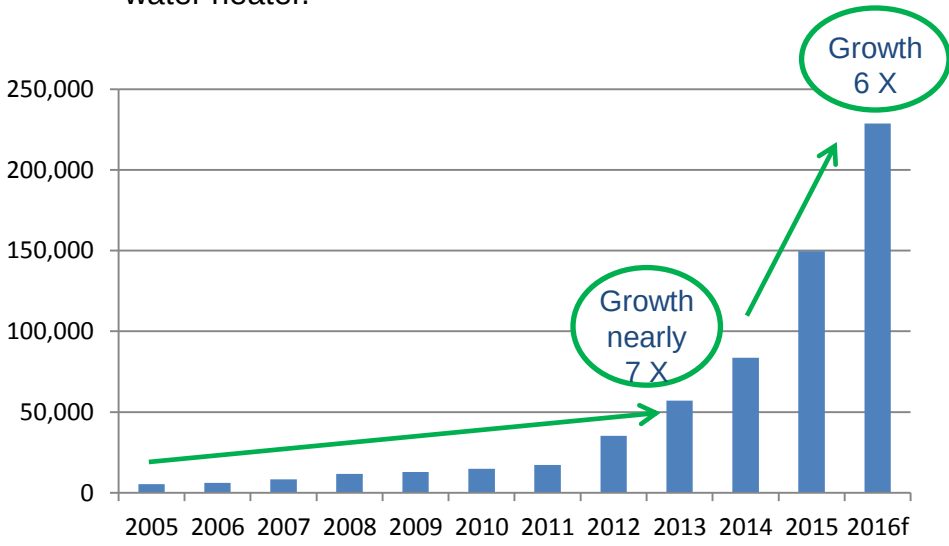
2002
- Japanese government financial support for CO2 water heater heat pumps.
- HP parts of ECO points scheme

Early 2012
- Government direct subsidies for HP stopped
- ECO points remained.
- ECO CUTE seen as electricity consuming product – bad image

U.S.

End 2009
- G/W/W heat pumps receive federal and state incentives.

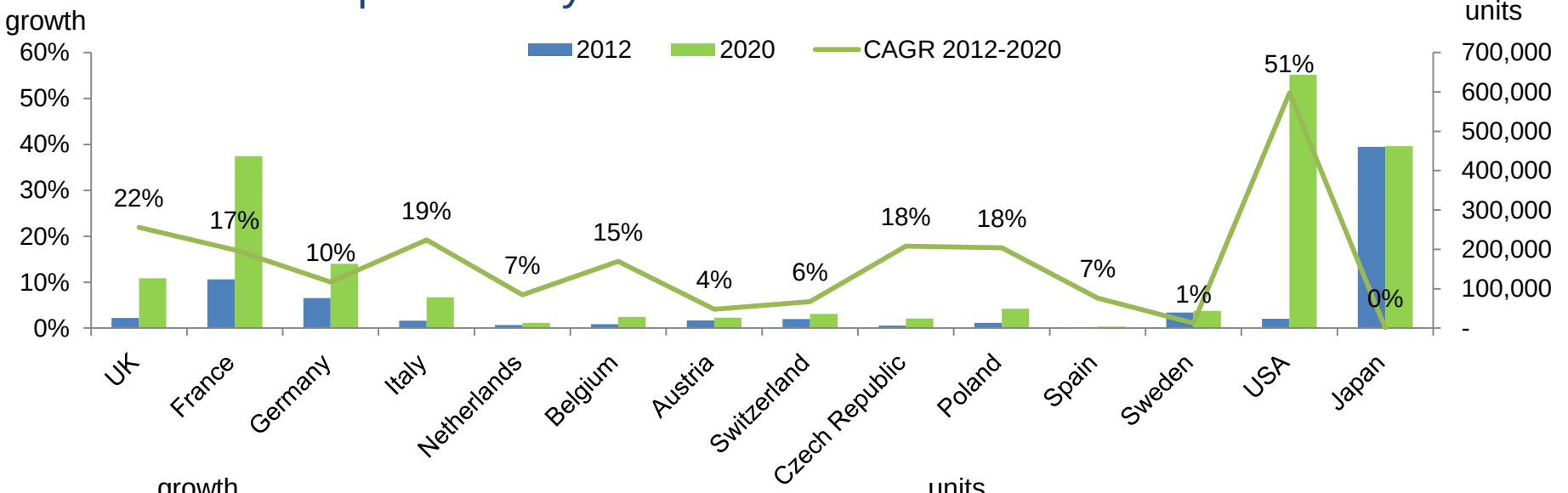
April 2015
- New federal efficiency standards of DOE: all new electric storage water heaters over 55 gallons will effectively become an air-to-water cylinder-integrated water heater.

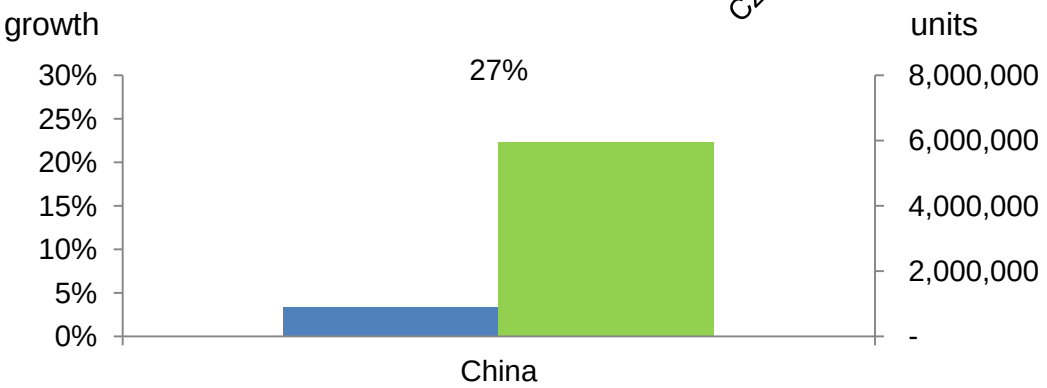


Source: BSRIA

World Heat Pump 2020 Outlook

Sales volume per country with CAGR 2012 - 2020

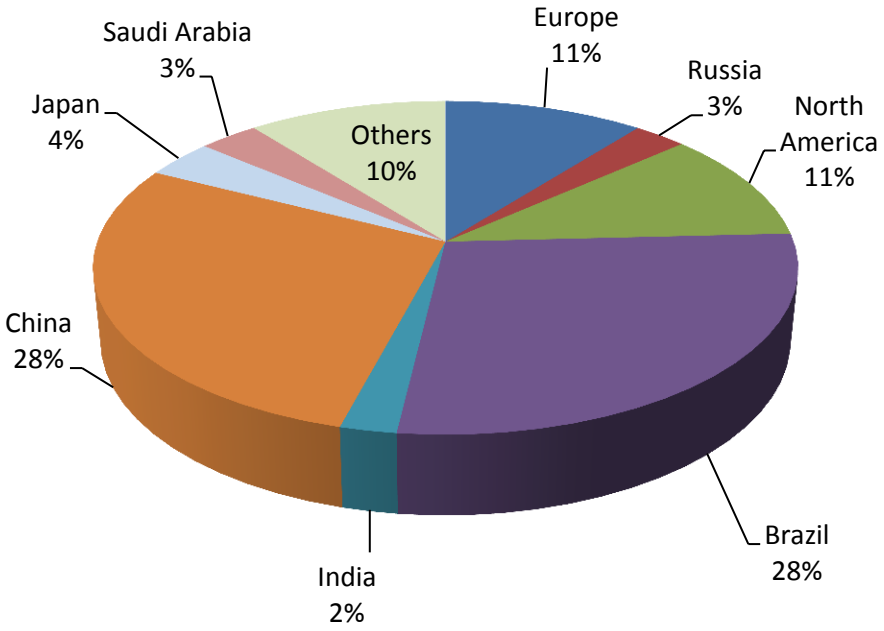




Source: BSRIA

World Water Heating Markets

World Water Heating, 2013

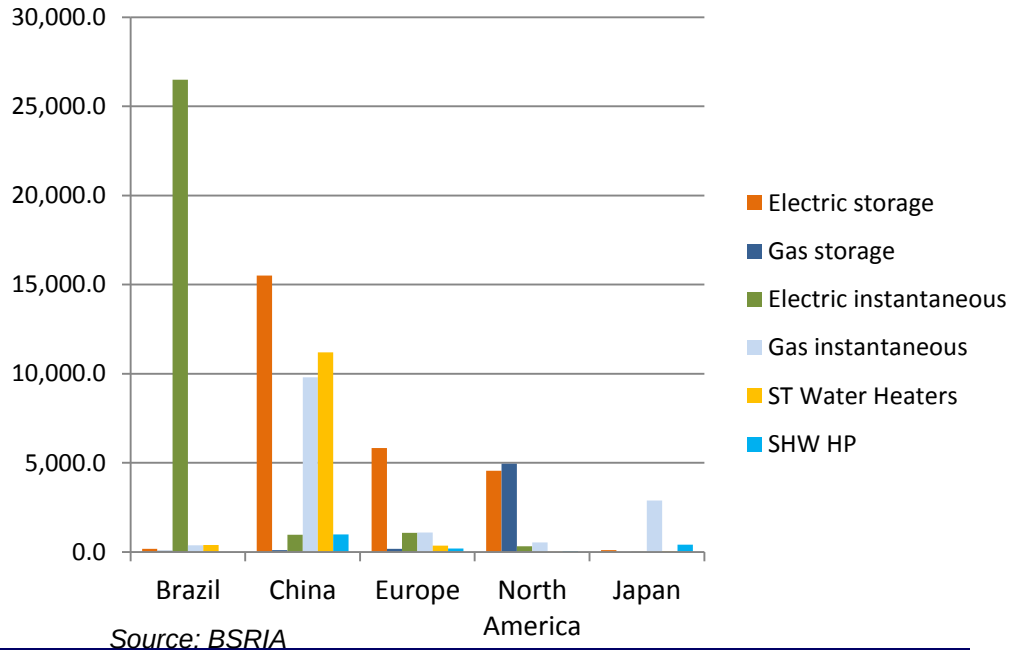


Source: BSRIA

Total: around 98.6 mln units (include ESWH, GSWH, EIWH, GIWH, ST WH, SHWHP)

Based on BSRIA market analysis for 44 countries

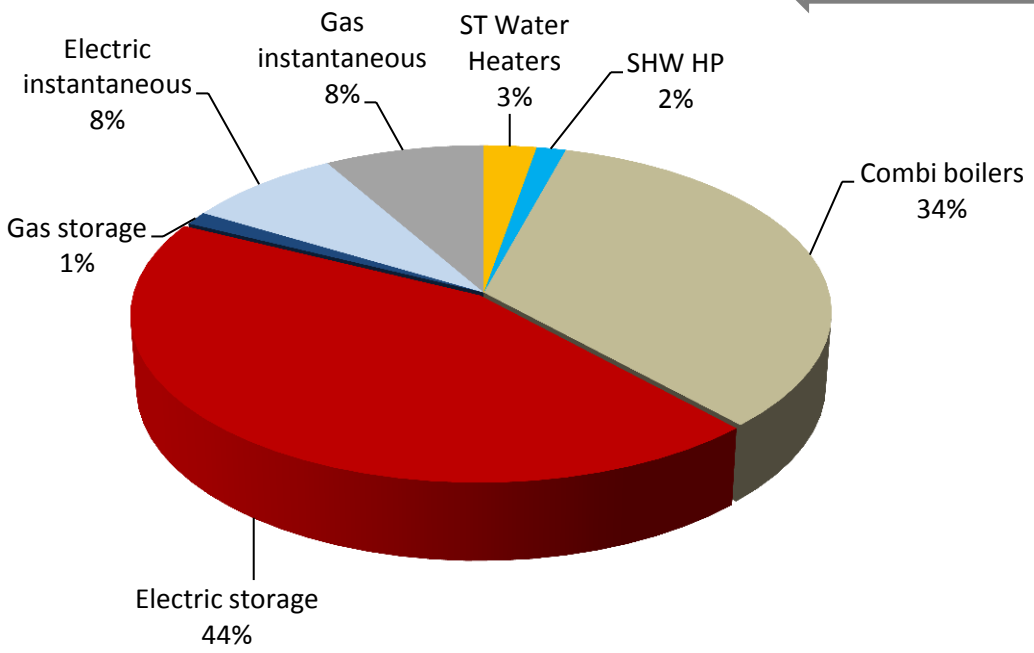
Largest Water Heating markets, 2013



Source: BSRIA

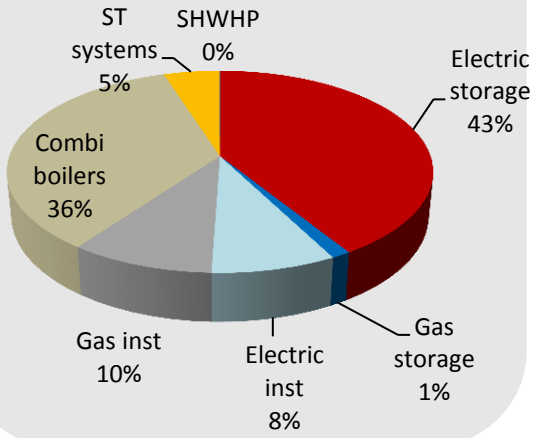
Water Heating market - Europe

Water Heating market, by type of provision, 2013



Source: BSRIA, based on market analysis for 19 European countries

Water Heating market by type of provision, 2010

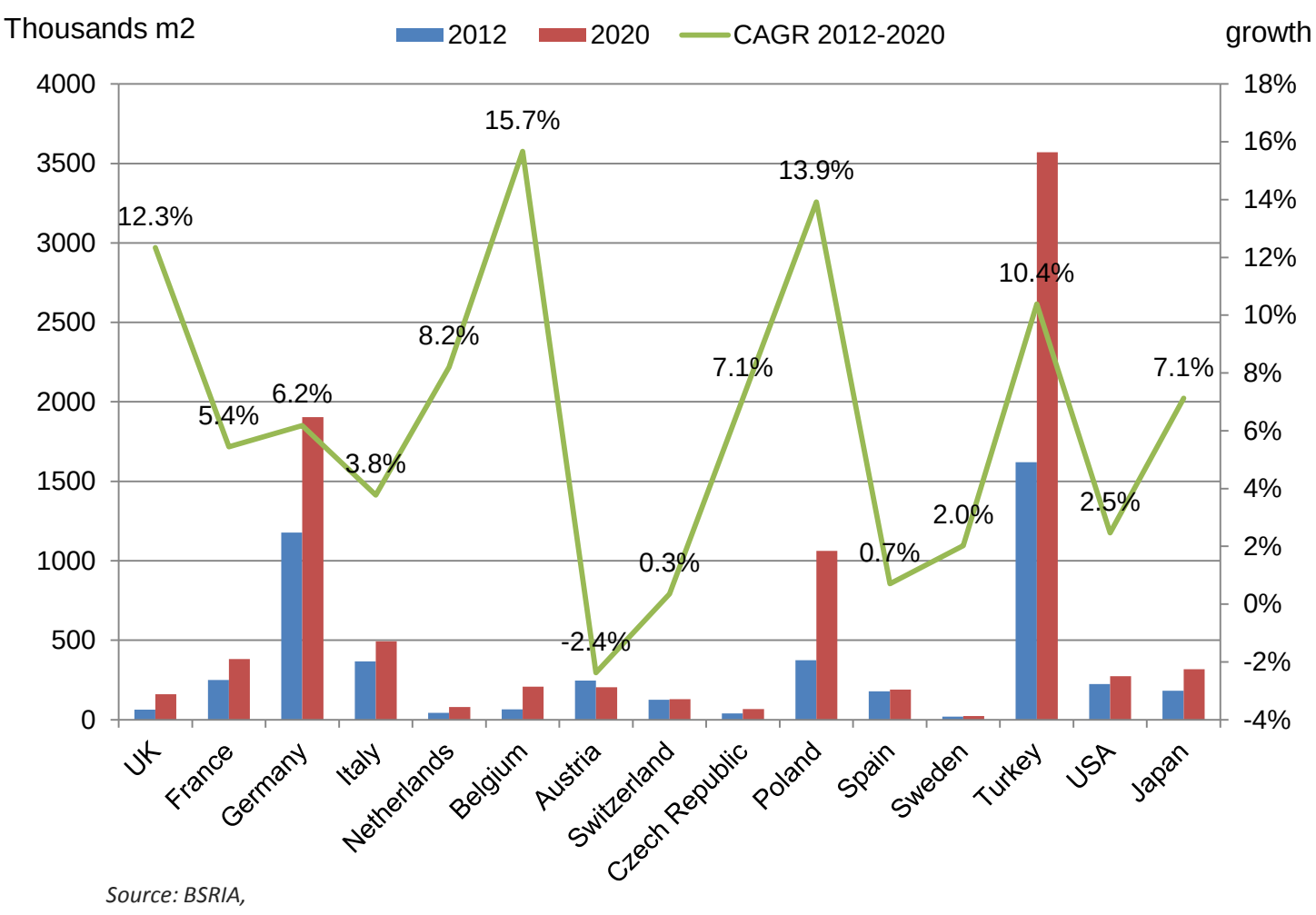


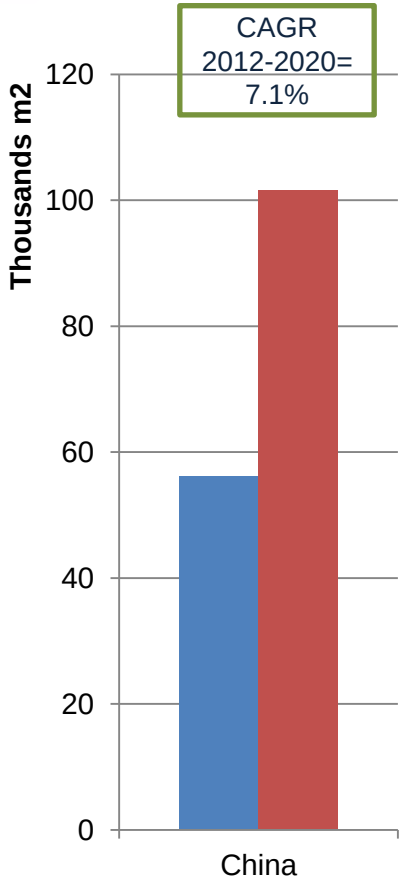
Source: BSRIA

- **Electric storage have been the most popular product.**
- **The share of renewable WH systems is stable but SHW HP have increased at ST WH expense.**

World Solar Thermal 2020 Outlook







Source: BSRIA,

ErP - Impact on products

Eco Design

Labels mandatory from Sep. 2015

- Dramatic decrease in sales of non-condensing boiler

Fuel cell

Cogeneration

Gas HP

Condensing boilers

Non-condensing boilers

A +++	≥150%
A ++	≥125%
A +	≥98%
A	≥90%
B	≥82%
C	≥75%
D	≥36%
E	≥34%

Ground /Water to water HP

Air to water HP

From 26/9/2015 products with Label D to G are no longer allowed to be sold

- Increase in Combined & Hybrid systems

Hybrid Heat Pumps



Combined CB + ST system



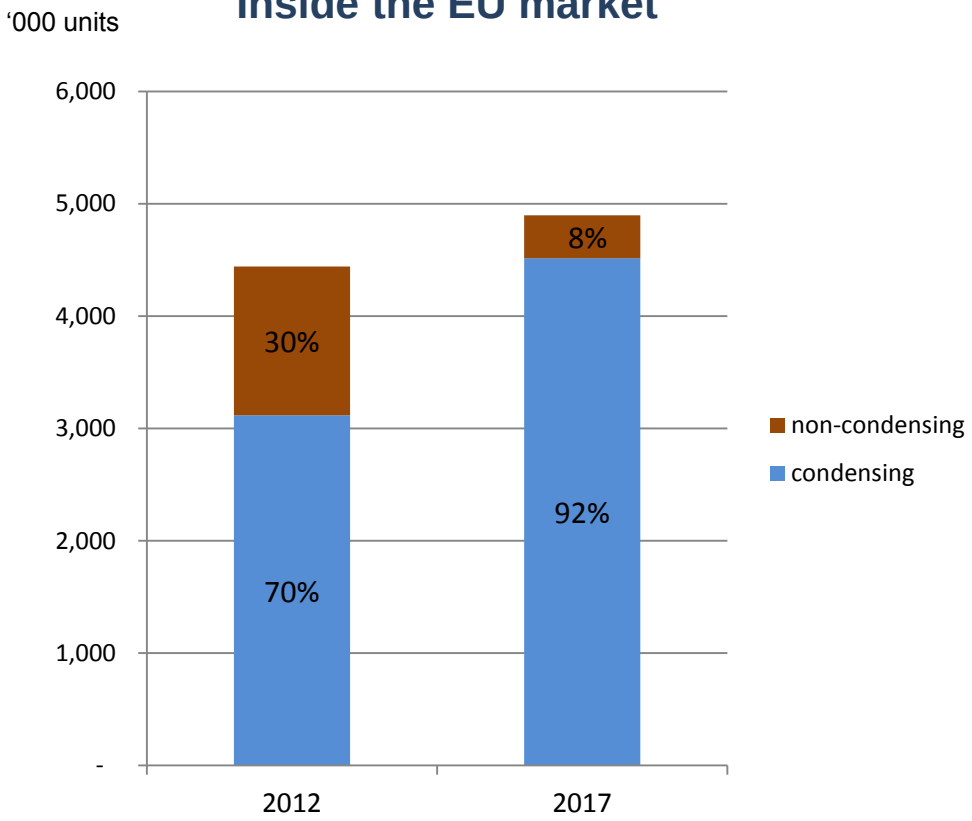
- Enhanced Controls



Boiler technology shift

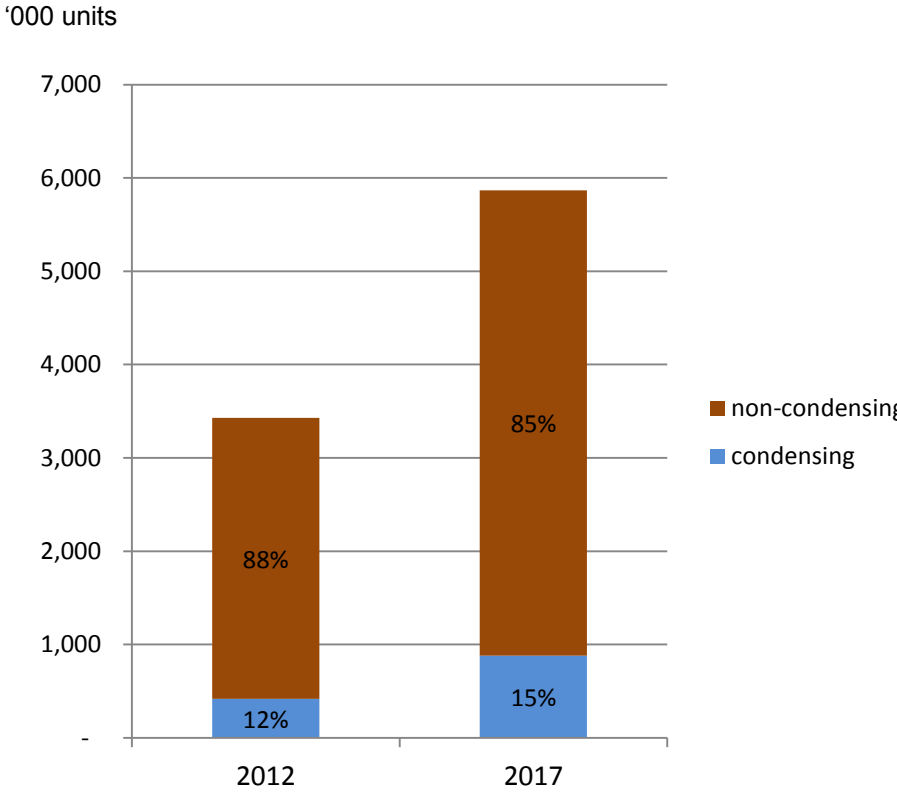
Domestic gas & oil boiler sales, 2012 - 2017

Inside the EU market



Source: BSRIA, based on the analysis of 9 largest European markets

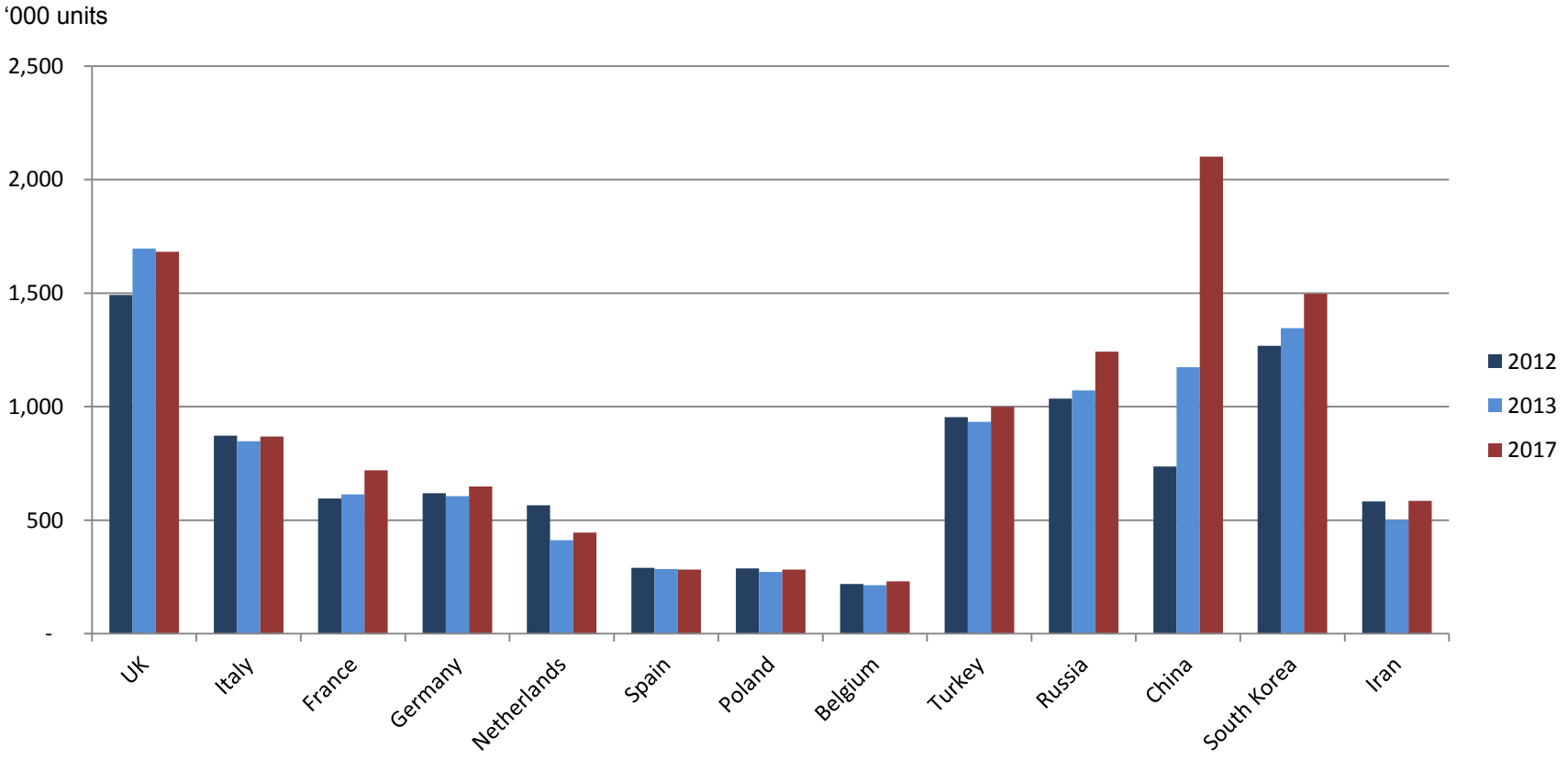
Outside the EU market



Source: BSRIA, based on the analysis of Turkey, Russia, China, S. Korea

Domestic boilers - main world heating markets

Total domestic boiler sales, 2012 - 2017

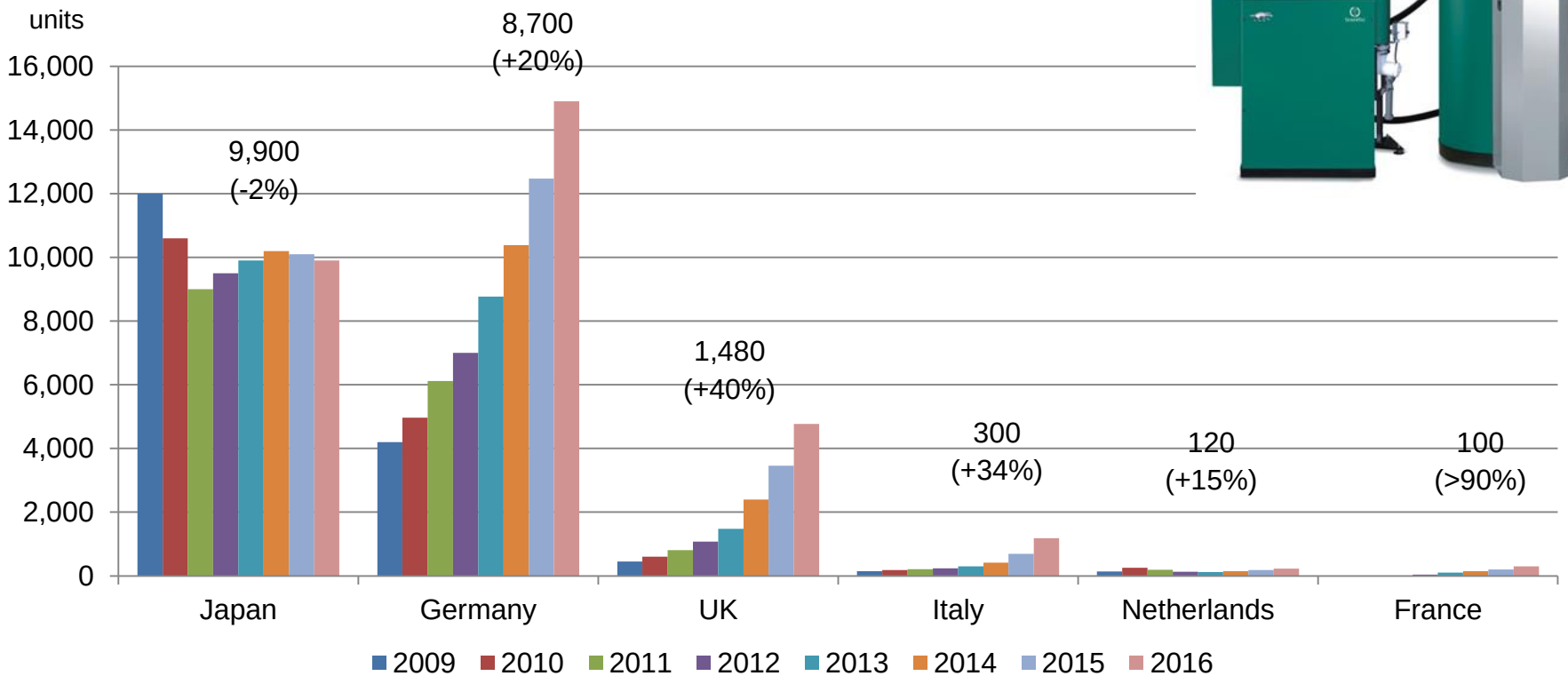


Source: BSRIA

Small cogeneration (CHP <50 kW)

- Total market in 2013: 20,660 units (CAGR 2009/2016: 9%)
- Expected decline in Japan due to competition from Fuel Cell

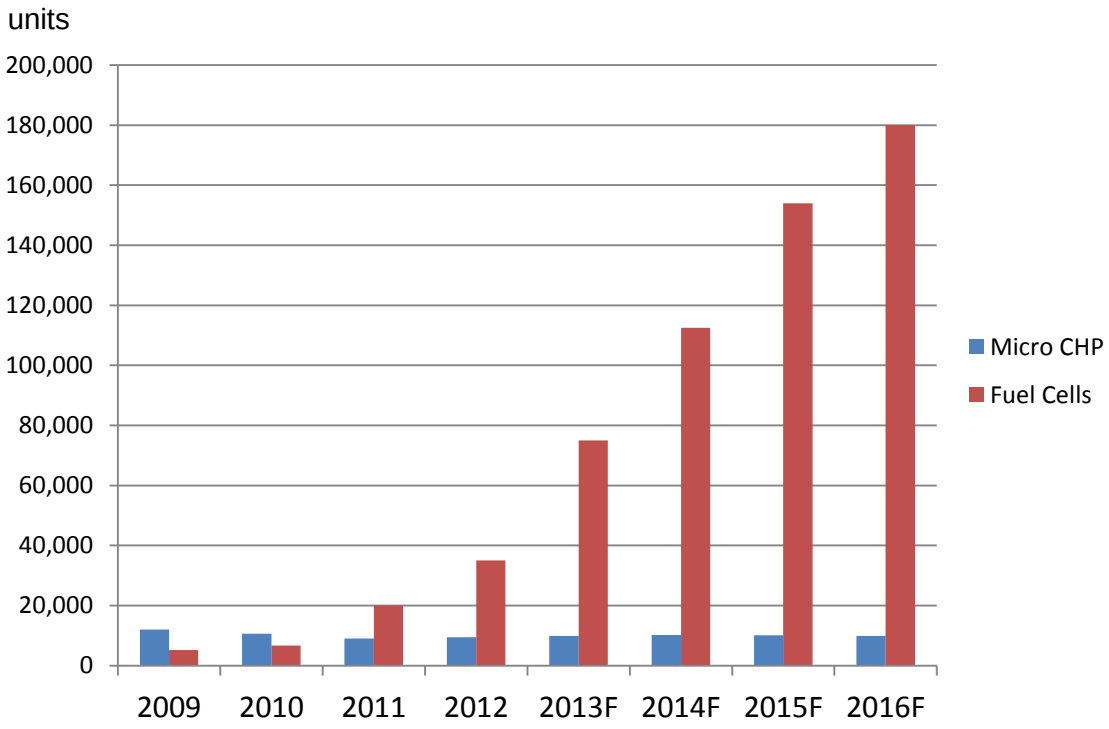




Source: BSRIA

Stationary Fuel Cell Systems - Japan



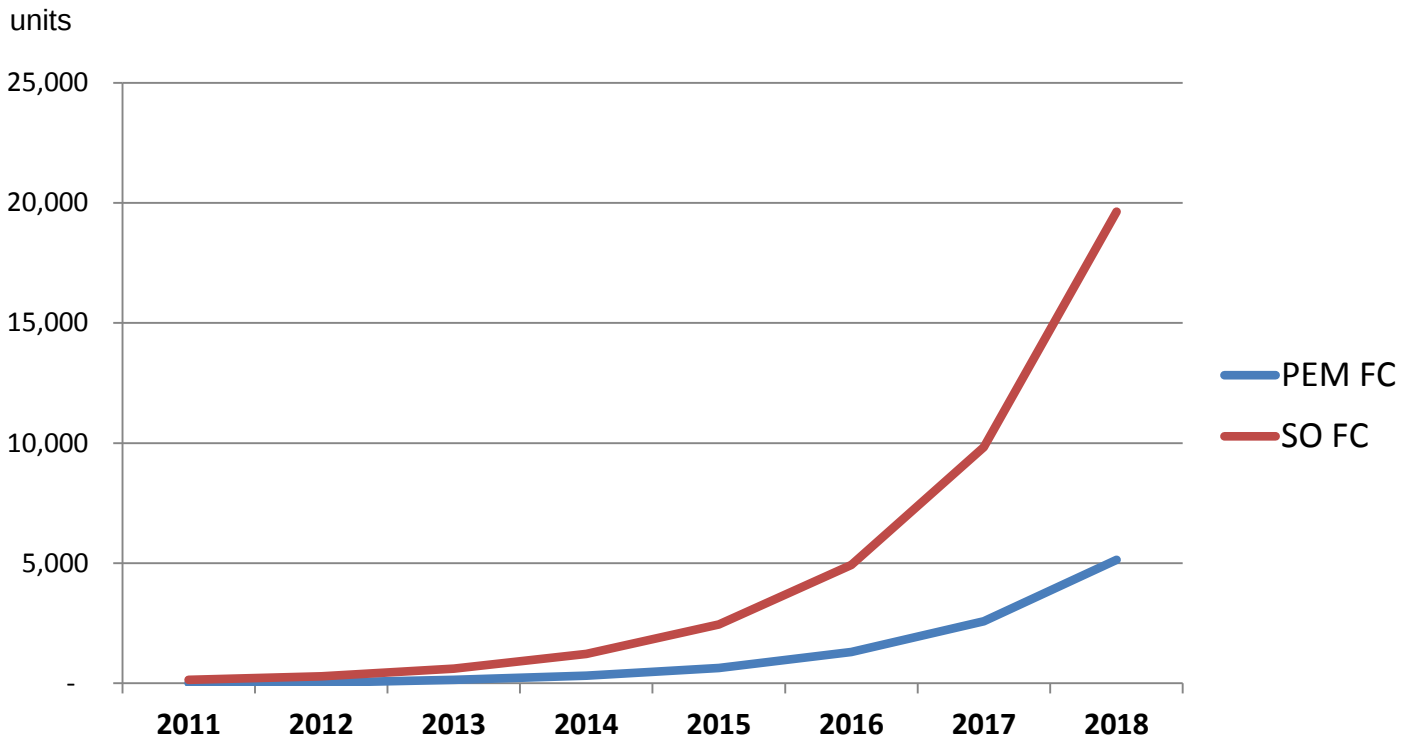


Source: BSRIA

- **PEM FC entered the market in 2009.**
- **SO FC entered the market in 2012.**
- **FC old under the name of ENEFARM.**
- **Supported financially from 2009.**
- **Part of the Off-Grid Power System Enhancement Programme (BUNSANGATA DENGEN DONYU SOKUSHIN JIGYO HOJYO KIN)**
- **Government target: 1.4 million FC installations by 2020.**

Stationary Fuel Cell systems- Europe

European sales of Fuel Cells under 10kWe



Source: BSRIA



Thank you

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