

EUROPEAN HEAT PUMP SUMMIT

POWERED BY CHILLVENTA

SYMPOSIUM + EXPO
NUREMBERG, 20-21.10.2015

Industrial | Commercial | Residential
Heating & Cooling | Components & Equipment

hp-summit.de

NÜRNBERG / MESSE

Hybrid Heat Pumps – Are they living up to their potential?

European Heat Pump Summit – 20.10.2015

Contact:

Julian Jansen, +44 131 625 1006,

julian.jansen@delta-ee.com



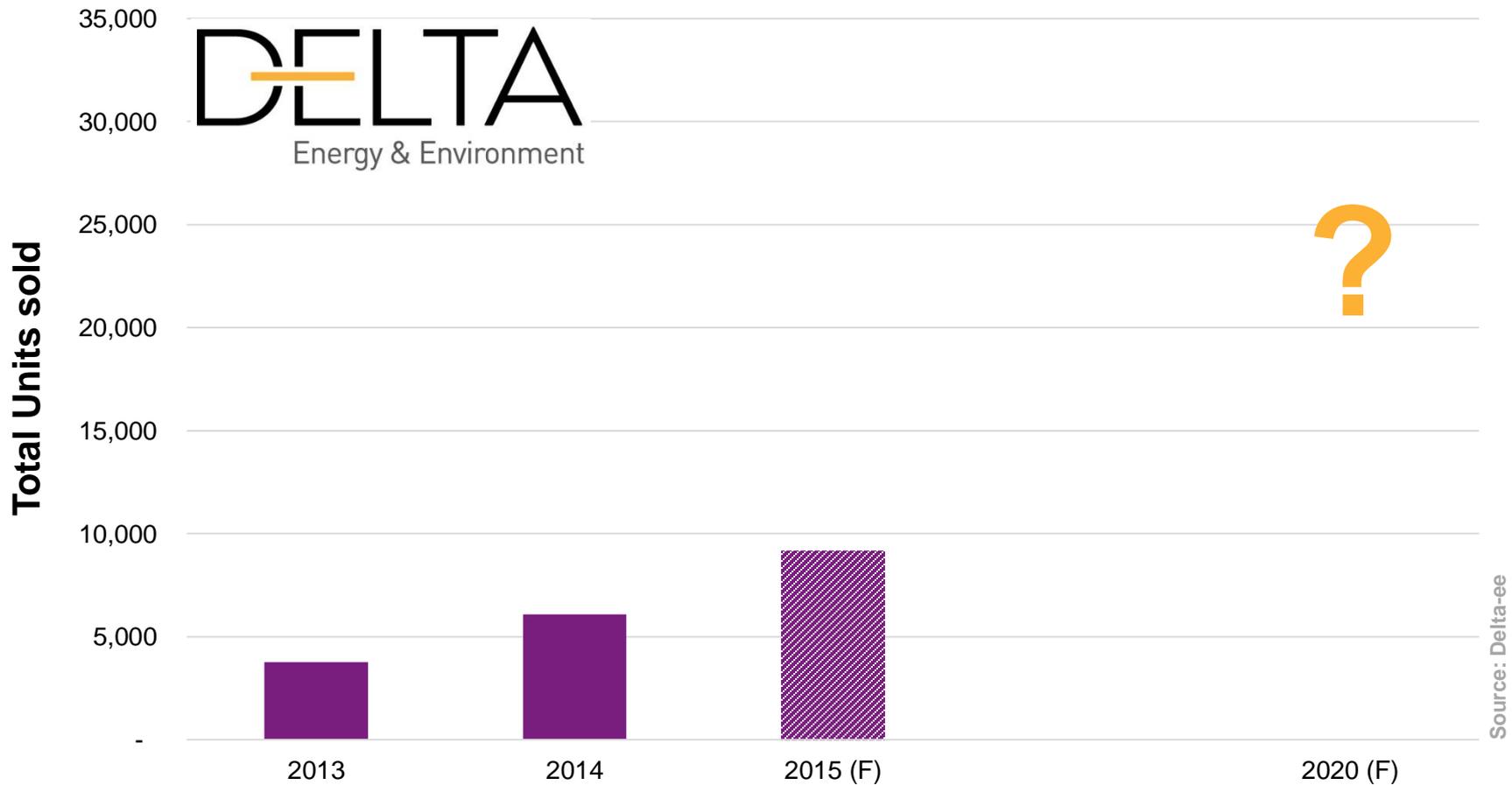
- ▶ **Introduction**
- ▶ **About Delta Energy & Environment**
- ▶ **Defining Hybrid Heat Pumps**
- ▶ **Understanding the current state of the market**
- ▶ **Key market challenges for Hybrid Heat Pumps**
- ▶ **How to realise their market potential**

Hybrid Heat Pumps – a small market with a lot of potential?



Hybrid HP sales have been growing, but what is needed to realise their full market potential?

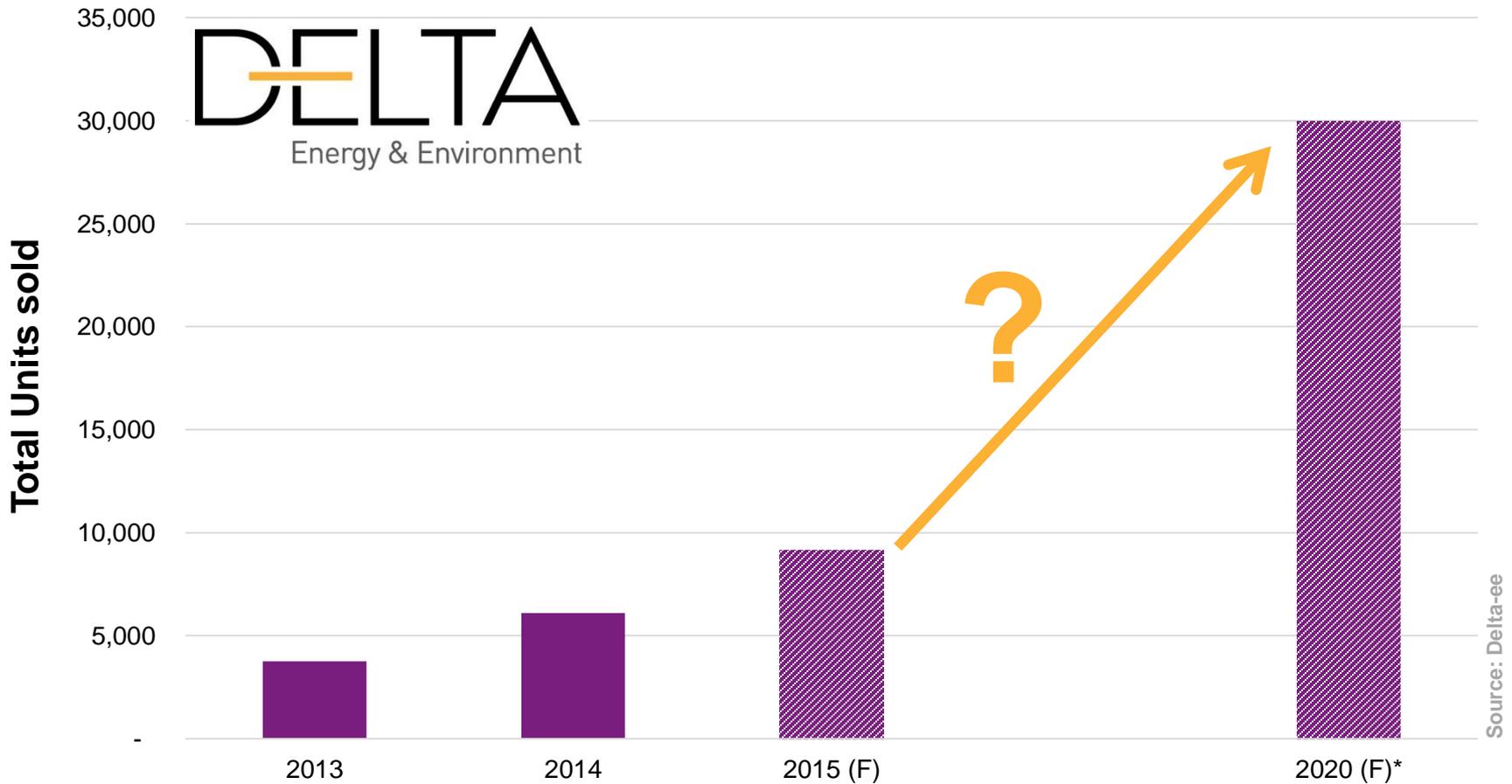
European Hybrid Heat Pump Sales



Source: Delta-ee

Hybrid HP sales have been growing, but what is needed to realise their full market potential?

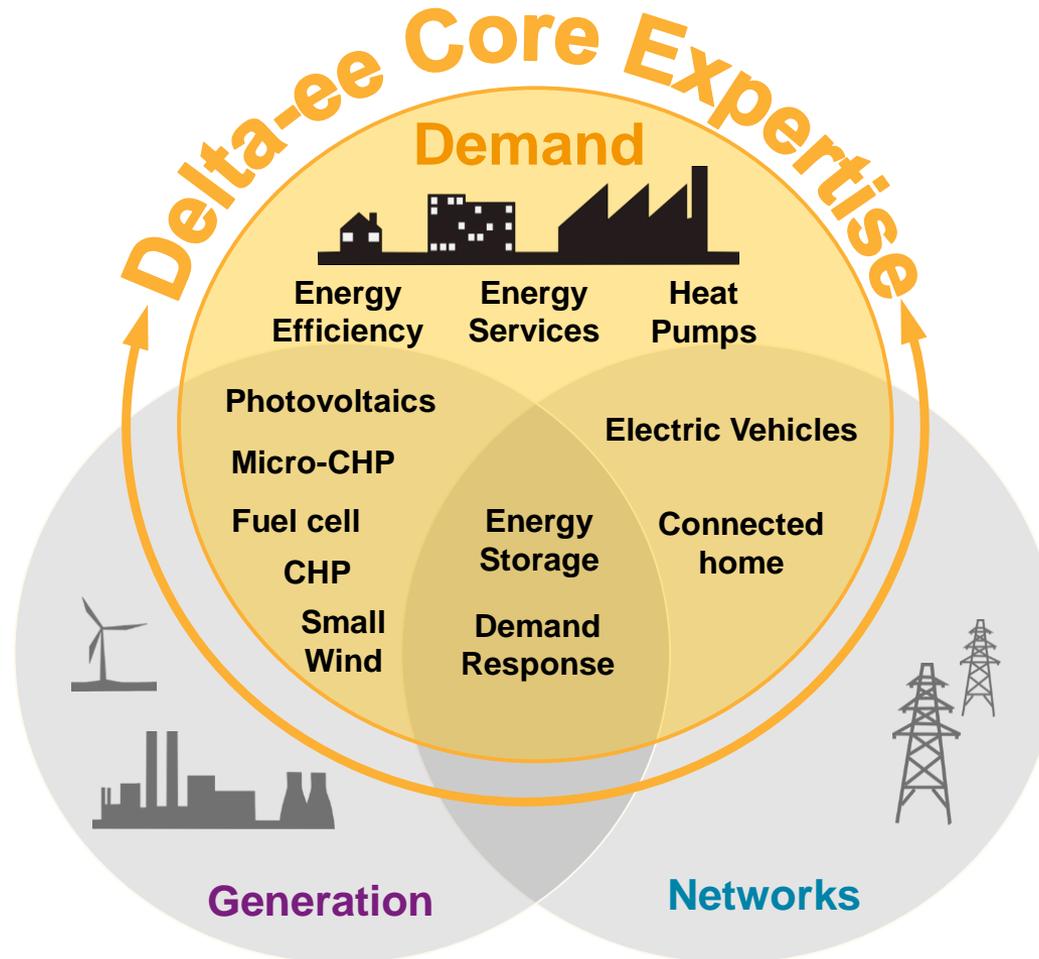
European Hybrid Heat Pump Sales



* 2020 forecast represents central estimate based on current market conditions. Overall the market has the potential to strongly exceed this growth scenario.

- ▶ **Introduction**
- ▶ **About Delta Energy & Environment**
- ▶ **Defining Hybrid Heat Pumps**
- ▶ **Understanding the current state of the market**
- ▶ **Key market challenges for Hybrid Heat Pumps**
- ▶ **How to realise their market potential**

Helping clients succeed in low carbon heat and distributed energy



Delta-ee provides:

- ▶ Market insight & forecasts
- ▶ Techno-economic analysis
- ▶ Commercial advice
- ▶ Strategy & tactics

What Delta-ee offer to clients:

- ▶ Research Services
- ▶ Multi-client Studies
- ▶ Consultancy
- ▶ Specialist Summits

www.delta-ee.com

North America

Energy Companies

BC Hydro · CEATI · Enmax · EPRI · Hydro One · Chevron · Conoco · Keyspan · Southern California Edison

Manufacturers

Caterpillar · Fuji Electric (US) · GE · UTC Power · Versa Power Systems · GE Energy · Dresser-Rand

Finance Sector

Morgan Stanley

Policy / NGOs

Battelle · World Alliance for Decentralised Energy · COGEN São Paulo · Cogeneration Association of California · Energy Producers and Users Coalition · EPRI Solutions · Natural Resources Canada

Europe

Energy Companies

Avanti Gas · BP LPG · British Gas · Calor Gas · DONG · EDF · EDF Energy · Edison · EDP · Exxon Mobil · Endesa · ENECO · Energy Networks Association · E.ON · Electric Ireland · GasTerra · Gas Natural Fenosa · Gasunie · Gazprom · GDF Suez · Iberdrola · National Grid · Power NI · RWE · RWE npower · Scottish Power · SSE · SEDIGAS · SHV Gas · Statoil · Vattenfall

Manufacturers

Ariston Thermo Group · BDR Thermea · BEAMA · Bekaert · Bosch · BSRIA · Centrax · Ceres Power · Cummins · Danfoss · EADS · Efficient Home Energy · Ener-G · Energetix · Grundfos · Jabil · Jenbacher · Honeywell · Impco · MAN · Microgen Energy · Mondragon · MWM · NIBE · Philips · Riello · Sandvik · Schneider · Siemens · Topsoe Fuel Cells · Turbomach · Schneider Electric · Vaillant · Viessmann · Viking Development Group · Volkswagen

Finance Sector

Berenberg Bank · Credit Suisse · Deutsche Bank · J Leon & Co · KBC Peel Hunt · Modal Capital · Numis Securities · Zetra International · Nomura · Redburn · Scottish Equitable Partners

Policy / NGOs

Business Council for Sustainable Energy · Carbon Trust · COGEN Europe · CHPA · Danish Energy Agency · DECC · Energy Saving Trust · EBRD · European Commission · Greenpeace · HHIC · International Energy Agency · Renewable Energy Association · OECD · Scottish Enterprise · Sustainable Development Commission · Sustainable Energy Ireland · UKLPG · WLPGA

Asia

Energy Companies

CRIEPI · Osaka Gas · JX Nippon Oil and Energy Corp

Manufacturers

CFCL · Daikin · Honda · Hitachi Power Equipment Systems · Mitsubishi Electric · Mitsubishi Heavy Industries · NGK Spark Plug · Panasonic · Toshiba Corporation · Yanmar Energy Systems · TOTO Limited

Finance Sector

Itochu Corporation · EU-China Energy & Environment Program

Policy / NGOs

Advanced Cogeneration and Energy Utilisation Centre Japan · Japan Gas Association

In-depth reports

Briefing notes

Market analysis & forecasts

'Ask the Analyst'



DELTA Energy & Environment

New EU VAT ruling affecting energy saving technologies in the UK

Subscriber Briefing Note
June 2015

What does the ruling mean for UK manufacturers, retailers and installers of low carbon heating technologies?

Evolution of the German HP market

DELTA Energy & Environment

Customer economics: Payback periods against oil boilers - a closer

1 Emerging market
2 Rapid Growth
3 Market Peak
4 Market Decline
5 Market Stabilization

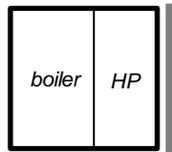
- ▶ Identify and exploit opportunities
- ▶ Understand emerging markets and technologies

- ▶ Track policy changes
- ▶ Save you time

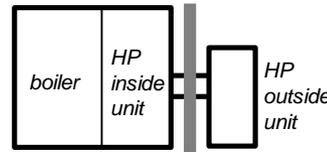
- ▶ **Introduction**
- ▶ **About Delta Energy & Environment**
- ▶ **Defining Hybrid Heat Pumps**
- ▶ **Understanding the current state of the market**
- ▶ **Key market challenges for Hybrid Heat Pumps**
- ▶ **How to realise their market potential**



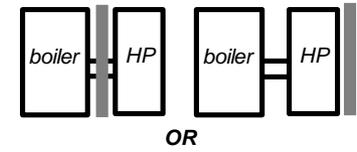
- **A HP combined with a fossil fuel-fired boiler...**



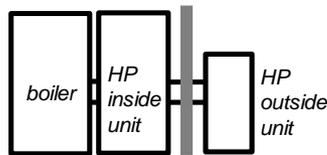
Integrated / monobloc



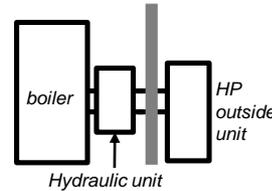
Integrated / split



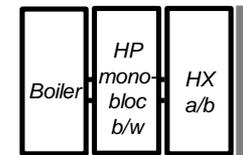
Un-integrated / monobloc



Un-integrated / split



Hydraulic unit



Special case: Un-integrated / "brine-split"



- **...where the system components are connected and operated via an intelligent central control system...**



- **...and that is sold as a hybrid system.**

- ▶ **Introduction**
- ▶ **About Delta Energy & Environment**
- ▶ **Defining Hybrid Heat Pumps**
- ▶ **Understanding the current state of the market**
- ▶ **Key market challenges for Hybrid Heat Pumps**
- ▶ **How to realise their market potential**

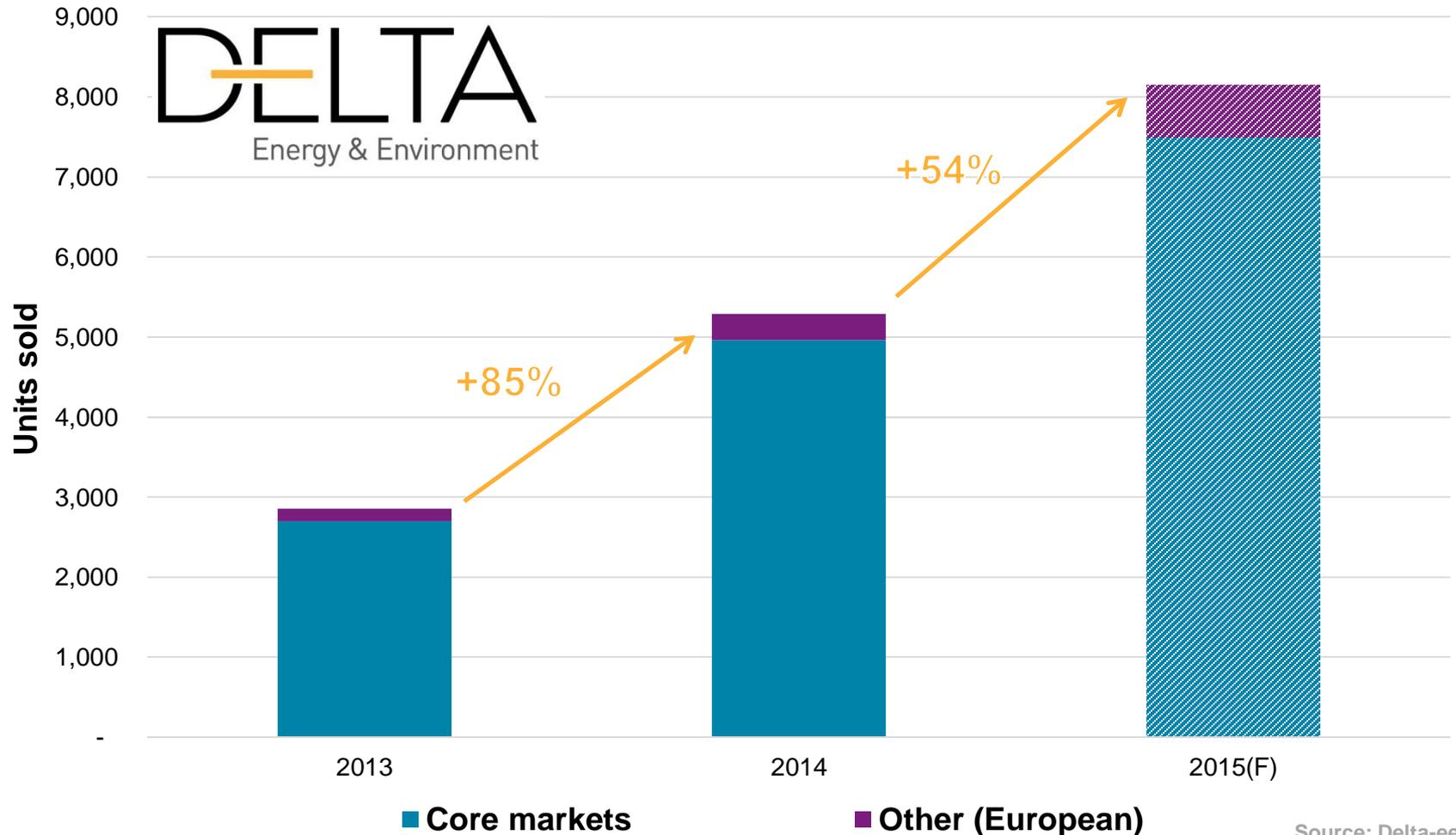
What is the current market situation?

Situation

Problem

Solution

Gas hybrid sales by country – 2015 forecast



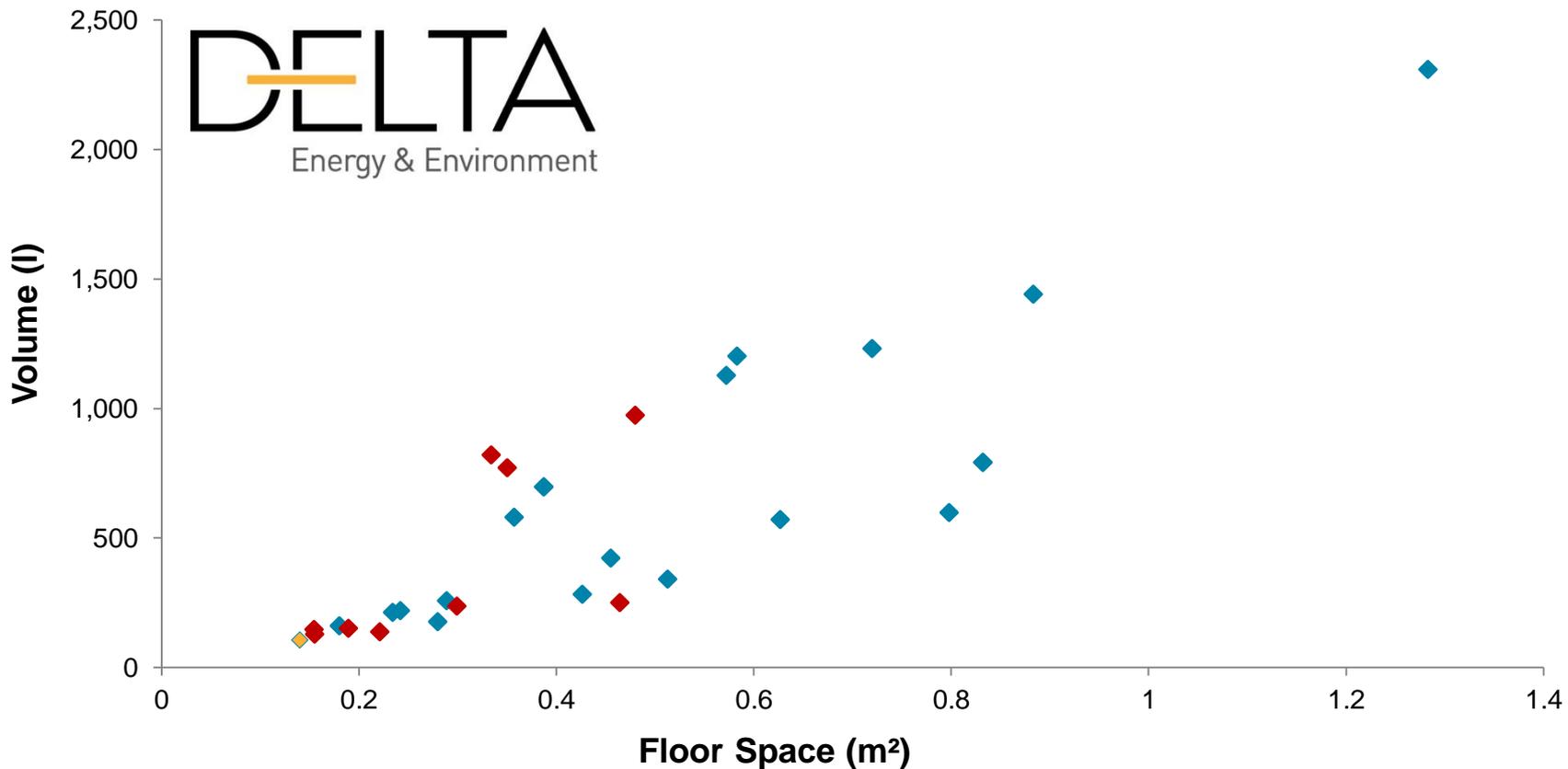
Source: Delta-ee

The interest is there, but why are hybrids yet to live up to their potential?



System size and complexity has been a major barrier, but is being reduced by the manufacturers

Current distribution of hybrid products by volume (l) and occupied floor space (m²)



Wall-hung reference boiler  Hybrid HPs  Products launched in 2014/15 

Source: Delta-ee

- ▶ **Introduction**
- ▶ **About Delta Energy & Environment**
- ▶ **Defining Hybrid Heat Pumps**
- ▶ **Understanding the current state of the market**
- ▶ **Key market challenges for Hybrid Heat Pumps**
- ▶ **How to realise their market potential**

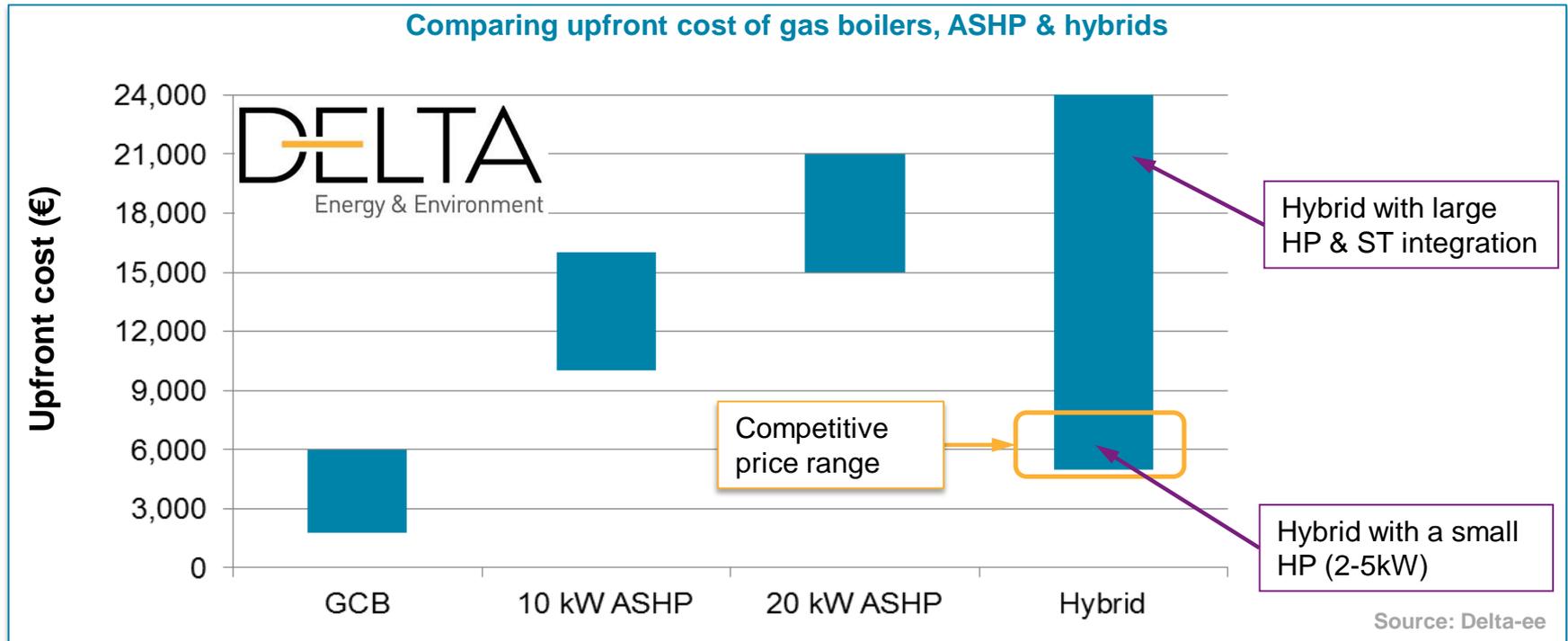
What are the main challenges to fulfilling the market potential?

Situation

Problem

Solution

Upfront costs for hybrid HPs differ widely, but to spur growth prices need to become more competitive

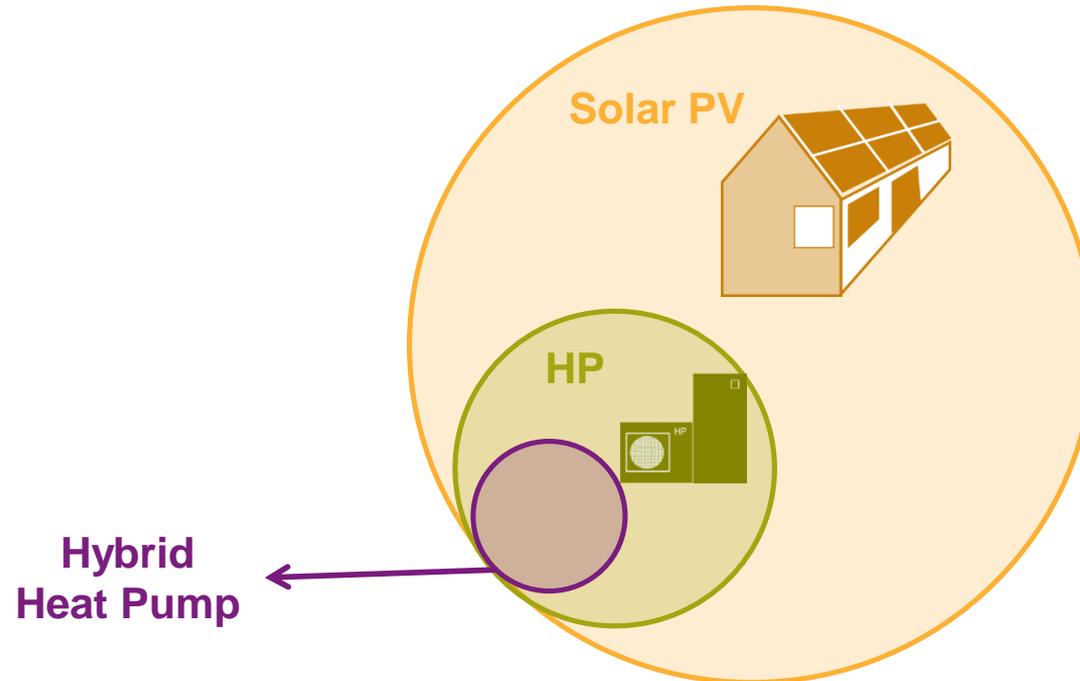


Avoided cost of heat distribution system upgrade compared to HP only systems?



Low customer awareness, as well as a lack of knowledge / clarity amongst regulators and norming organisations remain a key barrier

Homeowner awareness (UK)



Source: Delta-ee Microgen Insight Service

Regulatory awareness

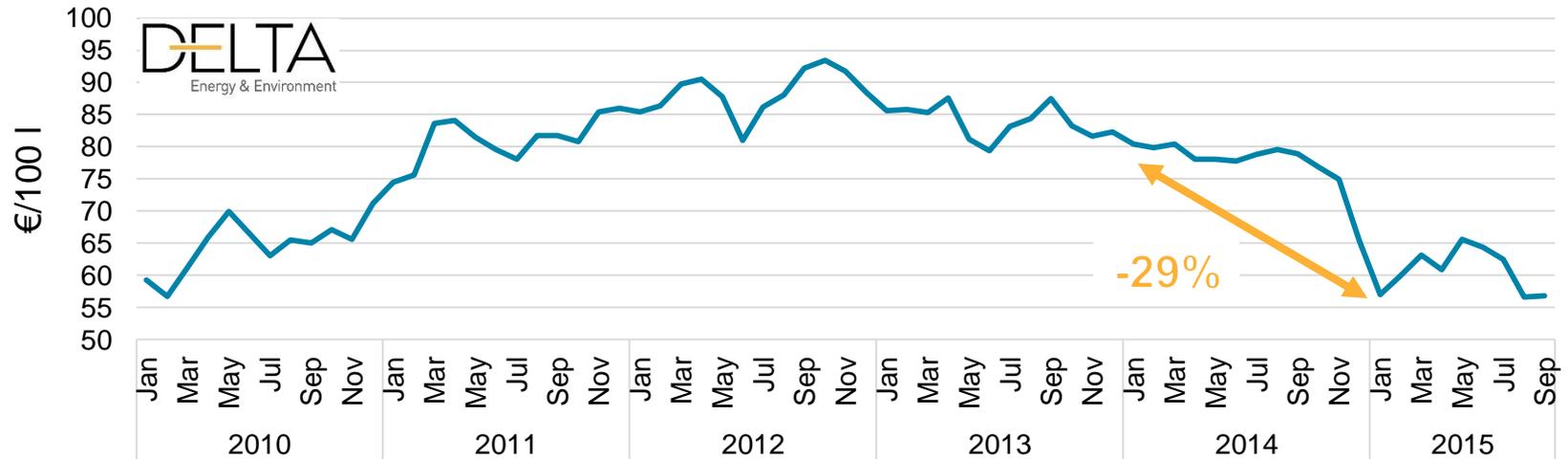


- Lack of clear definition
- Lack of Hybrids recognition in national subsidy schemes

Hybrid heat pump sales have been strongly affected by the fluctuation of fuel prices



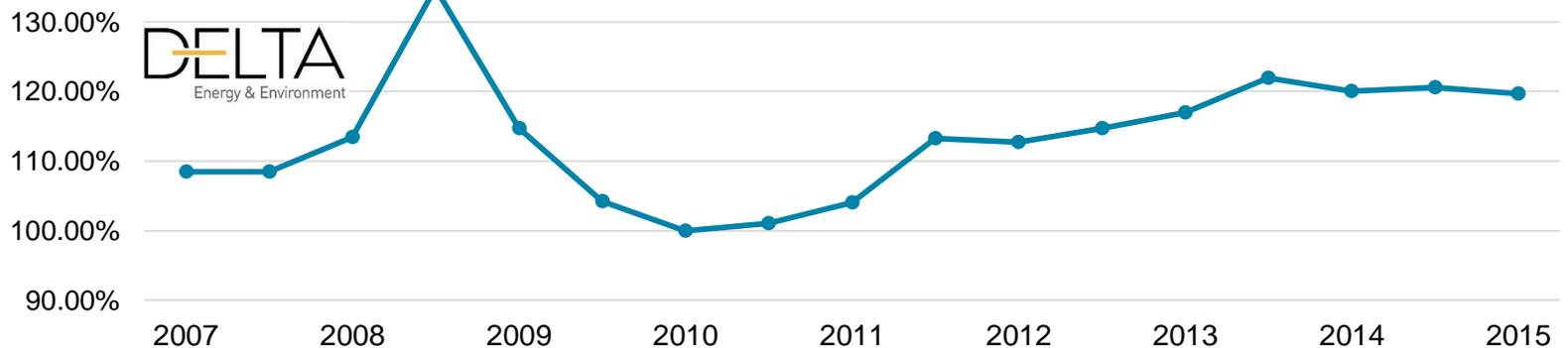
Development of heating oil price (DE)



Source: Delta-ee, Heizoel24



Development of gas prices (100% benchmark 2010 Q1)



Source: Delta-ee, Eurostat

- ▶ **Introduction**
- ▶ **About Delta Energy & Environment**
- ▶ **Defining Hybrid Heat Pumps**
- ▶ **Understanding the current state of the market**
- ▶ **Key market challenges for Hybrid Heat Pumps**
- ▶ **How to realise their market potential**

How can the industry overcome these challenges?

Situation

Problem

Solution



Position the product as insurance against rising energy prices

- ▶ In their marketing manufacturers should deliver the message that hybrids can be used to hedge against rising energy prices in the future, as the system will always choose the cheapest heating fuel



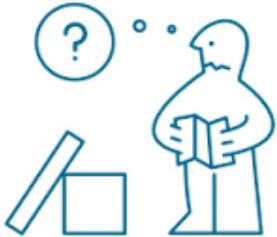
Minimise upfront costs

- ▶ Manufacturers must lower system prices to reduce the premium paid for a hybrid compared to a conventional boiler (€1,500-2,000).



Raise awareness with customers, but also regulators

- ▶ Manufacturers and industry bodies must raise the topic of hybrid heat pumps with the relevant organisations to ensure quality norms and ensure clarity over subsidy structures. This can then be used to provide the platform for a strong marketing message to get to the end-customer.



Reduce size and installation complexity

- ▶ Keeping the installation complexity of hybrids to a minimum is key to getting conventional heating system installers on board

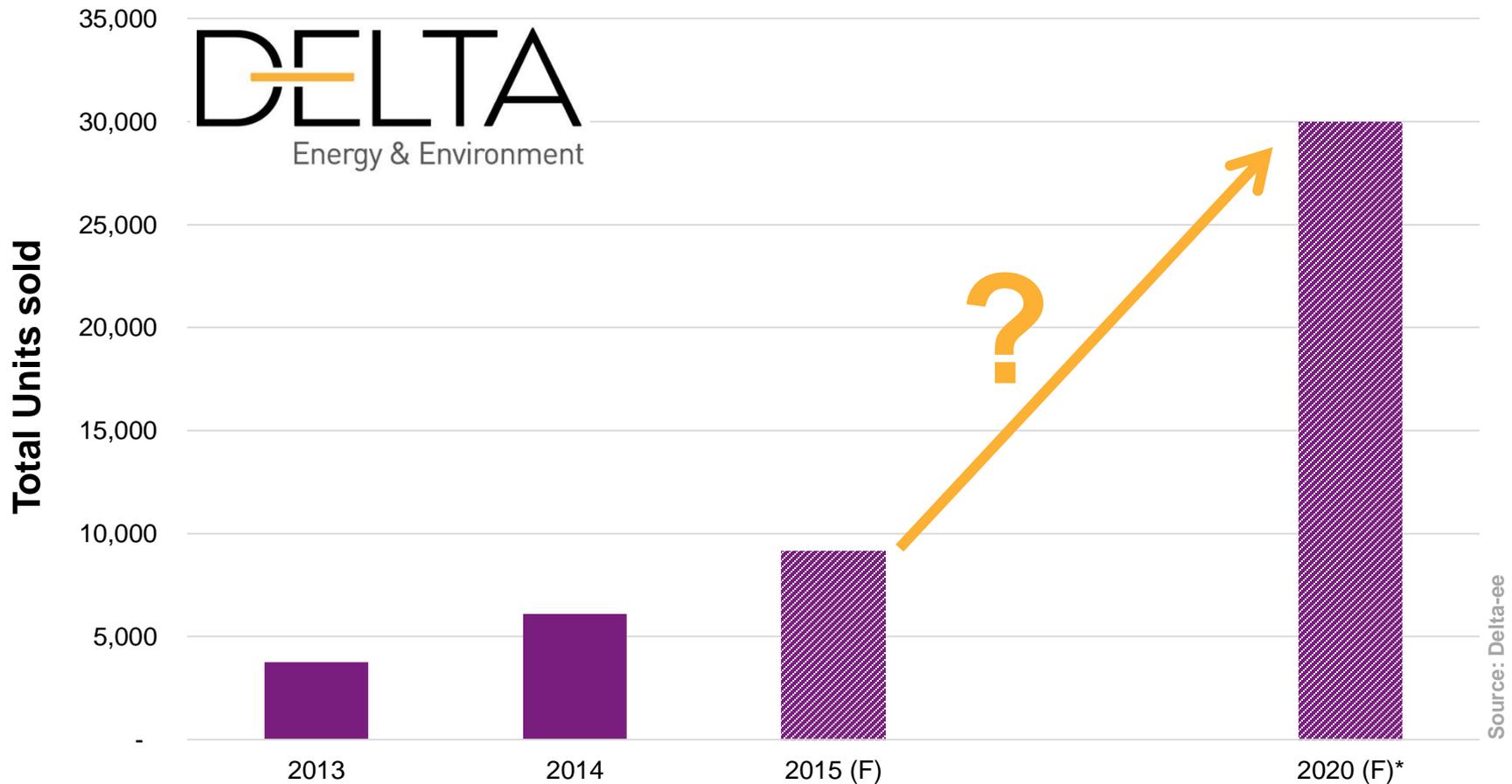


Engage with and support a new kind of heat pump installer

- ▶ Delivering free training on the system and ensuring a strong pre- and after-sales support gives the more risk-averse installers the confidence and reassurance they need to embrace a new heating system

Hybrid HP sales have been growing, but what is needed to realise their full market potential?

European Hybrid Heat Pump Sales



* 2020 forecast represents central estimate based on current market conditions. Overall the market has the potential to strongly exceed this growth scenario.

Delta Energy & Environment Ltd
Registered in Scotland: No SC259964
Registered Office: Floor F, 3 Lady Lawson Street, Edinburgh, EH3 9DR



Thank you for your attention!

European Heat Pump Summit – 20.10.2015

Contact:

Julian Jansen, +44 131 625 1006,

julian.jansen@delta-ee.com



EUROPEAN HEAT PUMP SUMMIT

POWERED BY CHILLVENTA

SYMPOSIUM + EXPO
NUREMBERG, 20-21.10.2015

Industrial | Commercial | Residential
Heating & Cooling | Components & Equipment

hp-summit.de

NÜRNBERG / MESSE