

DELTA-EE



DECARBONISING HEATING

WHY YOUR NEXT BOILER WILL BE A HEAT PUMP (MAYBE).

Presentation to the Scottish Energy Forum

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CONTACT:

Cate Lyon – cate.lyon@delta-ee.com

About Delta-EE

We enable organisations to develop the best strategies, business models and customer propositions for the energy transition. Our breadth & depth of expertise spans:

New Energy Business Models

Identify and understand the alternative and new business models for the energy transition



EVs & Electricity

Understand the opportunities and challenges from sector coupling between electricity and transport



Flexibility & Energy Storage

Take advantage of the opportunities emerging from an active demand side



Heat

How channel disruption, sector coupling and new technologies are changing the heat sector



Distributed Power

Global market insight & expertise into the growing role of decentralised generation



Digital Energy

Opportunities in the connected home market and how digitalisation is changing the energy customer relationship

Delta-EE provides:

Subscription Research Services

Provided by dedicated research teams that get under the skin of 'new energy' markets in Europe and globally, and understand future market direction.

These Services bring Delta-EE's subscribers deep expertise on all the topics of 'new energy' and access to experts for ongoing support.

Consultancy

Delta-EE's consultancy team provides clients with bespoke confidential research and insight to answer the critical questions which are impacting their business.

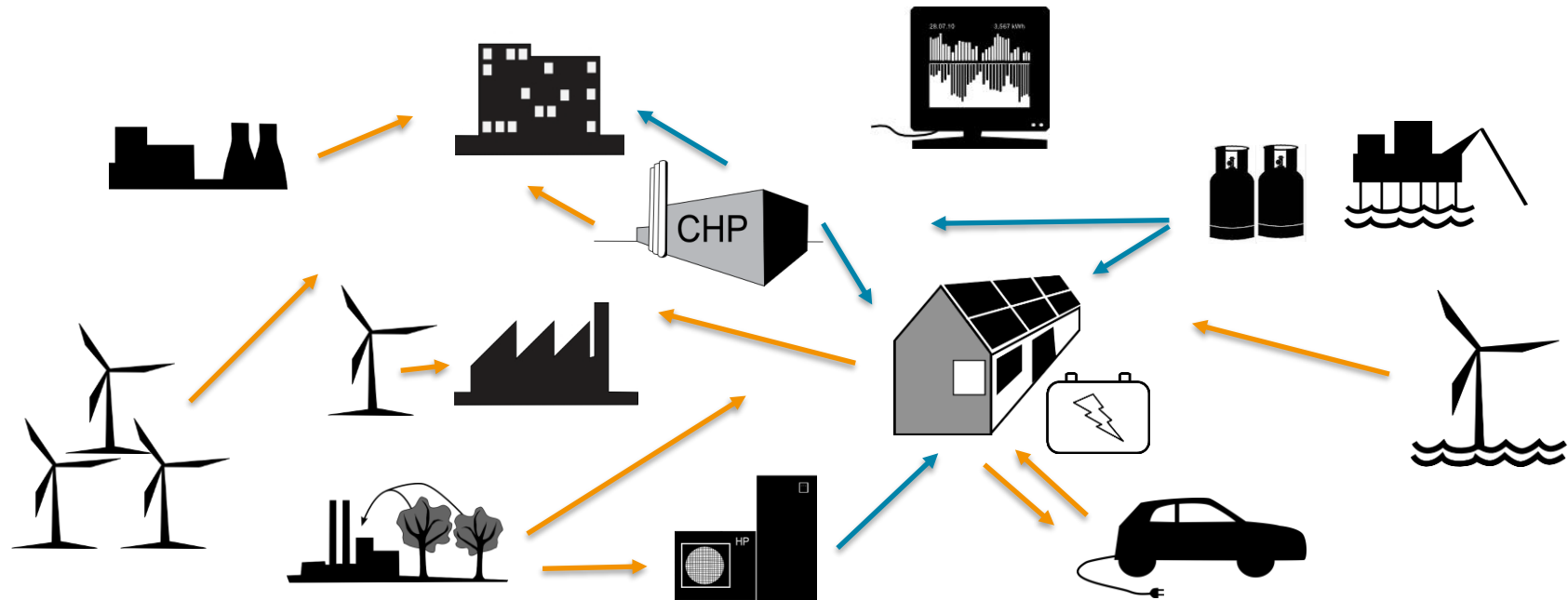
Our consultancy levers knowledge from our Subscription Services to provide tailored support and advice.

The energy landscape is changing:

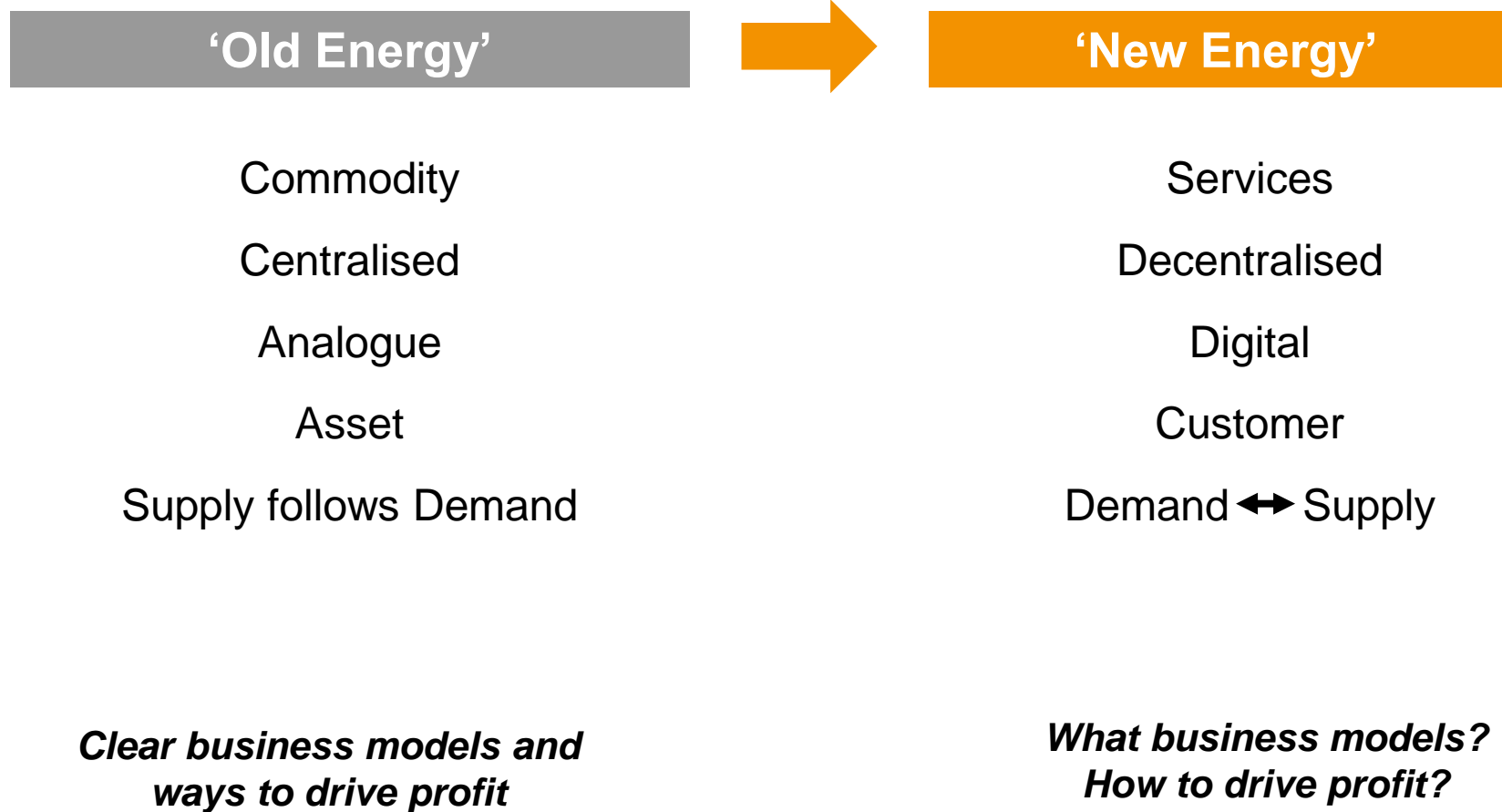
From this:



To this:



Where value is found is also changing:



And customer expectations are changing!

Music as a Service



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iPhone 11 iPhone 11 Pro Max

Mobility as a Service



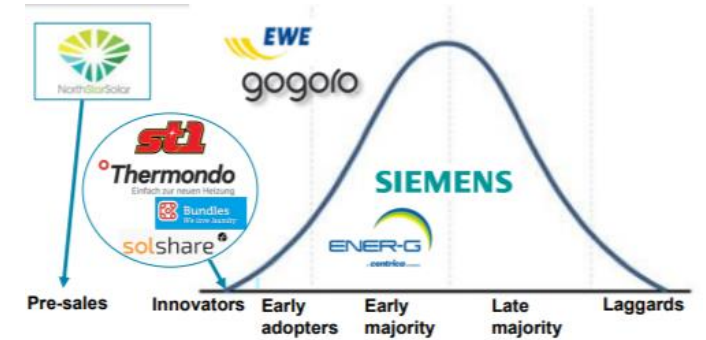
Video as a Service



Beer as a Service??

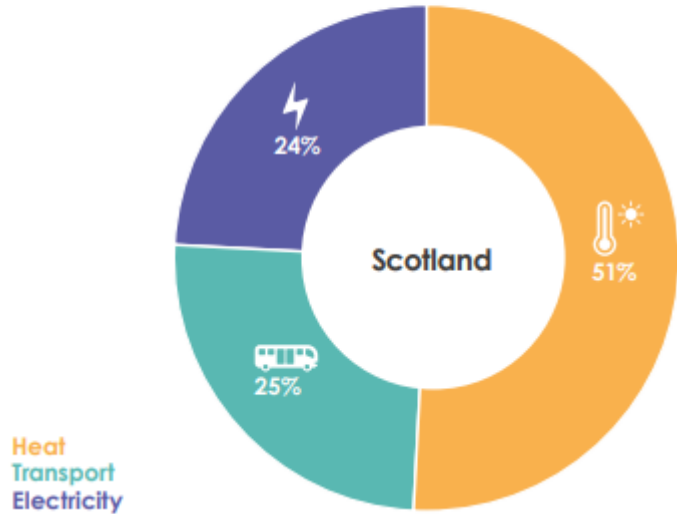
AWS
SUMMIT
Advanced Beer-as-a-Service
 Detalhes da arquitetura desenvolvida para a ChoppUp.com.br
 Fabian Da Silva, Partner Solutions Architect

Energy as a Service



The challenge: decarbonising existing homes & buildings

Diagram 3
Final Energy Consumption –
split by end use sector, 2015



Source: Scottish Energy Strategy, 2017,
Scottish Government



20%

“Low-carbon heating is amongst the toughest challenges facing climate policy.” – CCC, 2018

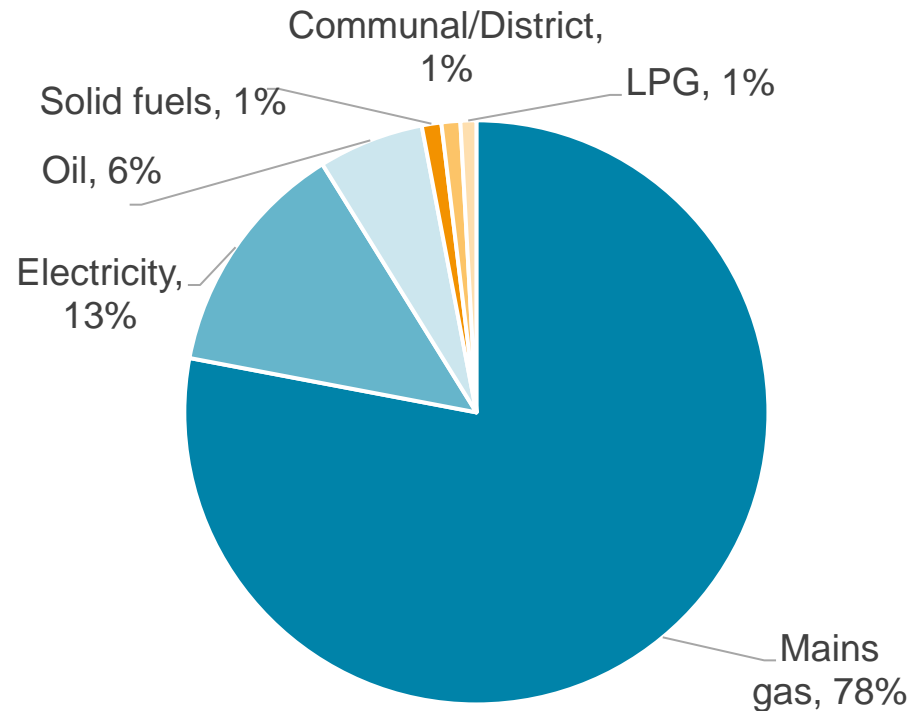


6%





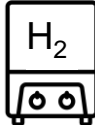
The challenge: decarbonising existing homes & buildings

How Scottish homes are heated today



Source: MCHLG, 2019

Heating options compared:

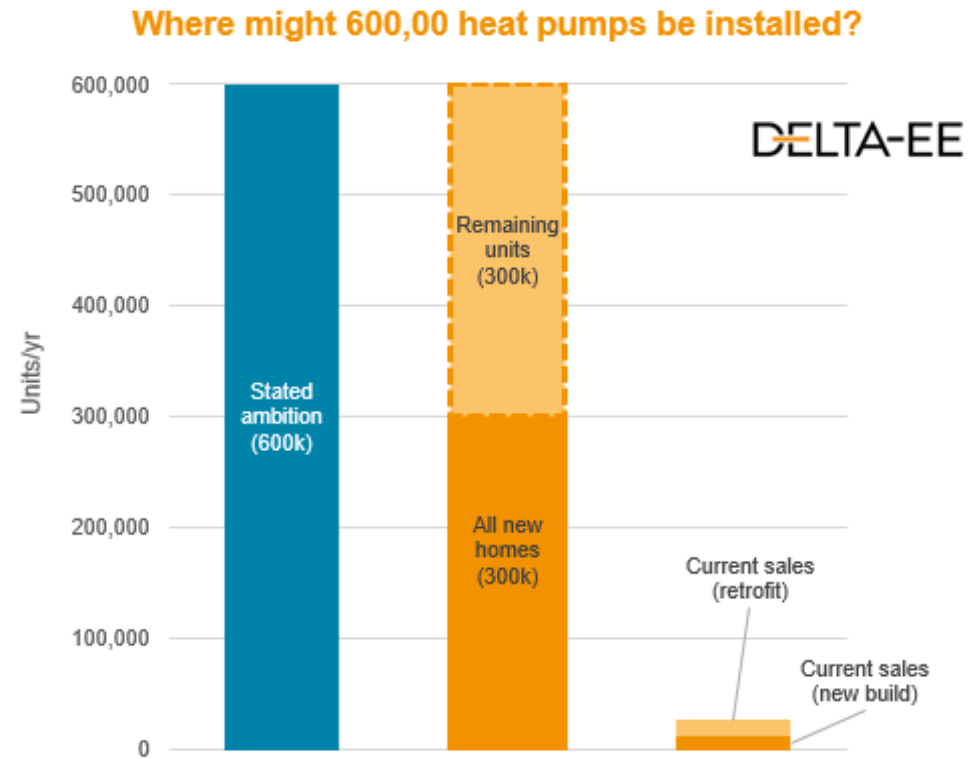
	CAPEX	OPEX	CO ₂
Heat pump: (air/water) 	~£7,500 ~£2,500	£1,000	860kg
Mains gas boiler: 	~£2,500	£720	3,800kg (3.8 tonnes)
Hydrogen boiler*: 	~£3,000	£1,400	970kg

* = not yet commercially available; greater uncertainty versus other technologies

What might we see happening on heat in Scotland & UK?

Future developments:

- More heat pumps – new build
- More heat pumps ~ mainly off-gas?
- (Some) more district heating
- Hydrogen heating trials; hydrogen roll-out - ??
- Next-generation electric heating solutions - ??



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‘Old Energy’



‘New Energy’

- Move from Product to Service
- Data & Digitalisation
- Growing need for energy system flexibility (demand follows supply?)

So, what do these 'new energy' trends mean for heating?

Move from Product to Service



Heating on subscription

Appliance rental/leasing

Growing need for energy system flexibility (demand follows supply?)



Heating earning (/saving) you money

Data & Digitalisation

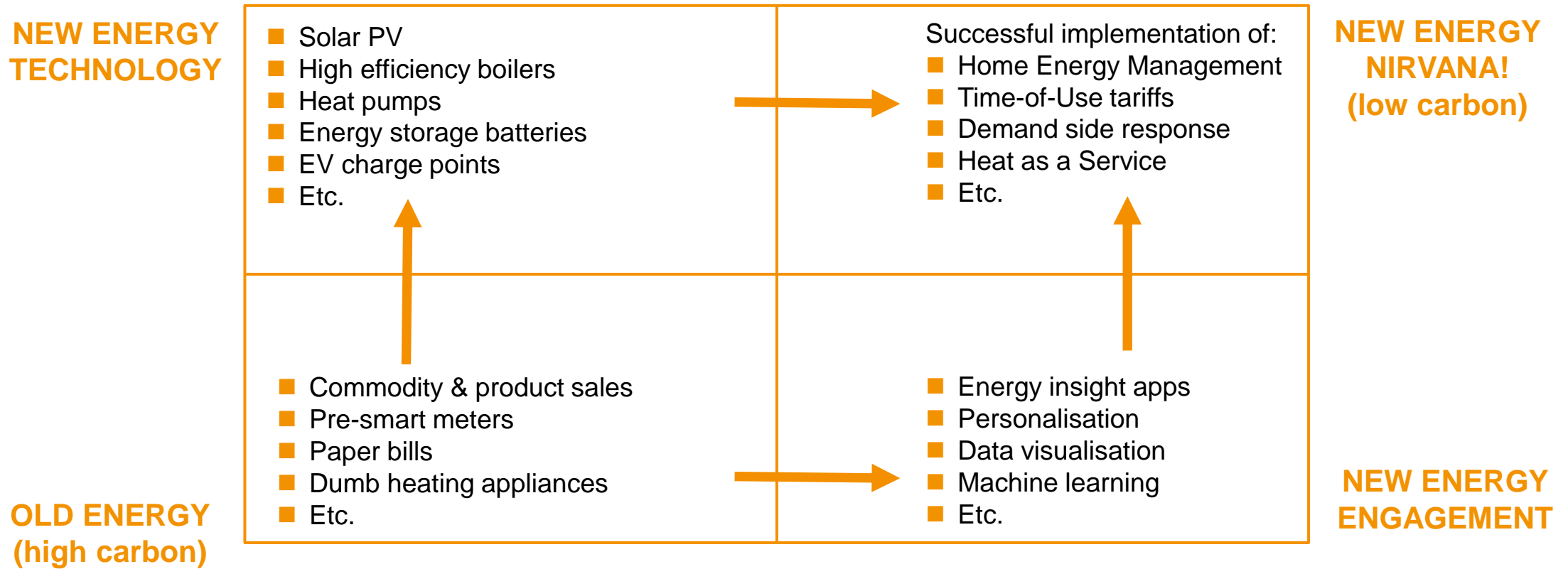


Understanding/engagement in home energy (heating)

Peace of mind

Home Energy Management (automation & optimisation)

New Energy Nirvana: assets plus greater customer engagement leading to a smart, flexible, low carbon future



What might we see happening on heat in Scotland & UK?

Challenges:

- Policy
- Pricing
- Products
- Skills
- Supply chain
- Customer awareness & engagement

Opportunities around:

- Being trusted provider (advice & equipment)
- Home improvement 'bundles' ~ "One Stop Shop" companies/offers
- Financing
- Specification & design
- Equipment supply & maintenance
- Technology innovation!
- Digital service offerings
- New energy tariffs
- In-home energy management

Questions?



Cate Lyon

**Manager, Electrification
of Heat Service**

[cate.lyon@
delta-ee.com](mailto:cate.lyon@delta-ee.com)

+44 131 625 3338

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