Developing smart energy in London: Key study findings

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31 January 2018

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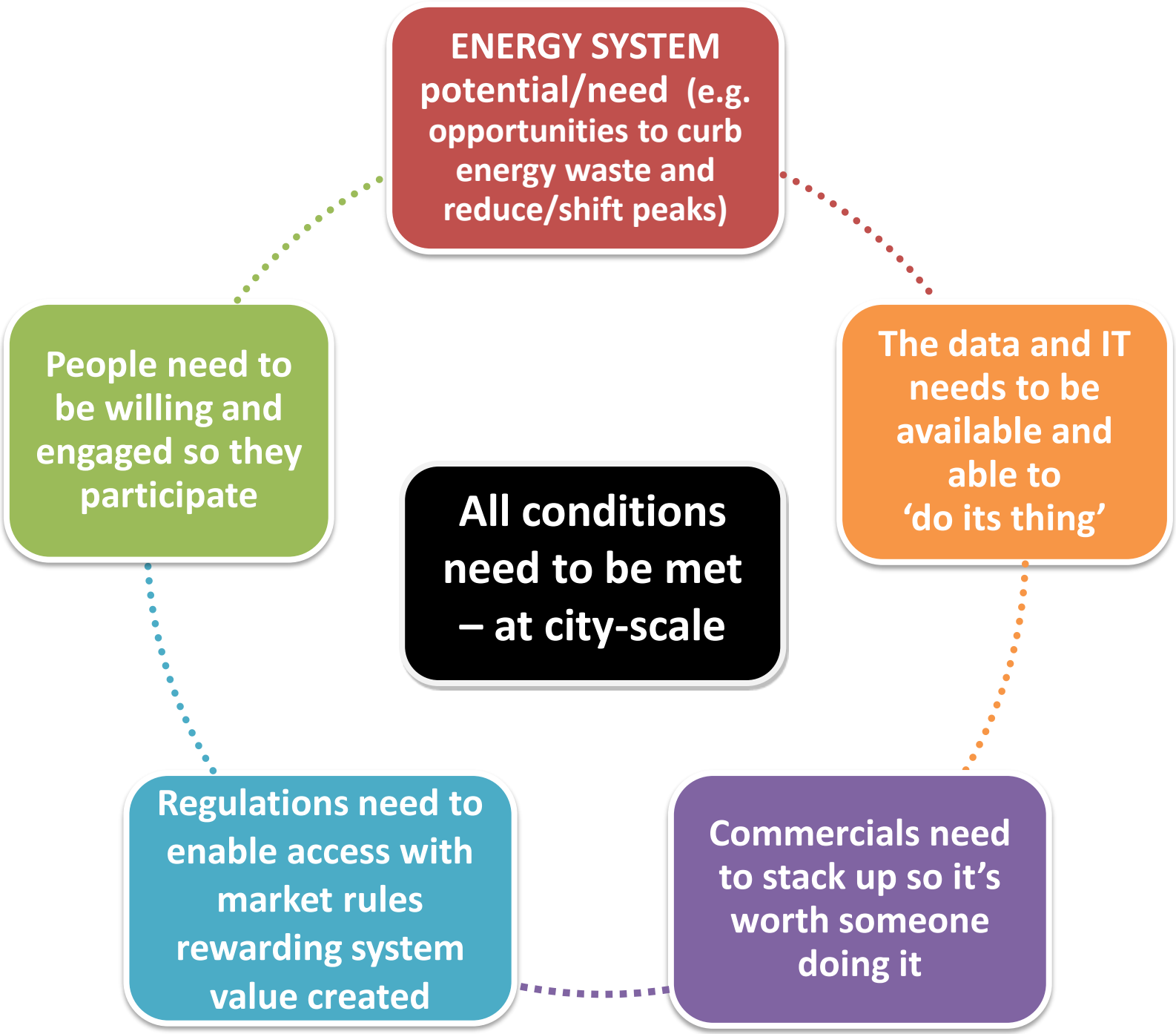
Outline of presentation

- The starting points
- Challenges and opportunities
- Current state of play with smart energy in London
- What might happen without action by the GLA and Mayor?

The starting points

- There's more 'talking' than 'doing' on smart energy and a huge gap between current practice and aspirations.
- Smart energy is 'means' not 'ends' (so set goals for it – and/or be clear which existing goals it helps to achieve).
- 'Smart energy' will happen anyway, but maybe not so well in London, nor so well for Londoners.
- So purposeful effort will be required to make it work for London.
- Need to embrace uncertainty and focus on 'first next steps' (rather than ignore uncertainties and seek to plan whole journey).
- Need to 'walk right round the issue', particularly to ensure socio-cultural and policy/regulatory perspectives are considered.


ENERGY SYSTEM potential/need (e.g. opportunities to curb energy waste and reduce/shift peaks)
The data and IT needs to be available and able to 'do its thing'
Commercials need to stack up so it's worth someone doing it
Regulations need to enable access with market rules rewarding system value created
People need to be willing and engaged so they participate
All conditions need to be met – at city-scale

Current (2017) state of play in London I

- Good range of activity – including start-ups in DSR services and storage – but limited, fragmented and lacking sense of coherence or consistency across the city.

The strategic intent – the picture on the box

The reality in 2017…

(… and the picture on the box is changing all the time)

Current (2017) state of play in London I

- Good range of activity – including start-ups in DSR services and storage – but limited, fragmented and lacking sense of coherence or consistency across the city.
- Significant appetite for some leadership and co-ordination to bring fragments together (but not through formal structures - yet) and to highlight opportunities of smart energy to London businesses and citizens.
- 'London' seen as difficult (and expensive) to engage with. Not a specific target market because capital's concentrated opportunities (e.g. commercial properties, 'early adopters', heat networks) are neither organised (and/or not engaged) nor part of initial 'smart energy' markets (i.e. industrial DSR).

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Current (2017) state of play in London II

- UKPN is interested in potential of smart energy and is ‘in transition’ from passive asset owner to proactive system operator. But nature, scale and speed of transition dependent on policy and regulatory interventions to structure markets and incentives.
- Smart meter roll-out lacks focus on how to make it work well in London. Programme has many problems which need resolving.
- Role of GLA and Mayor as lead and honest broker accepted by stakeholders.

What could smart energy do for London?

The activities enabled by smart energy can contribute to a wide range of the Mayor's significant strategic objectives and policy goals for London:

Zero carbon by 2050 (incl. energy and transport)*
Lower energy bills for Londoners (consumers and businesses)*
Tackling fuel poverty Decentralised energy in new build*
Better air quality (* if EVs are key component)
Smart London with high quality, efficient infrastructure*
Leading global city (by being open and competitive*)
Reinvigorated communities & better social integration
Jobs & skills in digital & clean tech

Some of these goals *require* effective application of smart energy techniques (marked * above). Others can be enhanced by it (by creating new insights and opportunities for action and potentially reducing costs).

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What happens in London without leadership?

- There will be smart energy activity as technologies, services and markets develop, but it will be fractionated and lacking London-oriented or social purposes. And energy system will be less smart than it could be, limiting future opportunities for zero carbon energy.
- Mayoral priorities which could benefit from smart energy will be less effective.
- Activity will cherry-pick best opportunities and largely fail to distribute financial benefits widely or gain social benefits on offer from smart energy.

What happens in London without leadership?

- Electricity network likely to be more stressed as a result of unco-ordinated approach (e.g. to EV take-up), with lower system resilience and higher-than-necessary costs on energy bills and on new property developments.
- Risk of energy system failure likely to grow, undermining business confidence.
- Other cities with more co-ordinated approach (which supports early action, curates opportunities and enables market development) are likely to gain the economic benefits of smart
- London unlikely to be '*world's leading smart city*' since energy is a key 'smart' domain.

So what does smart energy leadership for London look like?