



UK Research  
and Innovation

# EnergyREV: Policy and regulation of smart local energy systems

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*Dr Jeff Hardy*

*Dr Madeleine Morris*

*Dr Matt Hannon*

*Prof. Cameron Hepburn*

*Dr Jonathan Radcliffe*

6th Nov 2019

EnergyREV

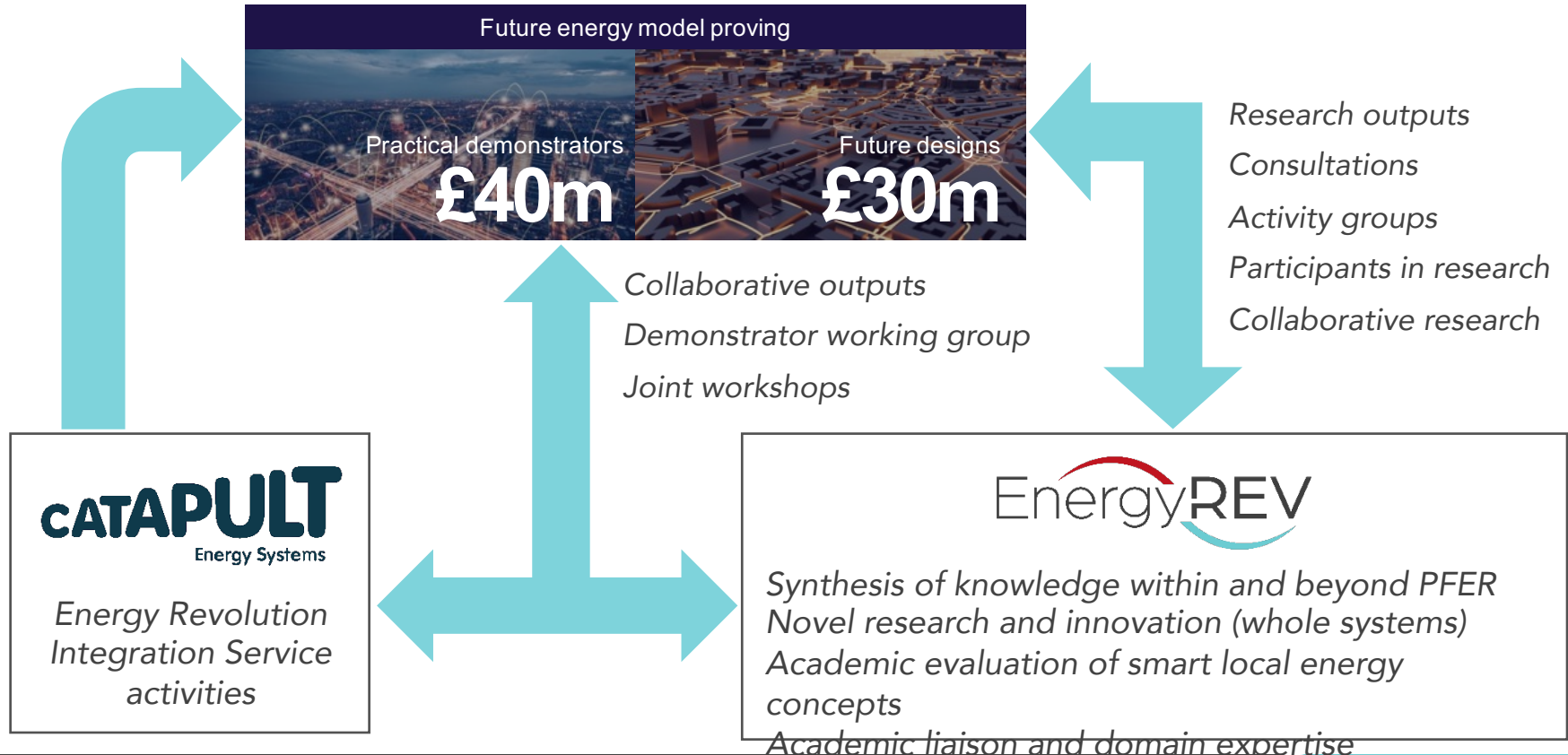
5th HVM New Materials 2019, 6-7 November  
Cambridge, UK

[www.cir-strategy.com/events](http://www.cir-strategy.com/events)

# EnergyREV and the wider PFER programme



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# Meet the team



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*Dr Jeff Hardy*

*Imperial College London*



*Dr Matt Hannon*

*University of Strathclyde*



*Prof. Cameron Hepburn*

*University of Oxford*



*Dr Madeleine Morris*

*Imperial College London*



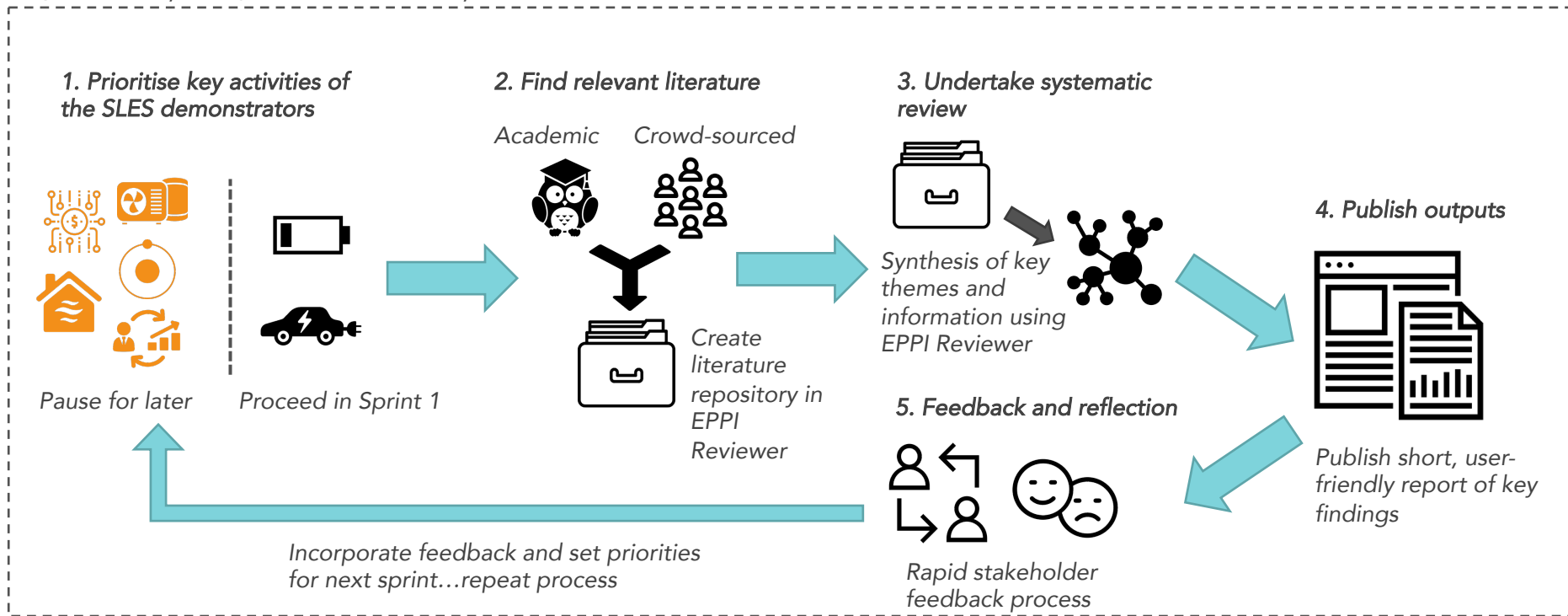
*Dr Jonathan Radcliffe*

*University of Birmingham*

Do we have the appropriate policy, institutional and regulatory framework to realise the technical, economic and societal potential of Smart, Local Energy Systems?

# Policy & Regulatory Landscape Review Series

*Objective: Develop an accessible policy and regulatory landscape for smart local energy systems through an agile and open systematic review process*



## Working Paper 1: Electricity storage & electric vehicles

**Madeleine Morris  
& Jeff Hardy**

David Elmes, Rebecca  
Ford, Matthew Hannon,  
Cameron Hepburn,  
Jonathan Radcliffe

September 2019

[https://www.energyrev.org.uk/media/1238/energyrev\\_working-paper\\_storage-and-  
evs\\_20190912pdf.pdf](https://www.energyrev.org.uk/media/1238/energyrev_working-paper_storage-and-<br/>evs_20190912pdf.pdf)

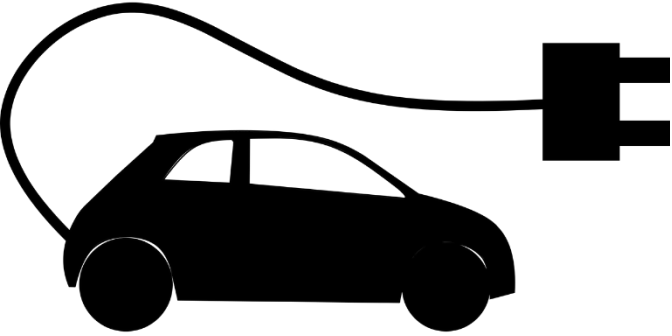


## *What is electricity storage and who can own it?*

- *Classed as electricity generation*
- *Falls under Nationally Significant Infrastructure Projects (NSIP) regime*
- *Cannot be owned or operated\* by network operators*
- *Can be co-located with other assets (but be careful!)*
- *Affected by changes to network charging and access review*

## *Market access for electricity storage*

- *Business case relies on stacking value (e.g. accessing multiple markets)*
- *Opportunities and issues in:*
  - *National Grid Balancing Services*
  - *Capacity Market*
  - *Flexibility Markets*
- *Uncertainty abound*



### *Encouraging EV uptake*

- *Reducing financial burden*
- *Access to chargepoints*
  - *Homes (EV home charging scheme)*
  - *Public charging network*
- *Interoperability and user friendly charging network*

### *Managing consequences of EVs*

- *Smart charging*
- *Vehicle to grid*
- *Fair allocation of costs*



# Cross-cutting issues

- *Definitions matter*
- *Ownership and visibility*
- *Market access and stacking value*
- *User-centric smart design*
- *Create smart local energy systems today*

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# Coming up...

## Sprint progress



**DONE:** Electricity storage and EVs



**IN PROGRESS:** Digital Energy Platforms



**NEXT UP (Nov):** Heating and cooling

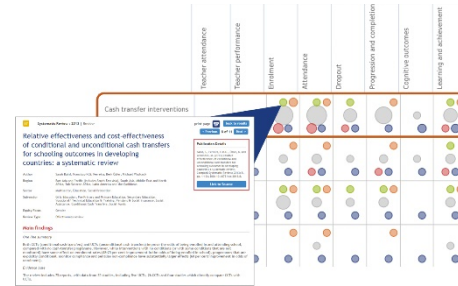


**AFTER:** Hydrogen (maybe)

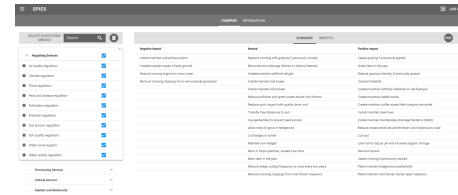


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## Interactive platform (help!)



<https://www.sciencedirect.com/science/article/pii/S0895435616301901#undfig1>



<https://spies.simomics.com>



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Thank you

[www.energyrev.org.uk](http://www.energyrev.org.uk)  
[@EnergyREV\\_UK](https://twitter.com/EnergyREV_UK)

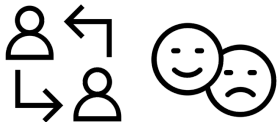
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# Lessons learned and Sprint 2

## Lessons learned:

1. Government sites are a nightmare to search
2. Version control
3. Metadata varies

### 5. Feedback and reflection



Rapid stakeholder  
feedback process

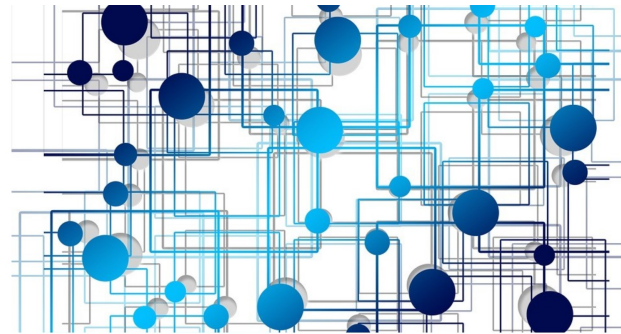


Image from Pixabay.com

## EnergyREV Call for Evidence: Digital Energy Platforms

<https://www.linkedin.com/pulse/energyrev-call-evidence-digital-energy-platforms-dr-jeffrey-hardy/?trackingId=%2BzF%2BDIWKTX%2BKhMUzloMJ4A%3D%3D>

## Sprint 2:

- Local energy trading
- Grid services
- Local balancing and optimisation
- Aggregator platforms
- Local energy investment platforms

# Emerging themes...

## Data



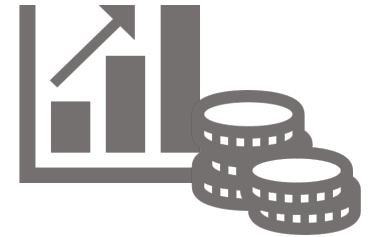
- Quality
- Visibility
- Accessibility

## Roles & responsibilities



- Who?
- How?
- Definitions

## Markets



- Level playing field
- Value stacking

*"an IT platform where the coordination, trading, dispatch or support services for flexibility markets take place"*