

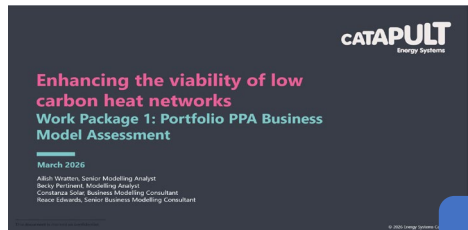
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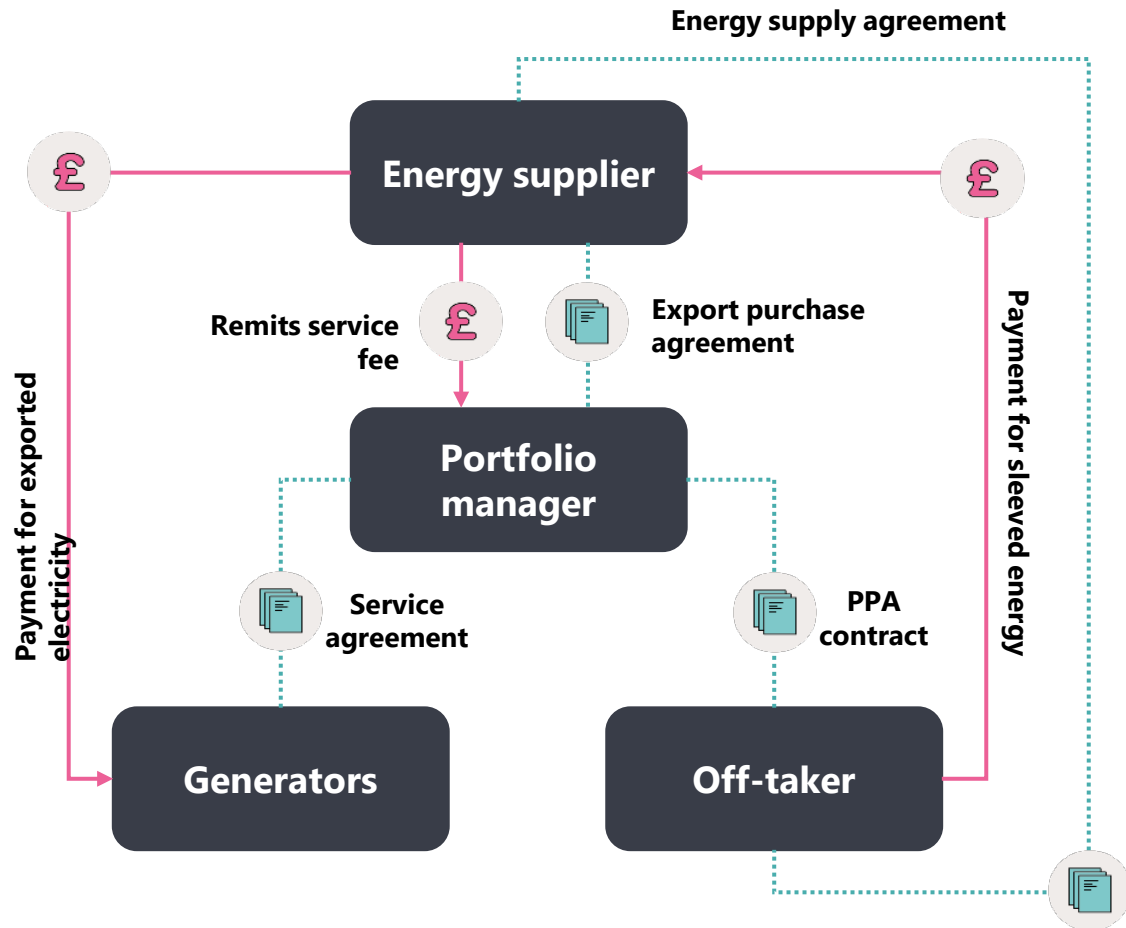
2024



2025



2026



Portfolio PPA 'Hackathon'

Generators



4

Aggregators/
portfolio managers



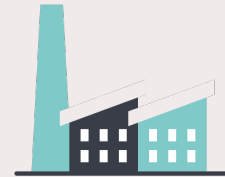
2

Energy suppliers



2

Off-takers



4



Belfast
City Council



The challenge is to make the Portfolio PPA model commercially viable by:

- Reducing onboarding costs
- Minimising complexity of aggregating surplus rooftop solar
- Ensuring value can be shared fairly across stakeholders.



Electrified Heat for Northern Ireland

Renewable Heat Supply Proposal
for the District Heat Network

Belfast City Council

Transmission Grid (SONI)

Distribution Grid (NIE)

Housing Executive

Energy Systems Catapult

Virtual Power Plant:

Many Flexible Energy sites

One Powerful Network

Who Is Reerve: Flexible Energy Management to reduce costs

Who We Are



Energy as a Service

We install solar panels and battery storage at commercial and public buildings, financed from energy savings. Sites can reduce electricity bills by up to 90%. Operational across Ireland, expanding to UK, Belgium, Netherlands and Germany.



Virtual Power Plant

Our software platform manages and coordinates hundreds of distributed sites as a single intelligent asset, responding to grid needs in real time and earning revenue from electricity markets.



Intelligent Forecasting

AI-powered forecasting predicts solar generation and energy demand at each site. Reerve can then make reliable commitments to heat networks and the electricity grid.



NI Pipeline: 30 MW

30 MW storage pipeline in Northern Ireland. 36 MW in Republic of Ireland. Accelerate Green programme participant.

The Challenge: Decarbonising Heat in Northern Ireland

68

GWh/yr

Renewable electricity needed to power the district heat network at full capacity

~25%

Curtailed

NI wind energy wasted annually due to grid congestion — hundreds of GWh of free fuel

Zero

Winter Solar Power

Useful solar contribution in NI winter — solar alone is not the answer here

Gas is cheap today but a liability tomorrow

Gas is economically competitive today but fossil fuel lock-in conflicts with net zero obligations and exposes consumers to decades of commodity price risk. The price of gas is set on global markets beyond local control.

Grid electricity is expensive without innovation

Standard grid electricity is far too expensive to make electric heat competitive with gas. The answer is accessing the renewable electricity that is currently being curtailed and paid to switch off, which can be priced competitively with natural gas.

The Reverse Solution: Combine Commercial Sites in an Energy Portfolio



Curtailed Wind + Summer Solar

Near-zero cost renewable input; winter wind primary, summer solar secondary



Energy Storage per Site

A portfolio of storage: captures curtailed wind overnight and delivers it to the heat network during the day



Reverse VPP Dispatch

Many sites managed as one coordinated asset; AI forecasting gives reliable forward supply to the heat network



PPA Heat Supply

Long-term Power Purchase Agreement: priced competitively with natural gas; multi-year price stability

Each Participating Site

- › Rooftop solar panels and on-site battery storage
- › Load split: 70% winter (curtailed wind) · 30% summer (solar)
- › Core assets owned by the site within 5 years
- › Additional solar & storage: zero net cost to customer

How Sites Participate

- › Customer contributes core assets
- › Reverse adds extra generation and storage at no cost to the site
- › Site reduce power costs by 90%
- › Sites contribute surplus power at low cost to the heat network

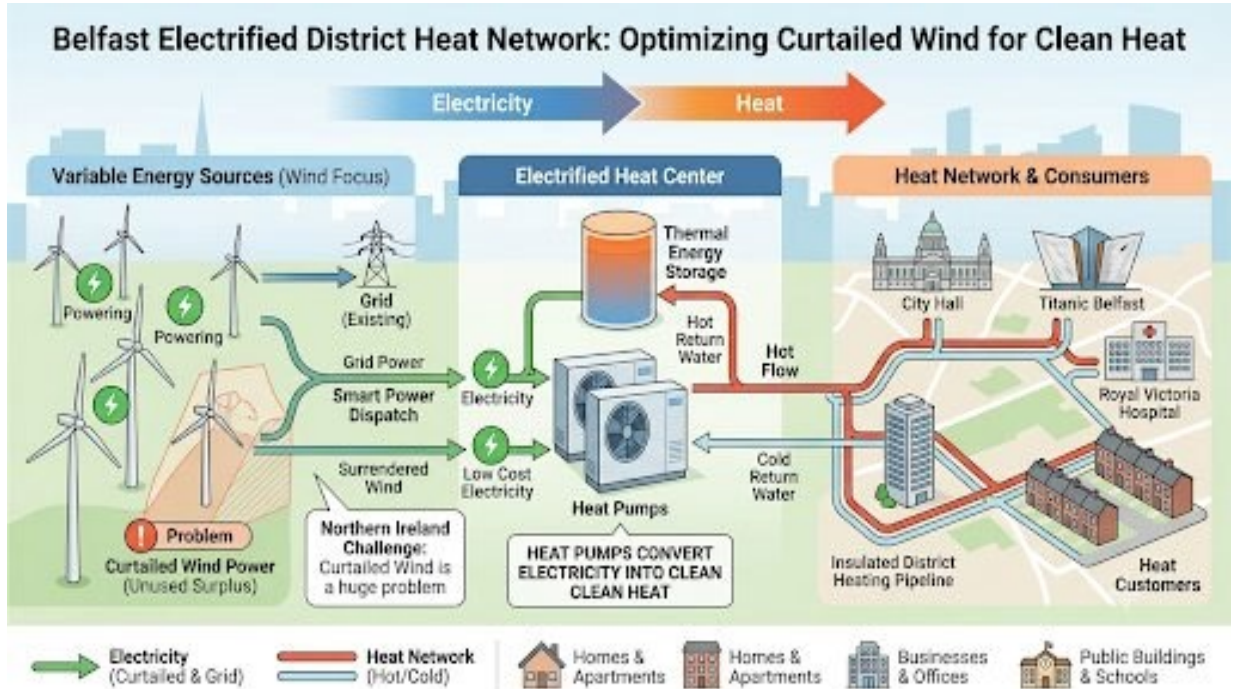
From curtailed wind to clean heat

NI generates more wind energy than it can use. Around a quarter is curtailed every year, paid to switch off because the grid has nowhere for it to go.

The Reerve model captures that electricity, storing it at hundreds of sites across Northern Ireland and converts it into clean heat via an air-to-water heat pump and stored at selected sites across Belfast.

Reerve's platform co-ordinates the sites and dispatches as a single coordinated asset, delivering a guaranteed supply of clean power to the district heat network at a target price competitive with natural gas.

No single point of failure. No need to build everything at once. NI's curtailment problem becomes Belfast's heat solution.



500

Sites

67

GWh/yr heat

Zero carbon

heat delivered

The Bigger Vision: Belfast as a Pioneer in Next-Generation Heat Networks

The Reverse model is designed to grow. Beyond a centralised hub, Belfast could evolve into a distributed, city-wide network where buildings across the city both contribute energy and benefit from it.

The Node Model

Each building with solar and storage can be a self-contained energy node. Nodes can stand alone or connect to share energy with neighbours. Each one retains its full value regardless of how the wider network grows.

Why this matters:

The network can grow incrementally. There is no single point of failure and no need to build everything at once. Belfast can start small, prove the model, and expand.

Who Can Join

Any building with a suitable roof can participate as a generator, a heat recipient, or both. A published open Node standard would allow any site to apply to join the network.

Eligible participants include:

- Housing Executive estates
- Council-owned buildings
- Schools, leisure centres, GP practices
- Commercial and industrial sites

Why Belfast is Well-Suited

Belfast is a compact, mid-density city with large social housing estates, public buildings, and significant renewable curtailment nearby. This combination is near-ideal for a distributed node network.

European cities including Heerlen in the Netherlands have pioneered this model. Belfast has the opportunity to be the first city in these islands to deploy it at scale building the template for every UK and Irish city that follows.

Reverse Extending Participation: Housing Associations & Metering

The Housing Association Opportunity

~40% reduction in winter heating costs

Battery-shifted curtailed wind at preferential tariff dramatically cuts tenant energy bills.

Zero upfront capex for associations

Reverse finances and operates the additional assets. The housing association pays nothing extra.

Social decarbonisation pathway

Residential heat electrification without tenant disruption or infrastructure replacement.

Preferential electricity rates

Participating residents access preferential electricity rates unavailable to standard customers — an immediate benefit on top of lower heating costs.

The Metering Solution

Housing estates and apartment blocks have historically been unable to participate in managed energy portfolios due to metering constraints. Reverse has developed a practical solution that removes this barrier.



Reverse's Metering Proposal

Existing meters retained

No new metering required by housing associations or tenants. Existing billing arrangements are unchanged.

Smart monitoring added

Reverse installs monitoring equipment at the solar and battery assets. A single coordinated network.

Agreement required

Reverse engages with NIE Networks and housing associations to establish the necessary agreements for portfolio participation.

Reverve: Capital Structure & Commercial Model

An incremental capital model

Customer-owned energy assets (paid off within 5 years)

Additional solar generation across many commercial sites throughout NI

Additional battery storage across many commercial sites throughout NI

Energy Systems Catapult collaboration

Commercial Flow

1

Energy Supplier Partnership

A single participating energy supplier offers facilitates cheap power to the heat network.

2

Curtailed Wind Contracts

Reverve access constrained output via energy supplier. Stored on-site and dispatched to the heat network. Reduces curtailment in targeted areas.

3

Council Long-Term PPA

Multi-year Power Purchase Agreement. The council receives 67 GWh/yr of renewable electricity priced to be competitive with natural gas, delivering zero-carbon heat with long-term price certainty.

4

PPA Commitment Unlocks Oversize

Long term (20 year) PPA commitment to support oversizing asset base. The commitment triggers deployment.

Reverve: The Shared Opportunity - Why Everyone Benefits



City Council

Affordable, carbon-free heat for many years



Transmission Grid (SONI)

Turn NI's curtailment into a managed asset



Distribution Grid (NIE Networks)

Managed electrification



Housing Associations

Warm homes, lower bills zero cost to the association



Energy Systems Catapult

A replicable model for UK-wide heat decarbonisation

Priced competitively with natural gas

Long-term price stability

Material reduction in wind curtailment

Many VPP assets at congested nodes

Predictable, scheduled load profile

Distributed storage portfolio

~40% reduction in winter heating costs

For tenants. Zero capex for associations.

Proof of concept at 67 GWh scale

Deployable across GB constrained wind regions

A 20-year commitment that works for Northern Ireland.