

The Horizon Energy Cooperative.

A 21st Century Energy Cooperative for Social Housing

A summary outline for Rt. Hon. Ed Miliband MP

prepared by

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The Horizon Energy Cooperative (HEC)

Structure

- The HEC is a not-for-profit energy enterprise doing business as The Horizon Energy Cooperative Limited, a private company with no share capital. It is under direct control of its members who elect directors to oversee cooperative operations¹
- The members of HEC pool their collective asset base to generate solar, wind and hydroelectric energy
- The income derived from generated power allow HEC to partially debt finance the capital costs of installing the renewable measures
- The Cooperative structure facilitates easy investment from banks, venture capital funds and provides an access point for regional, national and European grant funding

Mission

- HEC's mission is to demonstrate **leadership and action** in the renewable energy power sector for social housing
- HEC will develop renewable power projects that are sustainable economically, environmentally and socially beneficial to offset the effects of fuel poverty and promote social inclusion and cohesion.
- HEC provides an alternative to large, centralized energy generation with the development of local, profitable and inclusive community power project
- HEC turns supplying energy to social housing from a **liability to a benefit**.
- HEC seeks to employ the skills, knowledge and resources of people in the community to deliver sustainable jobs into the low carbon economy as mandated by the UK Government's commitment to delivering an 80% carbon reduction by 2050.

A Virtual Power Plant

- HEC will develop a distributed power generation 'micro grid' amongst social housing providers in the Northwest of England.²
- Based upon the assumption of half (24,500) of the total 49,000 homes belonging to the five initiating members of HEC yielding the energy supplied by a standard 1.8kWh solar panel, each property can deliver approximately £500 per annum in energy value based on the UK Government's Feed In Tariff³

¹ A co-operative society operates much like a traditional limited company except that the voting rights are distributed equally amongst the members, regardless of the number of shares held.

² A micro grid is an integrated energy system consisting of interconnected loads (i.e. the power needs of social housing tenants) and distributed energy resources (delivered from multiple sources such as solar, wind or HEP). The micro grid is as an integrated system that can operate in parallel with the activities of the UK National Grid or in 'island mode,' i.e. producing energy solely for its social housing clients.

³ Based on a median average estimate of £350 and £750 per annum generated from a 1.8kWh solar panel

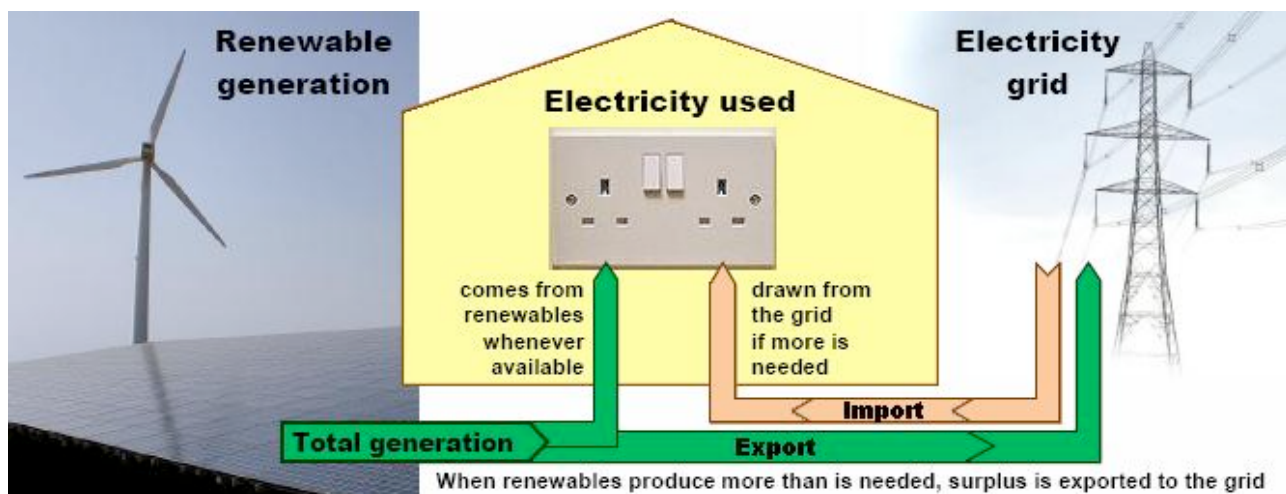
- **24,500** properties yielding an estimated **£500 per unit**, deliver **£12.25m** per annum in revenue to the members of HEC
- Revenue from renewable energy is used to offset communal heat and light liabilities, address fuel poverty and generate capital to construct new low carbon new build homes in the region

Potential of renewable solar power for HEC

- Addresses energy affordability and equity for highest decile of UK population suffering from fuel poverty
- Improves national energy security
- Improves social housing households' adaptive capacity to climate change impacts
- Alters community perceptions of renewable technologies
- Social housing scale can deliver significant community and economic benefits
- Smart meters can supply internet services across the 'Digital Divide'
- Provides an urban model to meet 2020 national emissions targets

Technical Approach

- HEC will partner with utilities to establish operating modes and practices, safe service protocols
- Model overall distribution circuit to predict effects of the proposed MicroGrid system
- Install and commission renewable energy assets
- Provision for energy storage assets
- Demonstrate all defined interconnected and islanded operating grid modes
- Demonstrate and document system operation in full automated mode



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