



Aberdeen Heat & Power (AH&P)



Ian Booth - General Manager



30th April 2014



**APSE Renewable and Energy Efficiency
Advisory Group**



Aberdeen Heat & Power (AH&P)

Tackling Fuel Poverty



- Company set up in 2002 with aims to:
 - Deliver affordable heat to hard to heat properties
 - Develop district heating systems from a base of combined heat & power (CHP) systems
 - Reduce fuel poverty
 - Reduce Aberdeen City Council's carbon footprint



Aberdeen Heat & Power (AH&P) Background

- Stems back to the HECA strategy - 1995 Home Energy Conservation Act
- Investment over many years through Housing Capital Programme - vast majority of low rise homes have gas central heating
- 1999 - City Council adopted Affordable Warmth Strategy
- But little done in adopting a strategy for multis - regarded as "Hard to Heat"
- In 2001 Council commissioned options appraisal of all 59 multi storey blocks (4,500 flats)
- Had electric storage or warm air heating
- 70% in fuel poverty
- Recommended install CHP in clusters of multis





Aberdeen Heat & Power (AH&P)

- **2002 - Established Aberdeen Heat and Power**
 - Independent - not-for-profit company, to develop and manage CHP schemes "for the benefit of the people of Aberdeen", focusing on multi storey blocks and adjacent Council buildings





Project Funding



- Whole life costings: Capital costs higher; Running costs lower
- For housing full capital costs need to be covered
- If capital had to be borrowed the heat charge would increase and occupants would be back in fuel poverty
- To date full capital for the housing from combination of:
 - Housing Capital Programme
 - Charge to owners for connections
 - Community Energy Programme Grant (CEP)
 - Carbon Emission Reduction Target (CERT)
 - Carbon Emission Saving Programme (CESP)
 - Energy Company Obligation (ECO)



Operations



- **Sources of income:**

- Sale of electricity to grid and Private Wire - 38% of sales
- Sale of heat - domestic - 35% of sales
- Sale of Heat - non-domestic - 23% of sales
- Maintenance - 3% of sales
- Other - 1% of sales

- **Costs:**

- Fuel - 75% of costs
- Maintenance - 11% of costs
- Overheads / Depreciation / Rates - 14% of costs



Developments to date...



Aberdeen
Heat & Power



Delivering Affordable Warmth .



Stockethill & Hazlehead.....



Stockethill

- First project for Aberdeen Heat & Power
- First such project for Aberdeen City Council
- 4 blocks at Stockethill= 286 flats
- Completed 2003/05



Hazlehead

- Plant room located in school
- 4 blocks = 180 flats
- 47 flats in sheltered housing unit
- School with swimming pool
- Hazlehead sports pavilion
- Private electricity supply to school
- Complete 2006/07





Seaton - Phase 1.....



Phase 1

- Plant room designed with sedum to blend with Beach Links + space for future development
- Incorporates sports changing room and shower facilities
- 6 blocks - c.500 flats complete 2007/08
- Beachfront complex (ballroom, ice rink, leisure centre) complete 2009
- Supply regional sports facility complete 2009





Stand Alone Systems

Stand-Alone blocks

- Gas fired central boiler plant
- Internals suitable for CHP
- Ashgrove Court - 1 Block of 40 flats completed Dec 2009
- Mastrick Land - 1 block of 52 flats completed March 2010
- Denburn Court - 1 block of 120 flats completed Aug 2010
- Balnagask cluster as stand alone gas fired plant to supply 150 flats completed September 2013





Seaton - Phase 2.....

Phase 2

- Additional generating / heat capacity installed
- 8 blocks - c.740 flats complete Aug 2012
- Livingstone Court private sheltered housing block of 40 flats completed April 2013





Network Extension to City Centre.....



- £1m grant from Scottish Gov't for DH infrastructure
- Extension of underground network to city centre 2011-13
- Now connected to public buildings
 - Town House
 - Constitution Court Sheltered Housing
 - Frederick Street Health Village (HubCo)
 - Frederick Street Business Centre



In the pipeline..!



- Aquatics Centre as extension to Aberdeen Sports Village (2014) - now commissioned
- Victoria House - supported housing unit (2014)
- Stockethill extension with new generator and link to further 4 multis consisting of 350 flats by September 2014
- New energy centre under construction at Tillydrone to link up 7 multis consisting of 400 flats by March 2015



Results to date.....

Reduced fuel poverty

- Through provision of affordable heat typical costs per household have reduced by 25-40%

Reduced carbon emissions

- When compared electric heating - district heating from CHP reduces domestic carbon emissions by as much as 40%
- Reduction in operating costs and carbon emissions from public buildings

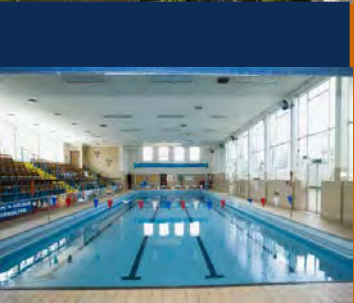
Improved standards of housing

- Multis are much warmer
- Reduced turnover
- Reduced damp
- Improvements in health
- Improvements in social conditions
- Much reduced level of complaints





The Future.....



- New subsidiary company District Energy Aberdeen Ltd (DEAL) set up as a heat retail arm to develop links to non-Council and non- Public Sector connections and identify infrastructure developments.
- Strong consideration to application for parent company to become a charity - further strengthening the aims of the company.
- Extend the DH network at a pace which is financially and practically viable
- Build and sustain partnerships and agreements for future connections
- Review fuel technologies to "bolt on" the front end
- Multiple CHP stations around the City linked into one city-wide heat network

Stockethill





Stockethill

Hazlehead



Seaton

Stockethill

Hazlehead



Stockethill

Seaton

Hazlehead




Stockethill

Seaton

City Centre

Hazlehead

 = Current Projects




Seaton

Stockethill

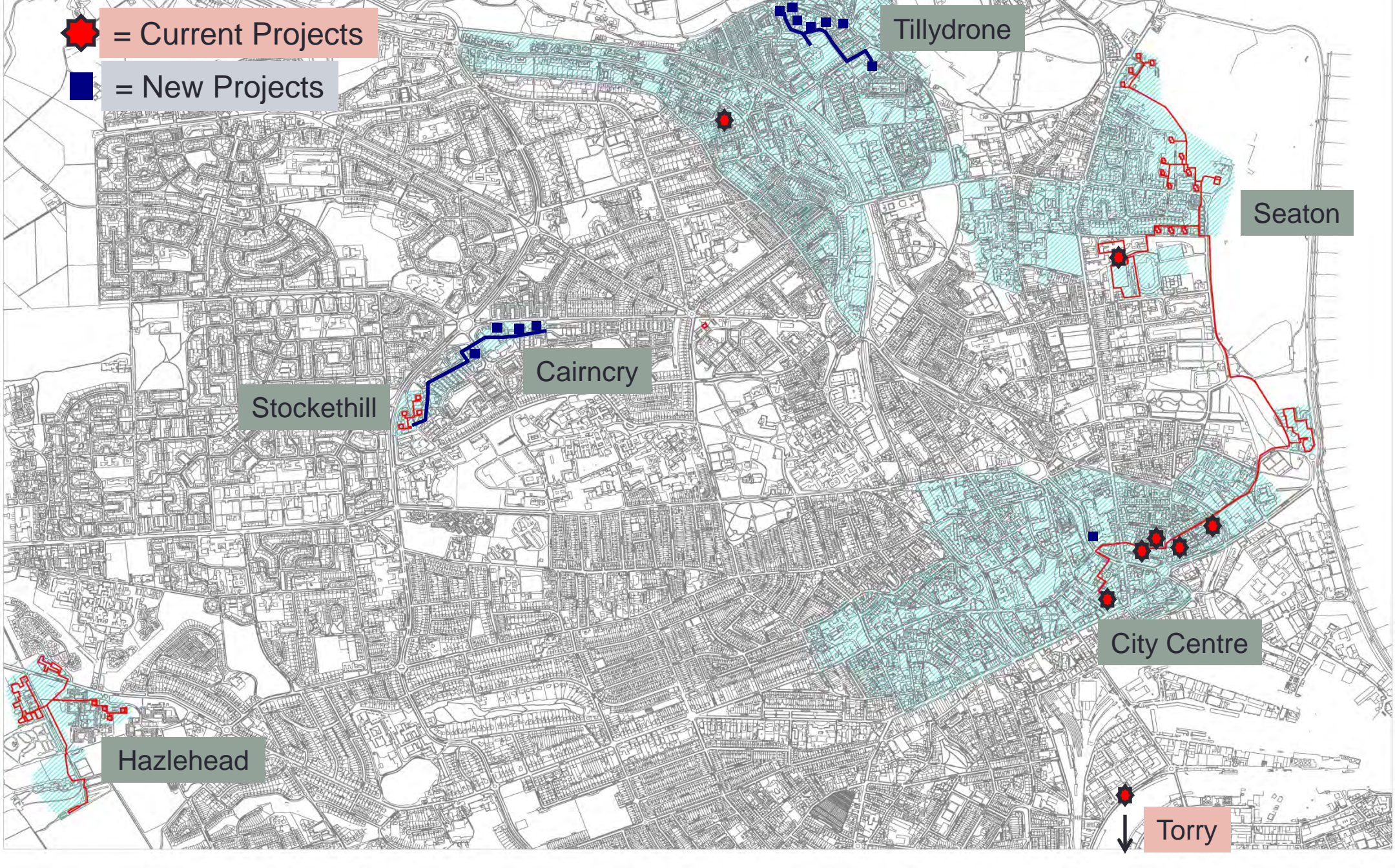
Hazlehead

City Centre

Torry

 = Current Projects

 = New Projects



Tillydrone

Seaton


Cairncry

Stockethill

City Centre

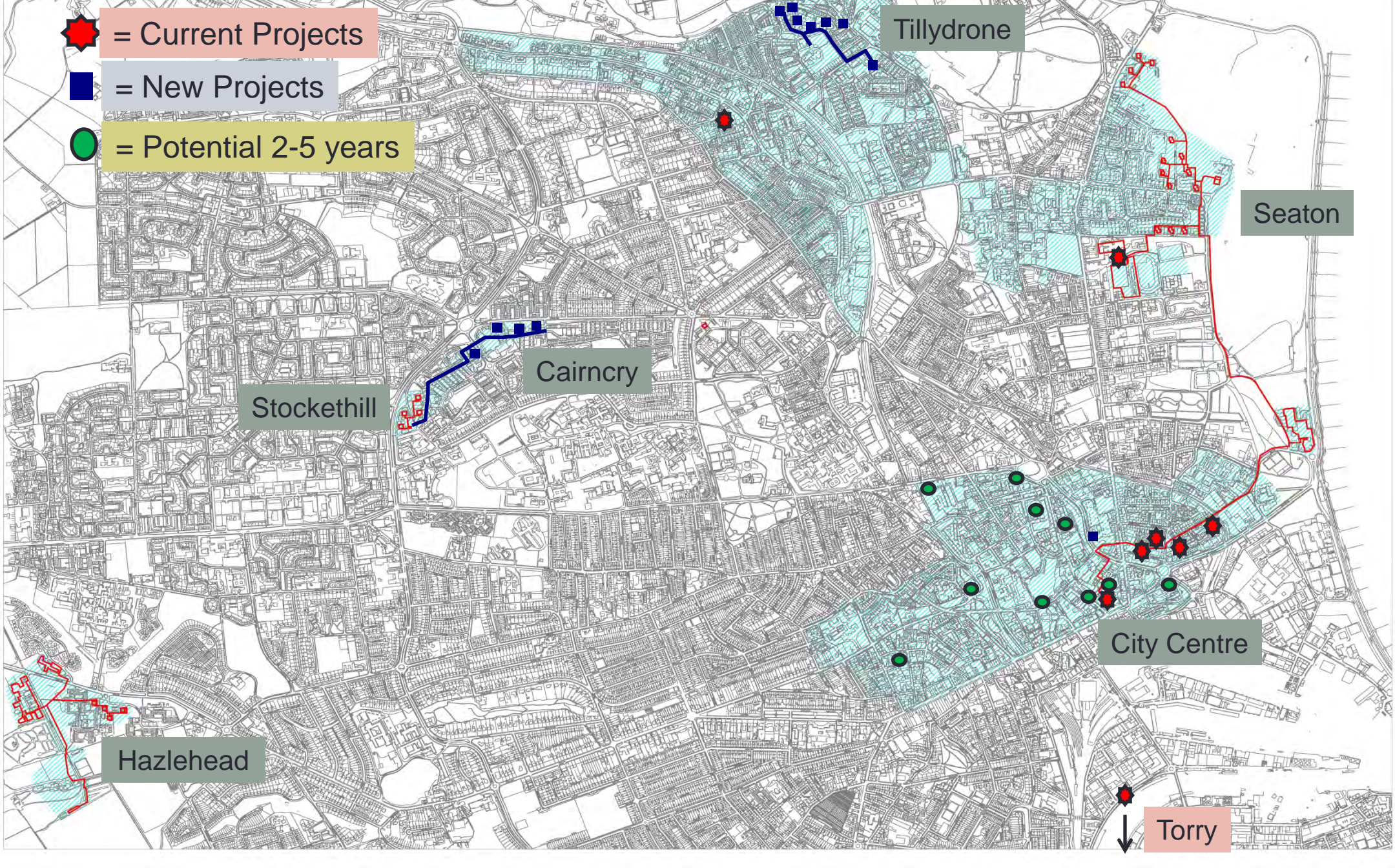
Hazlehead

Torry

 = Current Projects

 = New Projects

 = Potential 2-5 years



Tillydrone

Seaton


Stockethill

Cairncry


Hazlehead

City Centre

Torry

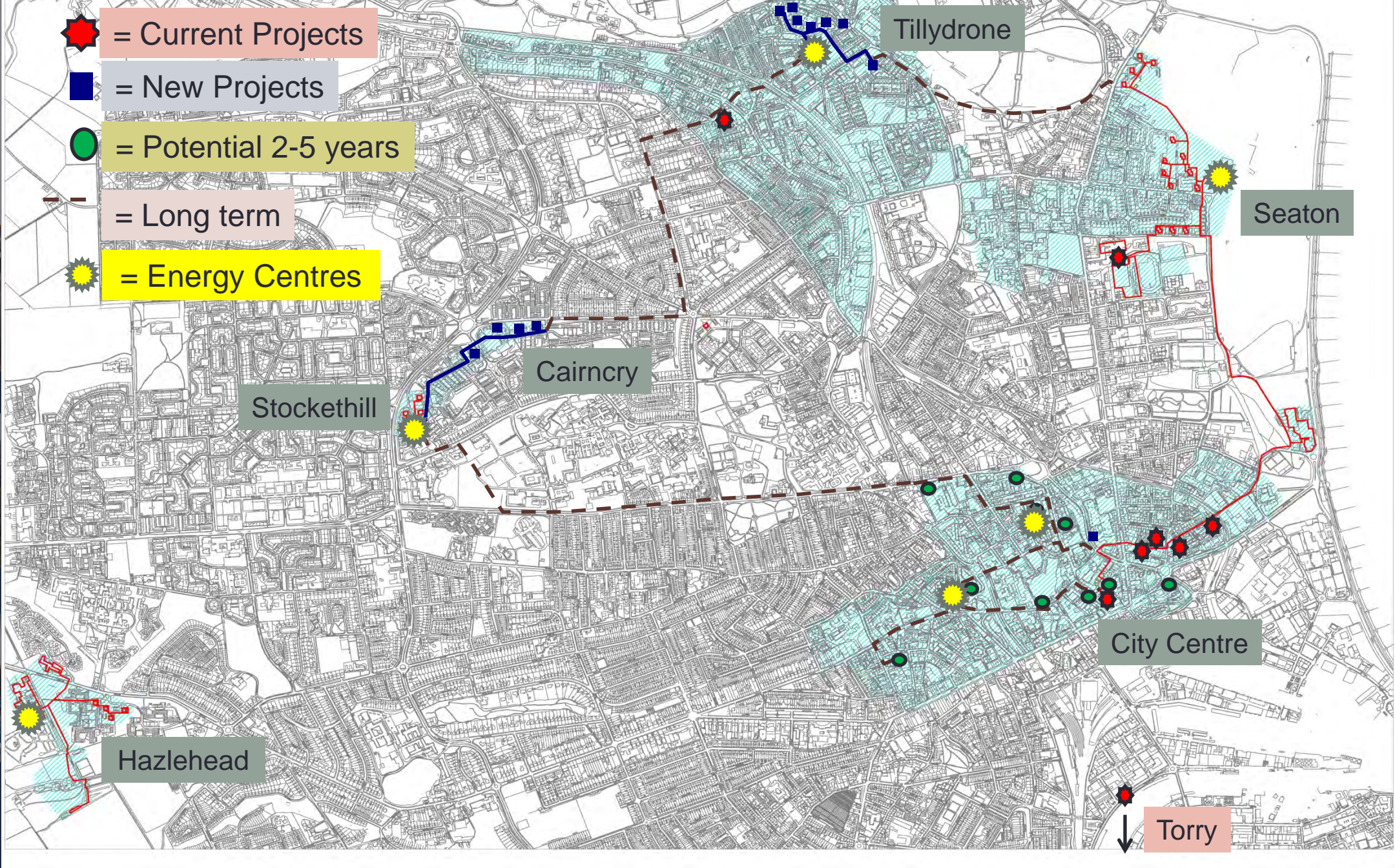
 = Current Projects

 = New Projects

 = Potential 2-5 years

 = Long term

 = Energy Centres



Tillydrone

Seaton

Cairncry

Stockethill

City Centre

Hazlehead

Torry



Our Aims are being met....



- We believe we are meeting our start-out ambitions
 - Tackling fuel poverty
 - Providing affordable heat
 - Reducing carbon emissions through use of low carbon technology
 - Installing reliable, efficient and controllable systems for domestic and commercial buildings
- With Subsidiary DEAL we can continue to grow the network and maintain costs at an affordable level for the domestic sector



Contact Details



**Ian Booth - General Manager
Aberdeen Heat and Power**

63 Cotton Street
Aberdeen AB11 5EG

T: 01224 580058

e-mail - info@aberdeenheatandpower.co.uk

Web: www.aberdeenheatandpower.co.uk