



Meeting the Sustainable Heat Demand of Smart Cities

Scottish Low Carbon Investment Conference

27th/28th September 2011



- Established 1887 in Sweden
- 2010 revenues: £15bn
- 49,000 employees
- 12,000 projects p.a.
- Business Streams:
 - Construction/ Civil Engineering
 - Residential / Commercial Development
 - Infrastructure Development/ Financing

A greener 32nd floor



Agenda

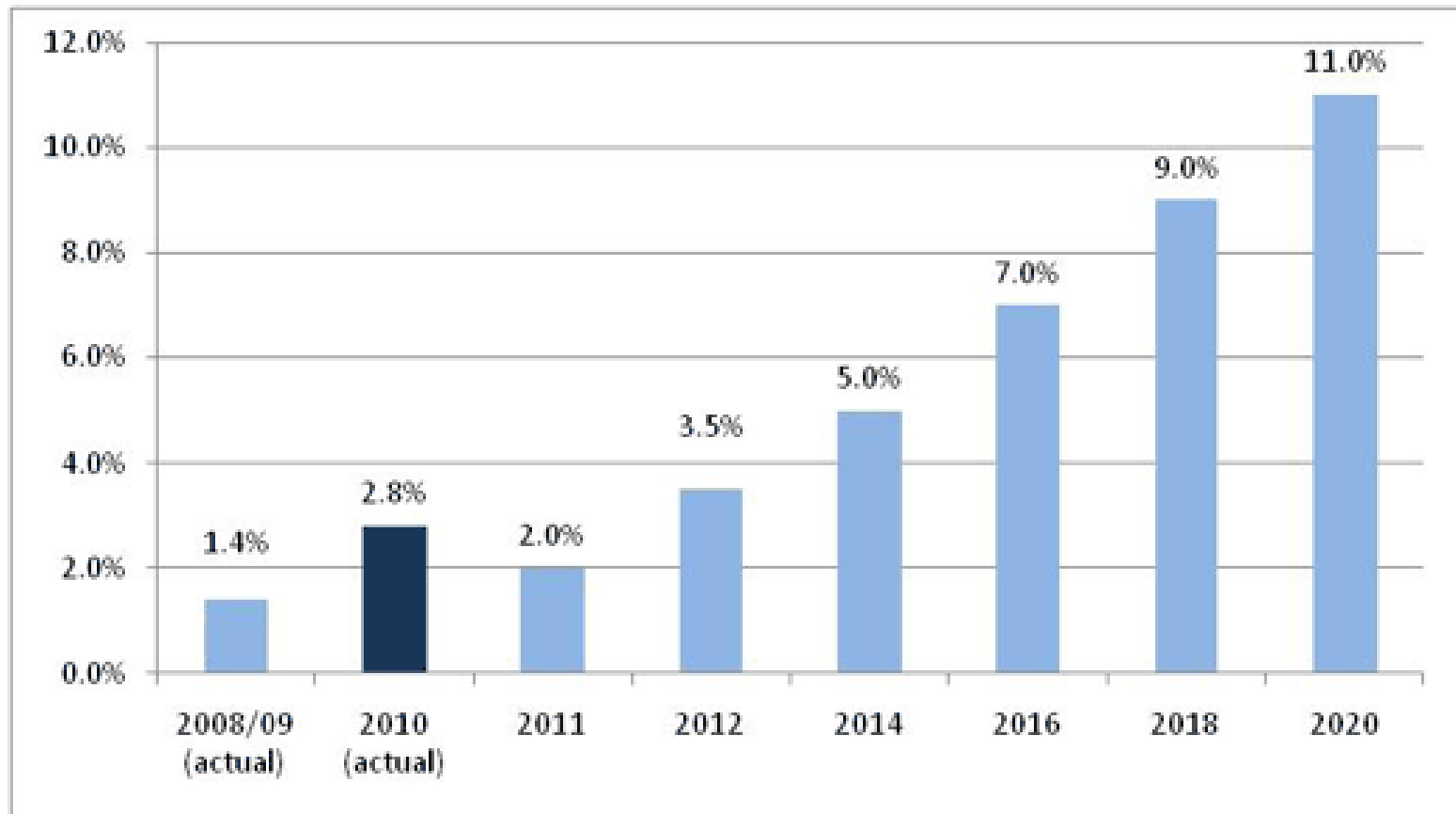
- Setting the scene
- Issues to consider:
 - Government Targets
 - Learning from other Smart Cities
 - Funding
 - Technologies
 - Role of Government & Private Sector
- Conclusions

Scottish Government Heat Targets 2020

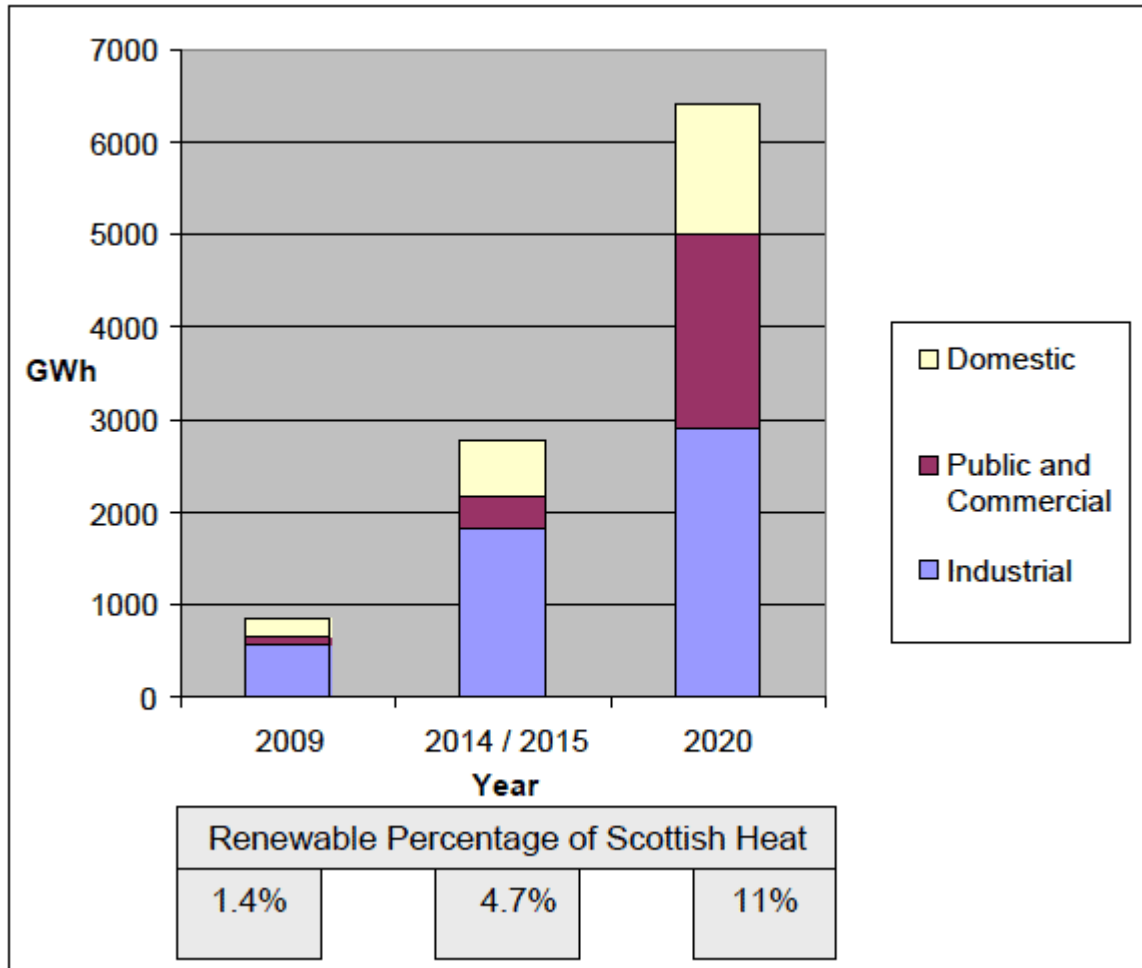
- 11 % heat demand from renewables by 2020 (2.1GW installed capacity or 6.4TWh supply)
- 12% reduction in Scottish final energy use by 2020

To date we have achieved 2.8% of heat demand target

How are we doing?



Projection of Deployment to 2020



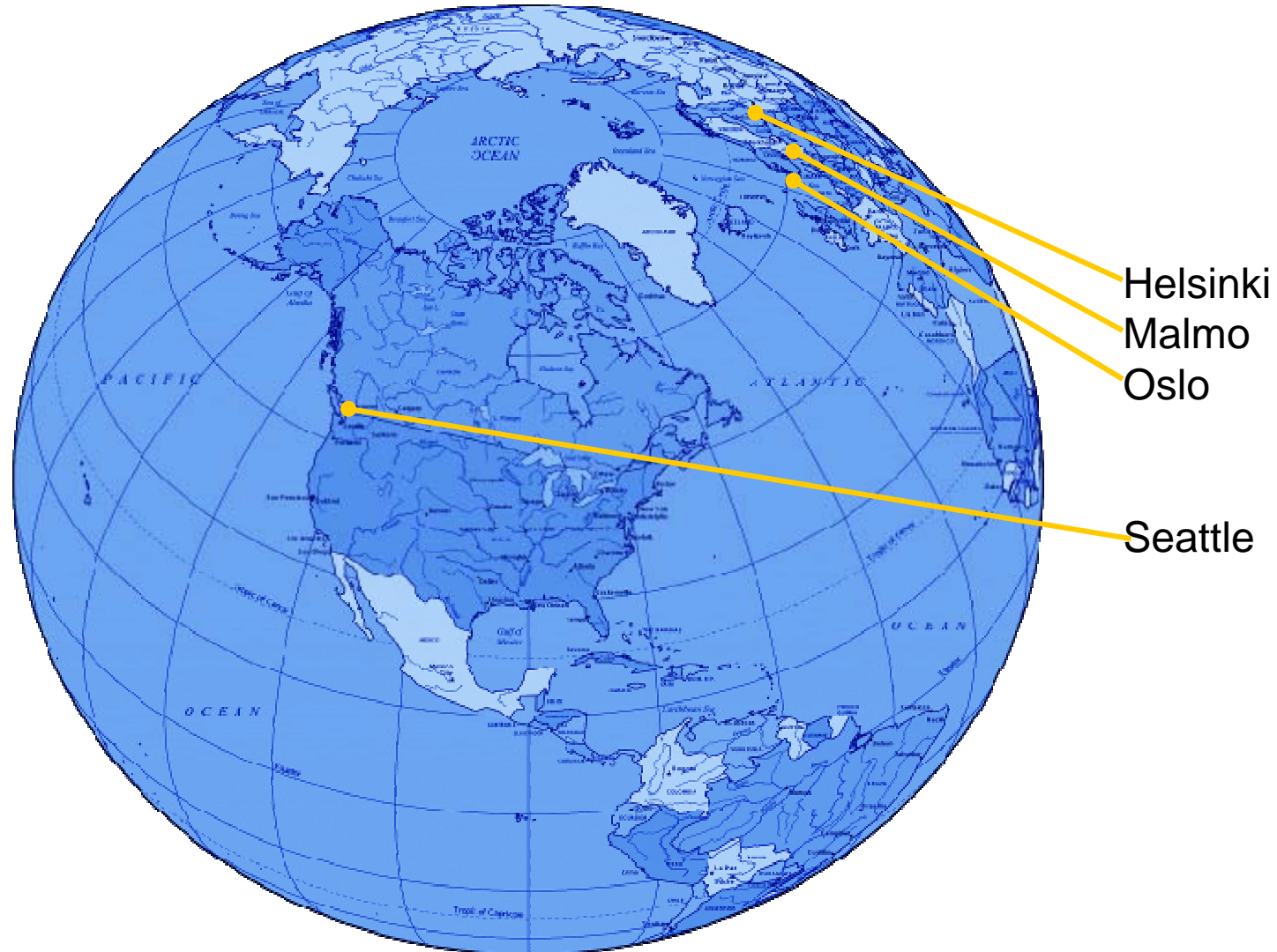
Status

- 487 GWh currently under construction
- 1,017 GWh in planning (assume 50% get built)
- Potential for an extra 4.5% of target in pipeline

Learning from others Hammarby - Stockholm



Other relevant international examples?



Current Technology Deployment

- Biomass – primary combustion 56%
- Biomass CHP 34%
- Energy from Waste 4%
- Heat Pumps (Ground/Air/Water) 5%
- Solar Thermal 1%

Scottish Budget 2011 – funding and additional advice to make a major move to District Heating

Funding Structures & Opportunities – What Works?

- Public/Private Partnerships?
- City Investment Fund – CIF (Sweden)?
- Municipal Ownership (Helsinki)?
- Mixed Market Approach (Copenhagen)?
- Private Sector Model (Malmo)?
- Government Grants (£5m District Heating Loan Fund)?
- Pump Priming – EU / JESSICA?
- Green Investment Bank?

A wide mix of models – but no real reference point

What is the role of Local Government & Private Sector?

- Infrastructure requires cost effective and long-term funding
- Financing must be easily available, secure and transparent
- Cities and government need cost effective access to EU development funding sources
- There must be open and strong competition for financing

Issues to cover

- How we will meet the Government's renewable heat energy target? How will we get there?
- What can we learn from other Smart Cities in Northern Europe – such as Hammarby, Helsinki and Malmo?
- What technologies should we focus on?
- How do we fund the investment required in infrastructure?
- What should be the role of Government and the Private sector in making the step change?