



**“Achieving a Smart Energy Ecosystem – Lessons from Scotland”**

**Fiona Goodenough – Hydrogen Project Manager**



The Scottish Cities Alliance is a unique collaboration between the Scottish Government and Scotland's seven cities:

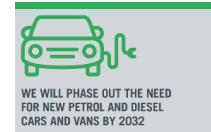


## Scottish Cities Alliance (SCA)

- Partnership of the 7 Scottish Cities and Scottish Government.
- Delivering the Scottish Government’s ‘Agenda for Cities’.
- Collaborative working to maximise economic potential.
- Focus on innovative solutions and attracting investment.
- Environment to test out new ideas and business models.
- 4 Operational plan priorities: Low Carbon; Hydrogen; Smart Cities & Infrastructure .



## Integrated Energy – Heat, Power & Transport



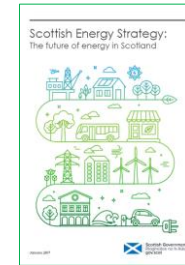
A WHOLE-SYSTEM VIEW

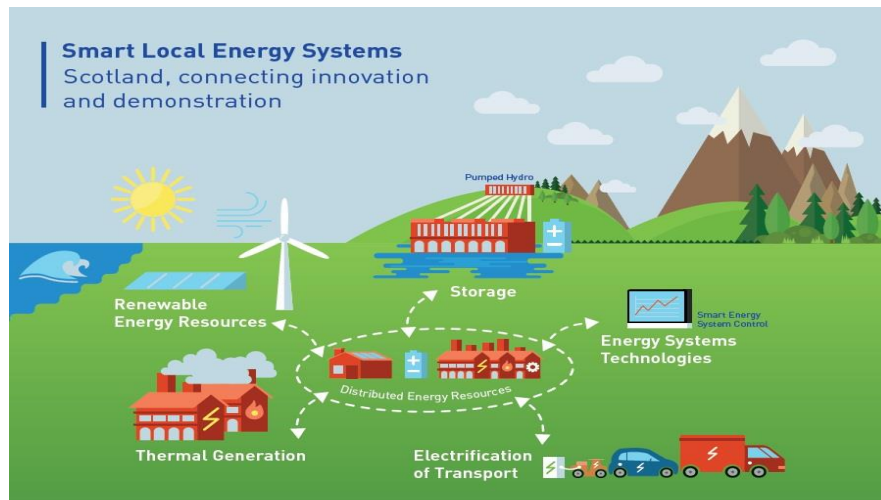


A STABLE, MANAGED ENERGY TRANSITION



A SMARTER MODEL OF LOCAL ENERGY PROVISION





## SCOTLAND'S ENERGY AMBITIONS

Unique and Ambitious Strategies:

- First low emission zone to be deployed in Glasgow – end of 2018 and in Edinburgh, Aberdeen and Dundee by 2020.
- 80% Reduction in Emission Targets by 2032
- Phasing out the need for fossil fuel vehicles by 2030
- 50% of Energy for Transport, Heat & Electricity generated from Renewables by 2030
- Scotland's Energy Efficiency Programme – 15-20 Year Programme – complete zero carbon wherever feasible by 2050
- Complete decarbonisation of Scottish Energy by 2050



## SCOTLAND'S 8TH CITY

£10m ERDF Strategic Intervention to create a £24.5M programme of Smart City projects across all cities.

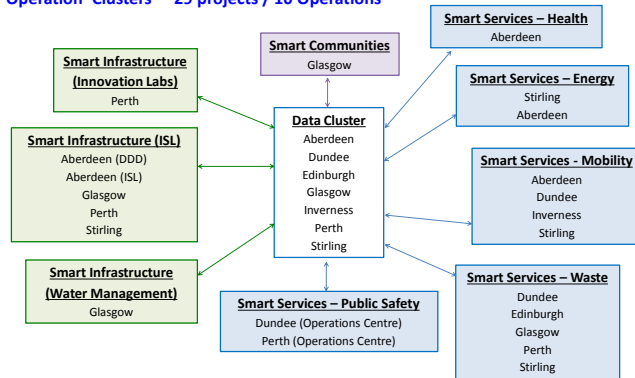


29 different projects in support of:

- Open Data
- Communities: Mobile Working
- Services: Energy
- Services: Mobility
- Services: Waste
- Services: Public Safety
- Infrastructure: Innovation Labs
- Infrastructure: Intelligent Street Lighting
- Infrastructure: Water Management



Operation 'Clusters' – 29 projects / 10 Operations



## DUNDEE 'SCOTLAND'S COOLEST CITY'

**Regeneration**  
£1 billion transformation of Dundee City Waterfront, 240 hectares of development land stretching 8km.  
THE THIRD-LARGEST REGENERATION PROJECT IN THE UK.

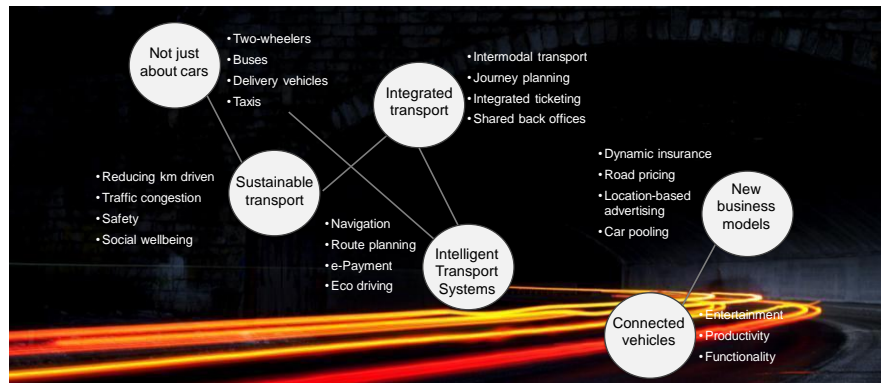
**V&A + UNESCO 'City of Design'**  
New £80m V&A Museum for Design will open in 2018 attracting an additional 500,000 visitors.

**Electric City**  
Dundee is at the forefront of the transition to innovative and integrated energy and transport systems.  
Dundee has UK's largest public sector fleet of EVs.

Logos at the bottom include: European Union, gov.scot, smart cities scotland, Dundee CHANGING FOR THE FUTURE, and Urban Foresight.

## SMART MOBILITY

Movement of people and goods around cities



## THE MILL

### Mobility Innovation Living Lab

A new innovation centre to establish Dundee as a test bed for smart mobility solutions.



# LIVING LAB

## Co-Creating

Developing user-led solutions that meet real needs and support positive behaviour changes.

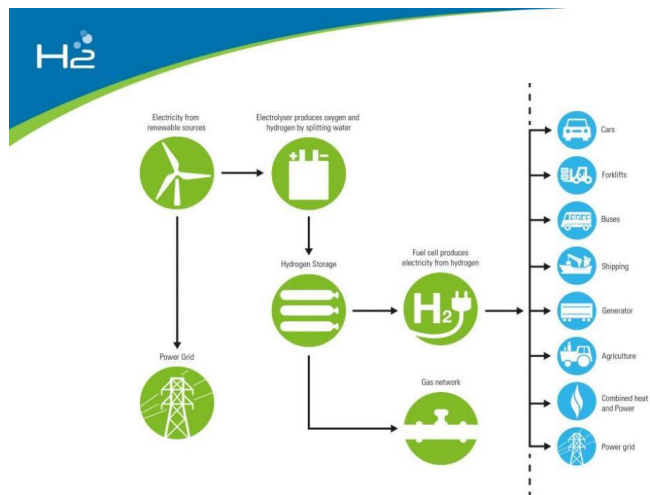
## Testing

Providing access to infrastructure, data and end-users in Dundee to pilot new products and services.

## Scaling-Up

Support in finding routes to market, introducing solutions to other Scottish cities and exporting globally.





## HYDROGEN TRANSPORT

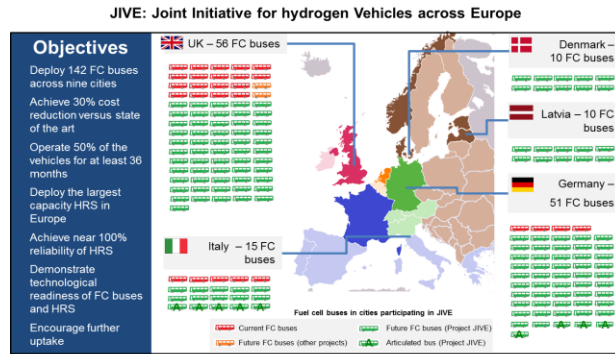
*Clean energy vehicles and managing the transition to low-carbon transport - Hydrogen*



- Building a Hydrogen Economy for Scotland
- Partners in the most ambitious pan-European H2 Transport Projects
- Developing Integrated Energy Projects – Power, Energy and Transport
- Developing projects to look at H2 for decarbonising heat and grid balancing



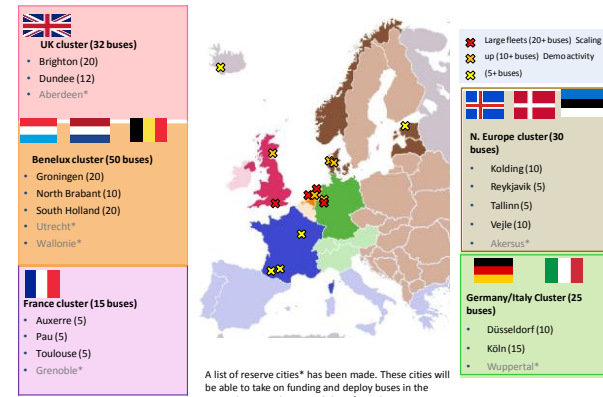
The JIVE project will allow a considerable expansion of the European bus fleet (€32m funding, €126m costs)

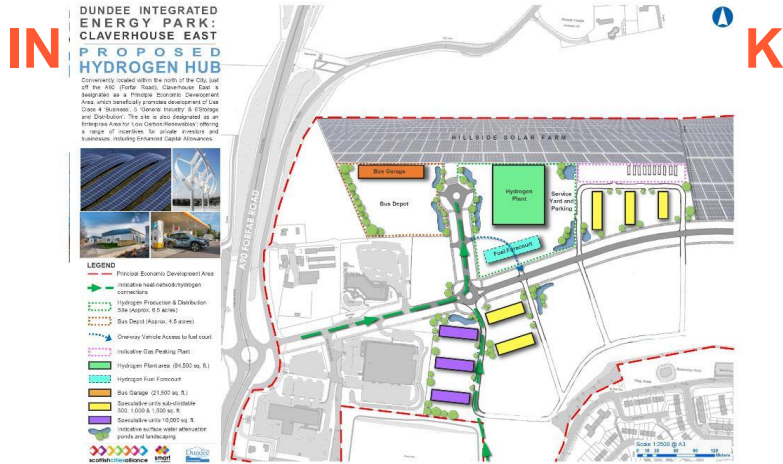


JIVE will be a six year project, with an anticipated start date of early 2017

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**Results – a shortlist of 152 fuel cell buses in 14 locations**





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