

# A GREEN TRANSPORT STRATEGY FOR DUNDEE



Neil Gellatly  
Head of Roads & Transportation  
Dundee City Council



# DUNDEE



Population of ~150,000 and growing  
Regional Centre for ~400,000  
Modern young city  
Health and Fairness Inequality  
Multi Modal People



# DUNDEE



- Well connected within Scotland
- Essential to improve UK and International Connections
- Dundee Waterfront one of Europe's most significant regeneration projects
- Dundee Partnership

# Green Space



[www.alamy.com](http://www.alamy.com) - GCAP19P



# Rail Station



# ROADS AND TRANSPORT DIVISION

- Sustainable Transport
- Parking
- Network Management
- Traffic and Transport
- Roads Maintenance Partnership
- Street Lighting Partnership
- Corporate Fleet Management



## CITY DEVELOPMENT DEPARTMENT

- Full Engineering Consultancy in house
- Full Architect and Property services in house
- Planning and Economic Development too!

# OUTDOOR LIVING – ACTIVE TRAVEL

- ❑ Opportunity to Re-prioritise travel modes
- ❑ Transport improvements usually by – product
- ❑ Usually encourages Active Travel and Outdoor Living
- ❑ Regeneration can raise confidence



# REGENERATION – TRAFFIC FREE

1977 - FIVE LANE HIGH STREET



NOW - CITY CENTRE PEDESTRIANISED ZONE  
CARS AND PARKING NEAR BUT ON THE  
EDGE OF THE CITY CENTRE



# ELECTRIC AND LOW CARBON VEHICLES



Dundee City Council is a pioneer in electrification of transport:

- 78 pool and fleet vehicles EV, well utilised through revised staff travel policy
- Building a charging infrastructure to support individual and business EV users
- Commercial interest in business fleets
- Co-Wheels EV Car Club available on- street where people live
- Office Low Emission Vehicles - Go Ultra Low City
- Huge reduction of Carbon consumption and emissions from transport
- Local Bus Operators investing in Diesel Electric hybrid buses
- Working with Scottish Cities Alliance to develop Hydrogen Fuel Cell technology
- Increasing concern with Air Quality Hot Spots



# ELECTRIC AND LOW CARBON VEHICLES

## Leading By Example

- 78 pool and fleet vehicles
- EV Mixed fleet of Renault Kangoo vans, Peugeot and Mitsubishi IMEV and IONs, Nissan Leaf and Kia Soul and Nissan ENV 200
- Well utilised through revised staff travel policy, over 250,000 miles pa on zero emission (almost all within the urban area of Dundee)
- Parking Team converted to 100% EV fleet
- Building a charging infrastructure to support individual and business EV users – Traffic Regulation Orders and fleet vs public separation now needed
- 13 Rapid Chargers and over 50 Fast Chargers – About to triple the number through new charging hubs funded by UK and Scottish Governments through Go Ultra Low City funding £1.5M



# ELECTRIC AND LOW CARBON VEHICLES

Private sector invest in electrification of transport (Taxi Evs):

- Commercial interest in business fleets

Previous Transport Minister, Derek McKay MSP launched the Dundee 203020 electric taxi fleet in April 2015, 30 Nissan Leafs initially and aim for 100% EV fleet by 2018, Nissan ENV 200 hopefully allow EV Wheelchair accessible taxi

Major public / private partnership with Dundee 203020, transport Scotland, Energy Savings Trust, Nissan and Dundee City Council – but very much an entrepreneurial approach . Now 70 + EV Taxis in Dundee



# ELECTRIC AND LOW CARBON VEHICLES

## Car Club going electric

- Introducing EV Car Club available on- street where people live

Dundee City Council, Developing Car Clubs in Scotland, EST and Co-Wheels  
7 EV and 6 ULEV Car Club vehicles later in May 2015, launched 20 April 2015

To include regulated parking and on street EV Charging infrastructure



# ELECTRIC AND LOW CARBON VEHICLES

## Other Developments around Evs and ULEVs

- Huge reduction of Carbon consumption and emissions from transport possible
- Local Bus Operators investing in Diesel Electric hybrid buses
- Working with Scottish Cities Alliance to develop Hydrogen Fuel Cell technology
- Increasing concern with Air Quality Hot Spots
- Evs and ULEVs don't resolve congestion



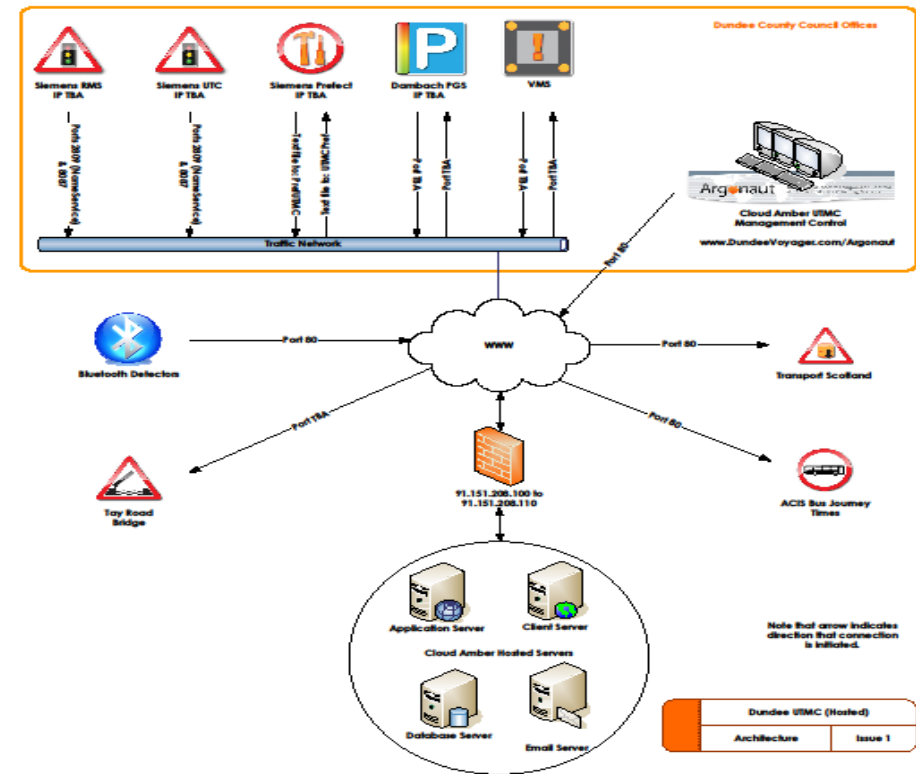
# DUNDEE – INTELLIGENT TRANSPORT SYSTEMS

## Modern Urban Traffic Control System that controls :

- 50 junctions and 80 pedestrian Crossings. Most junctions covered by CCTV.
- Moving over to a common database (Cloud Amber) with Strategy Manager which will allow new data feeds from:
- Parking Guidance System,
- Public Transport Real Time Information
- Urban Traffic Management Control
- Remote monitoring - Maintenance of signals
- All Parking payments systems and control systems modern and centralised through Hub

## The Future is happening now:

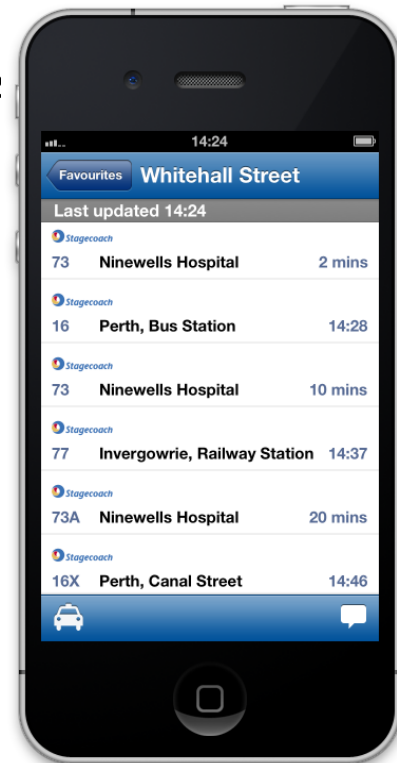
- Air Quality monitoring
- CCTV
- Traffic / transport planning information
- Traffic Counts
- Intelligent Parking Enforcement Systems
- Bluetooth journey time alongside Transport Scotland's National System



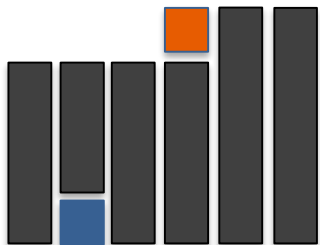
# DUNDEE – ONE OF EUROPE'S SMART CITIES

Dundee City Council is collaborating with UK and European Partners to

- Give a smarter way of living – with focus on transportation integration
- Looking at making travel more sustainable
- Make multi modal travel as easy as possible – ABC Ticket is one year
- Evs at heart of this - bikes and cars / vans, especially shared ownership
- Maximise total integration of Intelligent Transport Systems
- Individual Mobility accounts – All information in one place
- Quickly commercialised as an essential daily transaction tool
- Green Tourism in future, everything self service & in advance



## MILL Dundee



## MILL Dundee



DCC and European	DCC and European Regional Development Fund
PARTNERS:	Dundee City Council, Urban Foresight, IBI Group
DESCRIPTION :	Promotion office for a Mobility Integration Living Laboratory
START/ END:	Autumn 2014 - 2020
ACTIVITIES:	<ul style="list-style-type: none"><li>• £1.4M project establishing a Living Lab in Dundee</li><li>• Pursue existing funding proposals and attract new opportunities</li><li>• Coordinate stakeholder activities</li><li>• Promote Dundee as a location for trialing and developing new mobility integration solutions</li></ul>

# OVERVIEW



## ShareMORE



### FUNDING:

Scottish Enterprise

### PARTNERS:

203020 Taxis, Carplus, Co-Wheels, Dundee City Council, IBI Group, Nissan, Route Monkey, SSE, Smart Parking, Urban Foresight

### DESCRIPTION

:

Demonstrate technologies, business models & regulatory controls for a sharing city

### START/ END:

2015 ongoing

### ACTIVITIES:

- Multi-modal sharing and electric taxis
- Optimising fleets for sharing and sharing municipal fleet vehicles
- Shared access parking
- Shared and open data
- Getting Transport Smart

# DUNDEE – ONE OF EUROPE'S SMART TRAVEL CITIES

Thank You – Any Questions?





# **BUILDING A HYDROGEN ECONOMY IN SCOTLAND**

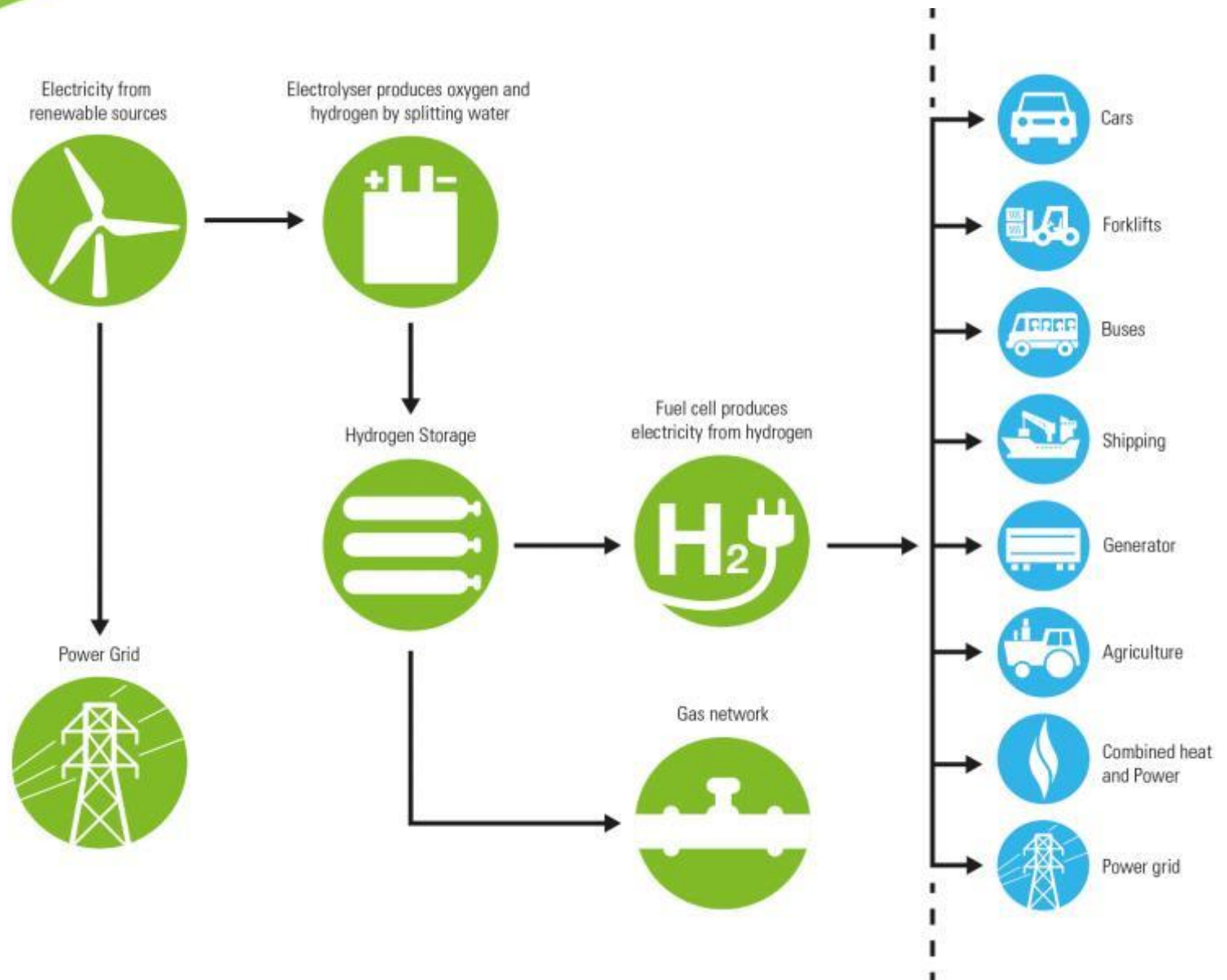
Fiona Goodenough  
Scottish Cities Alliance Hydrogen Project Manager

[Fiona.goodenough@scottishcities.org.uk](mailto:Fiona.goodenough@scottishcities.org.uk)

# 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.
- Operational plan priorities: Low Carbon; Hydrogen & Smart Cities







# **BUILDING A HYDROGEN ECONOMY IN SCOTLAND**

Renewable Hydrogen generation

Hydrogen Refuelling Infrastructure deployment

Fuel cell bus fleet deployment

Council fleet FCEV deployment

Integrated Energy Solutions

# 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

# JIVE: Joint Initiative for hydrogen Vehicles across Europe

## Objectives

Deploy 142 FC buses across nine cities

Achieve 30% cost reduction versus state of the art


Operate 50% of the vehicles for at least 36 months

Deploy the largest capacity HRS in Europe

Achieve near 100% reliability of HRS

Demonstrate technological readiness of FC buses and HRS


Encourage further uptake

 UK – 56 FC buses



 Italy – 15 FC buses




 Denmark – 10 FC buses




 Latvia – 10 FC buses





 Germany – 51 FC buses




Fuel cell buses in cities participating in JIVE

 Current FC buses

 Future FC buses (other projects)

 Future FC buses (Project JIVE)

 Articulated bus (Project JIVE)

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

# JIVE 2 - 152 FUEL CELL BUSES ACROSS 14 LOCATIONS



## UK cluster (32 buses)

- Brighton (20)
- Dundee (12)
- Aberdeen\*



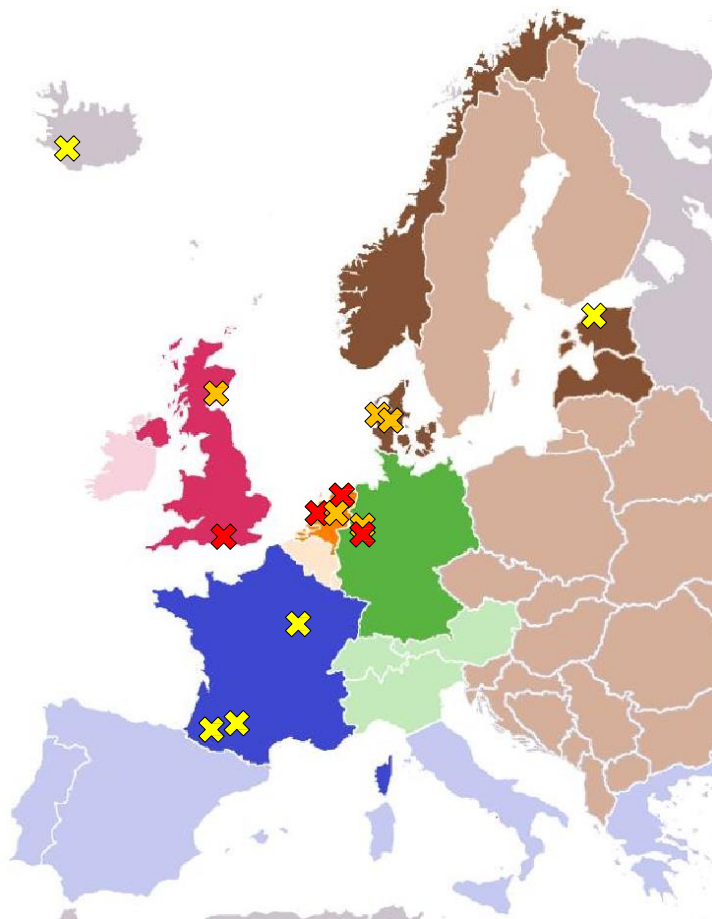
## Benelux cluster (50 buses)

- Groningen (20)
- North Brabant (10)
- South Holland (20)
- Utrecht\*
- Wallonie\*



## France cluster (15 buses)

- Auxerre (5)
- Pau (5)
- Toulouse (5)
- Grenoble\*



- ✖ Large fleets (20+ buses) Scaling
- ✖ up (10+ buses) Demo activity
- ✖ (5+ buses)



## N. Europe cluster (30 buses)

- Kolding (10)
- Reykjavik (5)
- Tallinn (5)
- Vejle (10)
- Akersus\*



## Germany/Italy Cluster (25 buses)

- Düsseldorf (10)
- Köln (15)
- Wuppertal\*

A list of reserve cities\* has been made. These cities will be able to take on funding and deploy buses in the event that a city has to withdraw from the project.



# OUTCOMES

Commercialise Hydrogen Refuelling Infrastructure and Hydrogen Fuel Cell Buses by 2020

Hydrogen Fuel Cell Buses to be at a cost equivalent to diesel buses

No more Government subsidies by 2020

Increase H2 Bus Manufacturers

Increase H2 Fleet Vehicles

Tackle Inner City Air Quality Issues

Procurement Framework Agreements in place for any local authority to utilise

Career Development Opportunities



**FUEL CELLS AND HYDROGEN**  
JOINT UNDERTAKING



# A NATION WITH AMBITION

- Programme for Government – 2017/2018
- Committed to the introduction of Low Emissions Zones across 4 of Scotland's largest cities by 2020. The first one to be deployed in Glasgow by the end of 2018 and in all other Air Quality Management Areas by 2023.
- Phase out petrol and diesel vehicles by 2032 – 8 years before UK Government targets
- Take the lead in deployment of Ultra Low Emission Vehicles across all transport sectors
- Continuation of the Green Bus Fund
- Research and Development and Manufacturing
- Early adopters

# DECARBONISATION



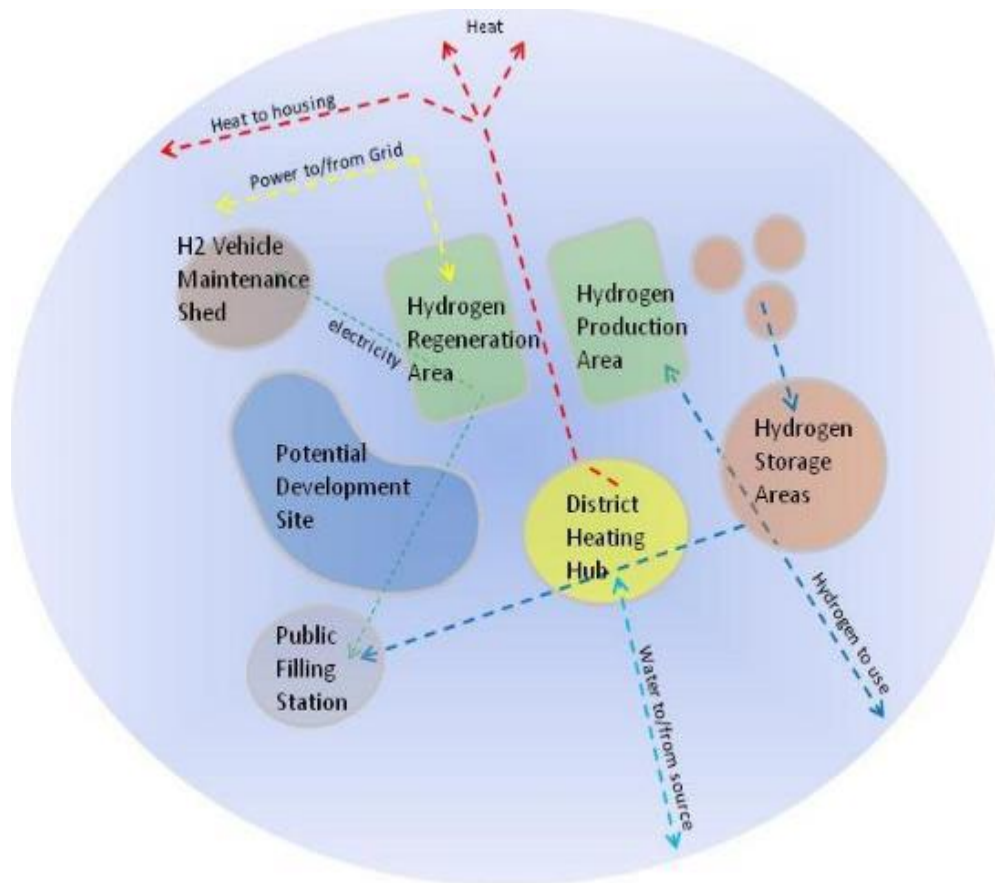
**WE WILL PHASE OUT THE NEED  
FOR NEW PETROL AND DIESEL  
CARS AND VANS BY 2032**

**WE ARE COMMITTED TO  
SECURING FUTURE INVESTMENT  
IN CARBON CAPTURE STORAGE  
IN SCOTLAND**



**WE ARE WORKING WITH LOCAL  
AUTHORITIES TO INTRODUCE LOW  
EMISSIONS ZONES (LEZS) IN OUR FOUR  
BIGGEST CITIES**

# INTEGRATED ENERGY PARK - DUNDEE



ENERGY STRATEGY – SCOTLAND'S ENERGY  
EFFICIENCY PROGRAMME (SEEP)  
NATIONAL INFRASTRUCTURE PRIORITY FOR ENERGY EFFICIENCY



January 2017

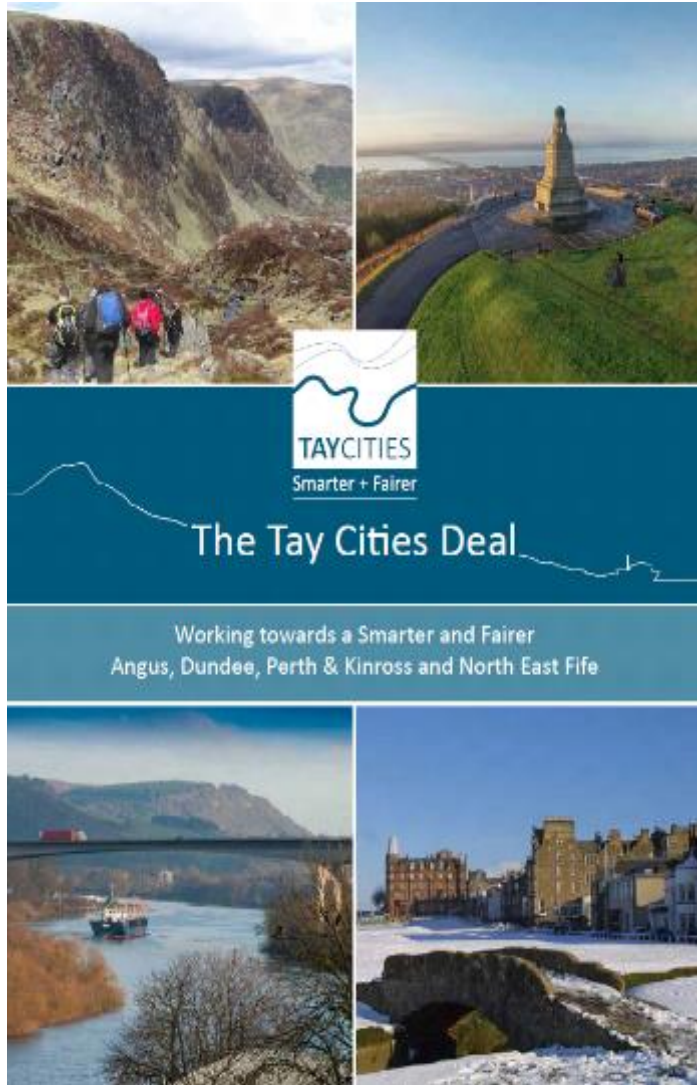
Scottish Government  
Riaghaidh na h-Alba  
gov.scot

# BUILDING A HYDROGEN ECONOMY IN SCOTLAND

Working in partnership with Scottish Enterprise, Scotland's national economic development agency – Hydrogen Fore sighting and SHFCA – Scotland's Hydrogen Membership Association



# LOW CARBON URBAN PLANNING



Regional Economic Strategy 2017-37

Tay Cities Deal Proposal 2017-2027:

- £1.83 billion investment
- £763 million contribution from Governments
- 15000 Jobs across the Tay Cities area.

Proposals to:

- 1) Deliver a 3-phase pipeline of Council-led projects - focusing on low carbon heating and low carbon transport.
- 2) Establish a regional ESCO (known as Tay Cities Energy Services Company).

Funding request of £95m (total project costs £180m)