

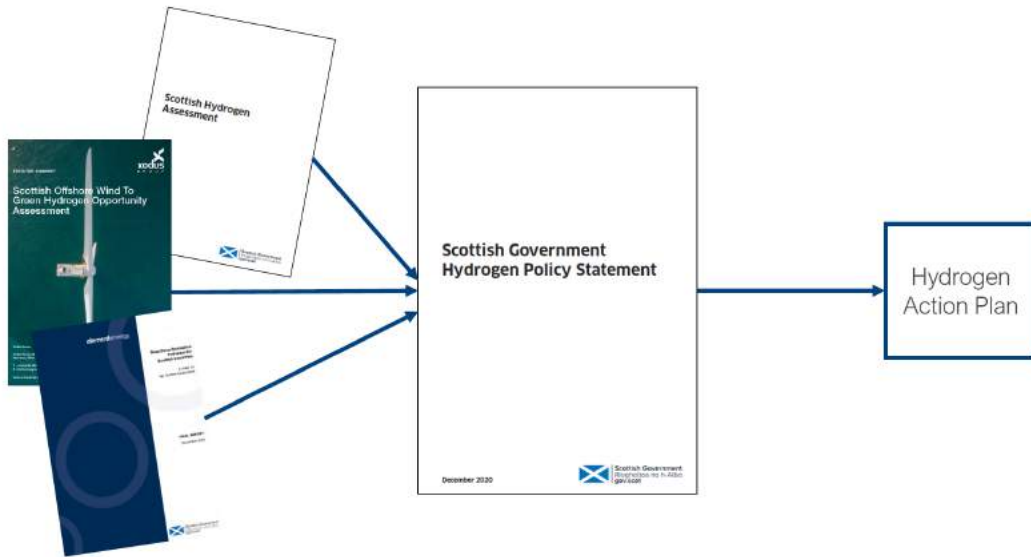
# Hydrogen Mobility in Aberdeen

the full story

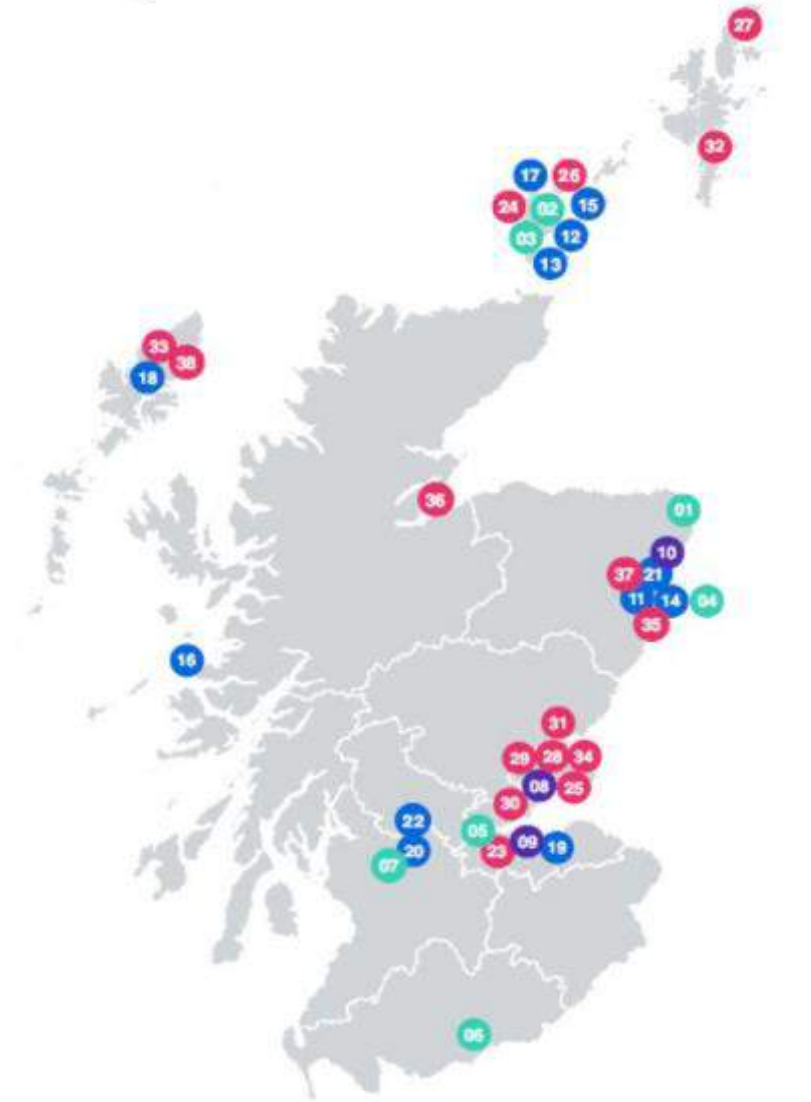
Sandra Omondi



# HYDROGEN IN SCOTLAND

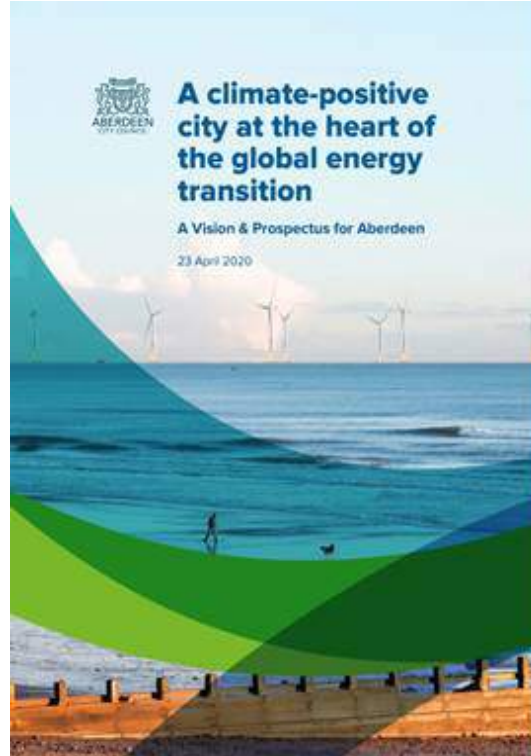


- |  |  |
|--|--|
| 01 Project Acorn   | 20 Glasgow hydrogen transport project  |
| 02 Hydrogen Offshore Production Project                    | 21 TECA fuel cell                      |
| 03 Surf 'n' Turf   | 22 Glasgow hydrogen bus project        |
| 04 Dolphyn ERM   | 23 HyStorPor                           |
| 05 Caledonian Clean Energy Project                         | 24 BiG HIT                             |
| 06 Chapelcross   | 25 Methilltoun                         |
| 07 Green hydrogen for Scotland                             | 26 REFlex                              |
| 08 H100  | 27 Promoting Unst Renewable Energy     |
| 09 Grangemouth to Granton future local transmission system | 28 The Hydrogen Office                 |
| 10 Aberdeen Vision   | 29 Levenmouth Community Energy Project |
| 11 Hydrogen Bus Project                                    | 30 East Neuk Power to Hydrogen         |
| 12 HySeas I - III  | 31 Michelin Scotland Innovation Parc   |
| 13 HySpirits   | 32 Shetland Hub                        |
| 14 HyTrEc  | 33 100% Green Hydrogen Hub             |
| 15 HyDIME  | 34 Hydrogen Accelerator                |
| 16 SWIFTH2   | 35 Aberdeen Hydrogen Hub               |
| 17 HyFlyer   | 36 Cromarty Firth Hydrogen Hub         |
| 18 Stornoway hydrogen refueler                             | 37 Energy Transition Zone              |
| 19 Hydrogen refuelling station                             | 38 Outer Hebrides Local Energy Hub     |



- KEY**
- Production
  - Transmission/distribution
  - End user
  - Multi-vector

# WHY HYDROGEN IN ABERDEEN?



Offshore Wind - North East Coast



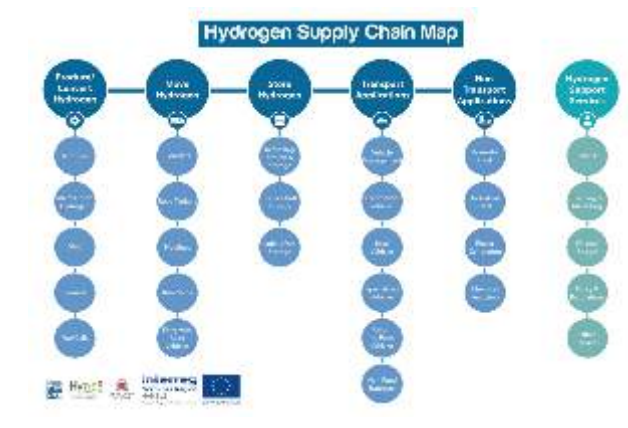
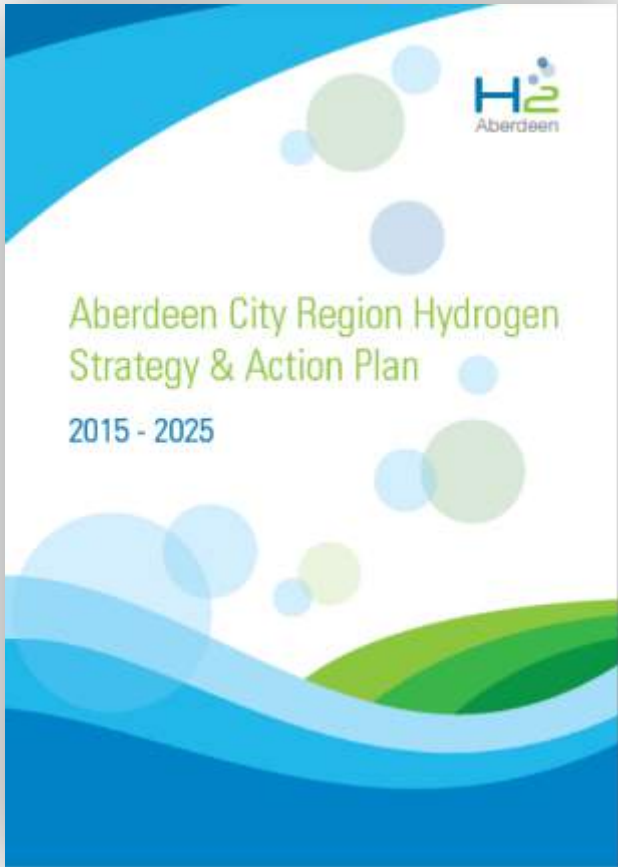
Highly Skilled North Sea Workforce

Aberdeen at the forefront of UK Energy Transition  
Energy Transition Zone and Aberdeen Harbour



# Hydrogen Strategy





# Hydrogen Mobility





**£35M total investment**



**5 active projects**



**7 completed projects**



**Invaluable industry partners**



**85 hydrogen powered vehicles...  
...with 17 more on the way**

Hydrogen is **here.**

**H<sub>2</sub>**  
Aberdeen

# HYDROGEN BUSES



- Largest bus trial in Europe
- World's first hydrogen double decker buses





# VEHICLES



# FUTURE VEHICLES



## NEWS

# Driving progress to a net-zero future

Published: 06 Mar 2021 00:01

Part of: [Energy, Environment and climate change](#)

Hydrogen bus investment announced.

Funding of £4.5 million has been awarded to Aberdeen City Council for the introduction of 10 new hydrogen buses into the city's public transport fleet.

# REFUELLING INFRASTRUCTURE



ACHES, Cove



Kittybrewster

- 2 stations delivering 130 and 360kg/day
- 350 & 700 bar capable
- Refuel cars, vans, buses, large vehicles
- Both 'green tariff' stations

# Aberdeen Hydrogen Hub



# H2 ABERDEEN TIMELINE

2013 onwards



● **Aberdeen Hydrogen Bus & Kittybrewster HRS**

2015: 10 hydrogen buses and refuelling station

● **Hydrogen Vehicle Options**

Funding from EU, UK and Scottish governments to trial FC cars, dual-fuel for large vehicles and FC range extended electric vans

● **Second HRS**

2017: opening of ACHES - increased the hydrogen supply and offered hydrogen resilience for the City

● **Innovative Uses of Hydrogen**

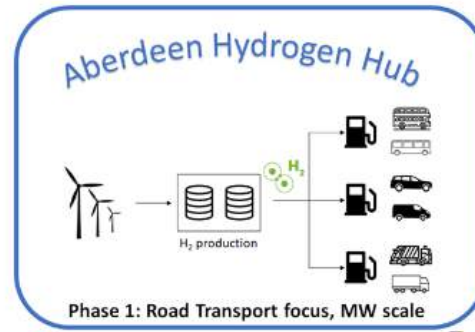
2019: Onsite Energy Centre at TECA with 3 fuel cells provide heating, cooling and power to the Exhibition Centre and 2 hotels

● **Explore Ways to Increase Demand**

15+10 World's first hydrogen double decker buses  
  
Discussions with NE organisations  
  
Explore alternative hydrogen uses such as rail, heat, marine, industry

● **Commercial Supply Aberdeen Hydrogen Hub**

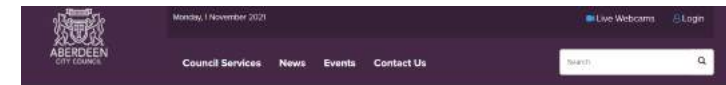
Business case for commercial supply of green hydrogen  
  
Discussions with market



**Phase 1** – provision of a resilient, cost effective supply of green hydrogen on a commercial basis to the market to support the existing and proposed transport projects.

# JOINT VENTURE PARTNER

- On 3rd February 2022 bp announced a new Joint Venture company wholly owned by the Council and bp to deliver the Aberdeen Hydrogen Hub
- bp will build, operate and manage the Hub including:
  - Solar power array
  - Green Hydrogen production facility
  - Refuelling for public transport, trucks, cars and vans
- Scotland's first scalable green hydrogen production facility with first gas expected Q1 2024
- Inclusive growth by supporting hydrogen supply chain developments, skills and training and wider community benefits
- Potential for delivery of future phases could see production scaled up for export through larger volumes of hydrogen using offshore wind developments



## Energy Transition Projects Key

- ScotWind leasing areas
- CO<sub>2</sub> Storage Sites
- ⚙️ Existing windfarm
- Existing Pipeline
- Z ETZ
- ⋯ Future Pipeline

# North East Scotland current & future Energy Transition projects

## Aberdeen City current & future hydrogen projects

Aberdeen Hydrogen Hub (Project) 2024



TECA Electrolyser  
350kg H<sub>2</sub> / day



Kittybrewster HRS  
360kg H<sub>2</sub> / day

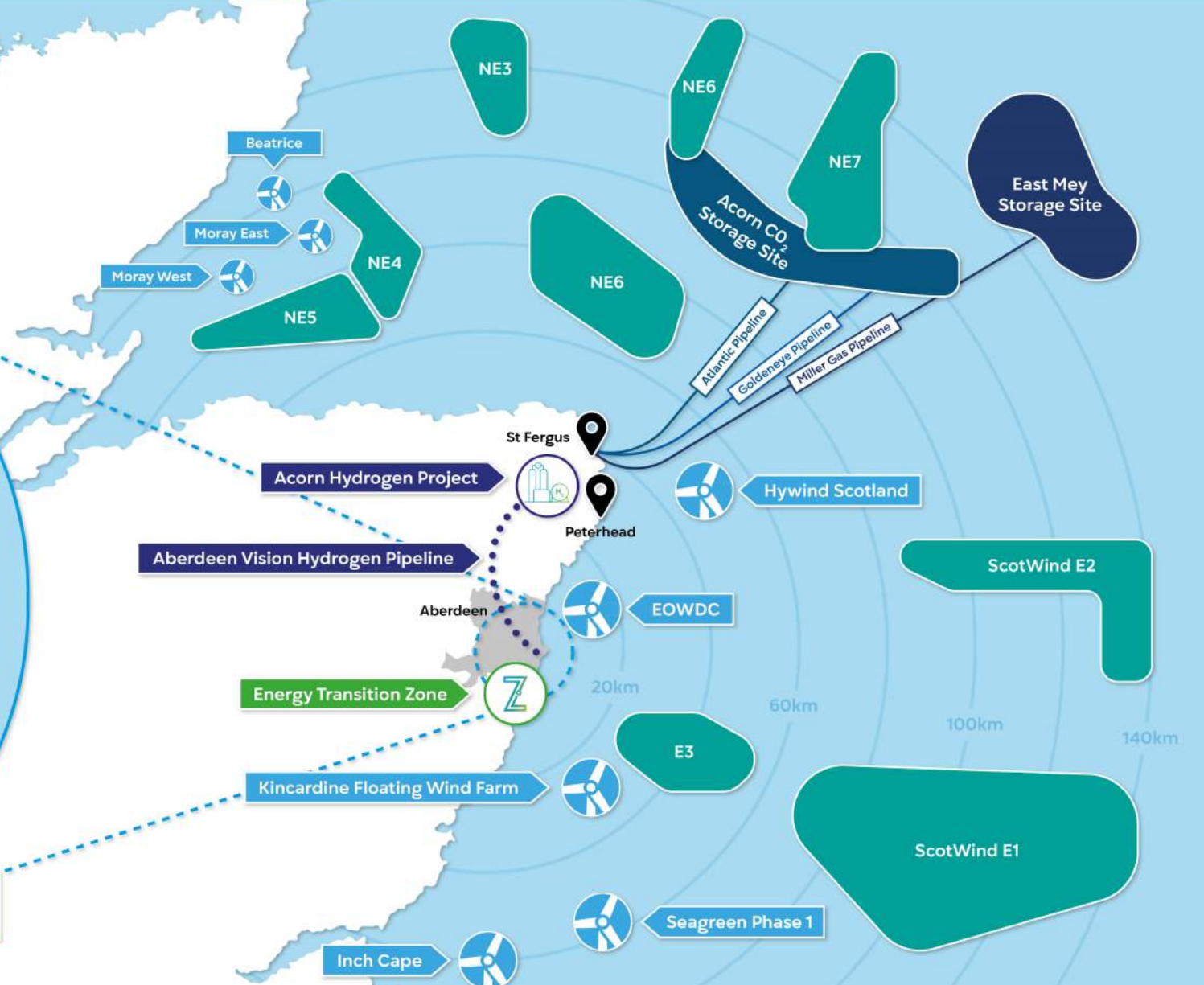
ACHES HRS  
360kg H<sub>2</sub> / day



Energy Transition Zone  
Hydrogen Campus



ERM Dolphyn Project (2024)  
2000kg H<sub>2</sub> / day Initially

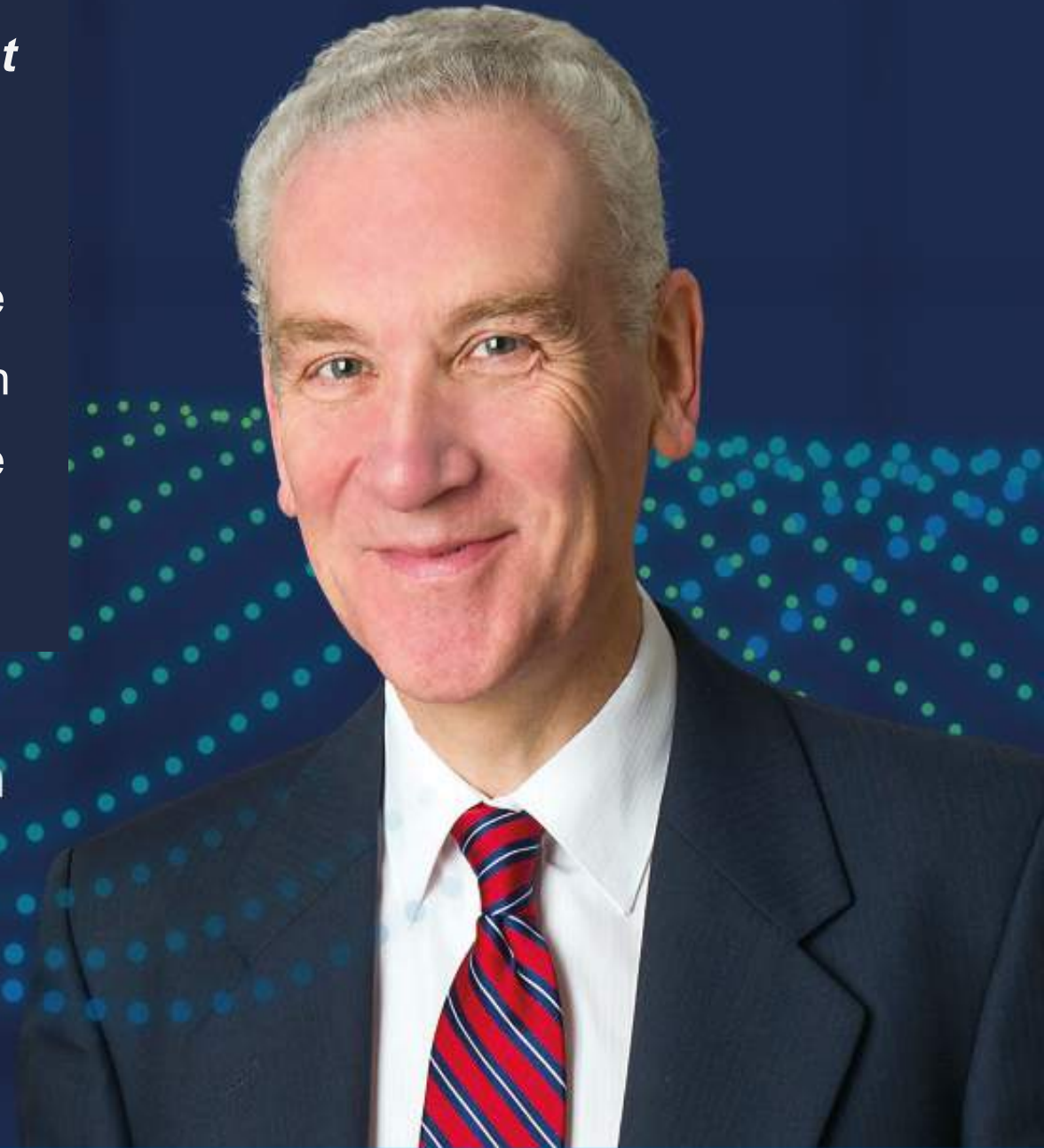






Aberdeen is already taking *significant steps to capitalise on hydrogen*, from infrastructure, to transport and skills, and I look forward to seeing the city continue to take a leading position within this market and ... set the pace for future generations.”

**Councillor Philip Bell**  
Aberdeen City Council Hydrogen Champion





# Hydrogen is here.

**SMART  
HY AWARE**  
Interreg Europe



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