



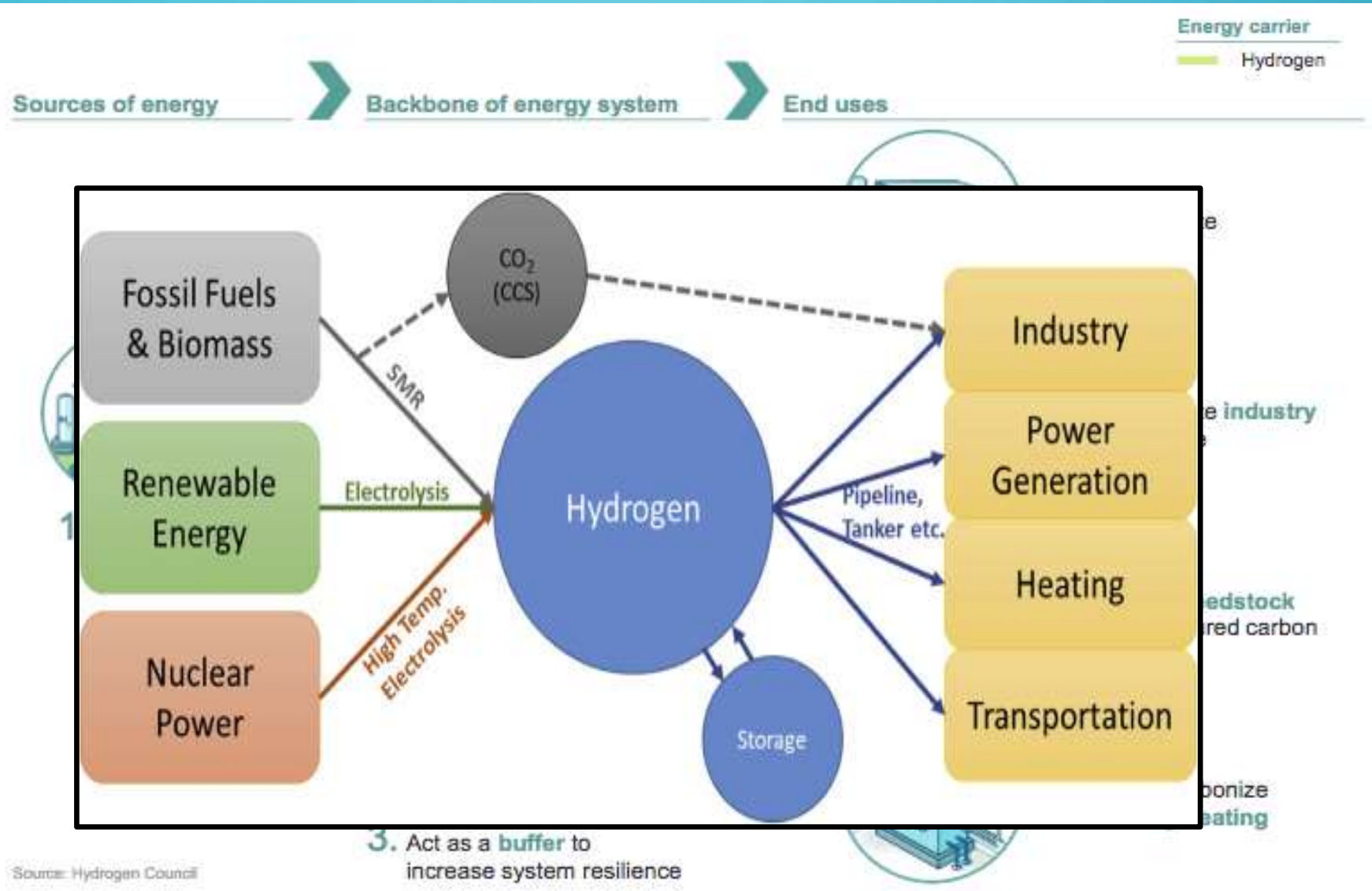
# The Association for Energy, Mobility, Industry and Community

Dr James Carton



#IrelandHydrogen

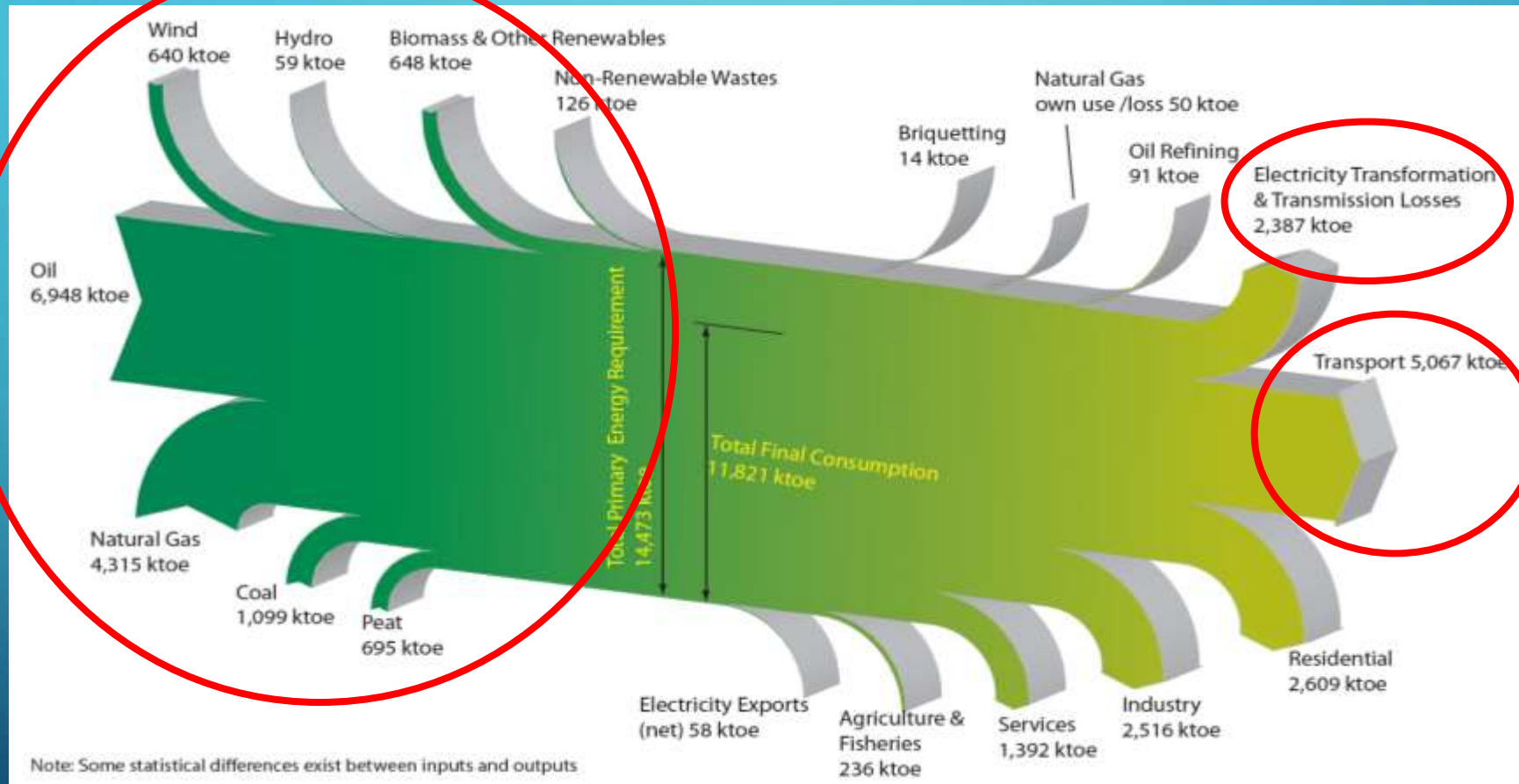
# 7 ROLES OF HYDROGEN TO ENABLE ENERGY TRANSITION



# ENERGY USE IN IRELAND - 2018

89% of Ireland's oil products & c.50% of its gas are imported

18% loss in our Energy System



Conversion base : 1 ktoe = 11,630,000 kWh

Source: [WWW.seai.ie](http://www.seai.ie) Energy-in-Ireland-Key-Statistics - SEAI - 2018

<https://www.seai.ie/resources/publications/Energy-in-Ireland-2018.pdf>

**ONE OF THE MOST IMPACTFUL WAY TO  
DECARBONISE TRANSPORT IS VIA ....**

**... Public Transport..!!**

Emissions standards....

Health of People....

- National: Rural & Urban
- Low Cost
- Connected
- Efficient
- Low Emission ... Let's go Zero Emission!!

# HYDROGEN

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## Zero Emissions Uncompromising Convenience



Electricity stored as hydrogen provides the convenience of today's transportation fuels



Fuel cell vehicles can be developed at any scale, and hydrogen can be used in any type of vehicle



Hydrogen can be produced from unlimited sources and has zero-tailpipe emissions



No need to change current vehicle ownership or operational model



Hydrogen refueling is faster and more flexible than battery charging



Convenient and safe, with fast refueling to meet productivity and emergency vehicle needs



# HYDROGEN

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**Buses & Trucks**



WrightBus &  
Toyota & Nikola



**Trains**



Alstom, Germany  
Austria & soon UK..



**Light Vehicles**



Toyota, Hyundai, Honda, Etc

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# HYDROGEN

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<http://www.seafuel.eu/>

## Valentia Island Ambitions



<http://www.energyco-ops.ie/hydrogen-production-plans-for-irelands-valentia-island/>

## Public Transport & Car Fleets??



# HYDROGEN

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**GD4S** @gd4s\_eu · Feb 27

Power-to-gas has the potential to enable higher integration of intermittent #wind and #solar production and provides higher flexibility in the management of the #energy system.  
#EnergyTransition #CleanEnergyEU #renewables #renewablegas #electricity #sectorcoupling

### POWER-TO-GAS

- ✓ Injects CH<sub>4</sub> & H<sub>2</sub> into the existing gas network
- ✓ Improves the flexibility for electric system

#GD4S

Dominique Ristori, Jean-Michel Glachant, EurogasJames and 3 others

25 33

**GD4S** @gd4s\_eu · Mar 6

Welcome to Gas Networks Ireland inside #GD4S!  
@GasNetIrl joined @gd4s\_eu in February and is the leading gas DSO in #Ireland.  
GNI key figures:  
👤 688 000 end users  
📏 11,800km of distribution network  
🌱 Soon injecting #renewablegas in its grid  
🚗 Committed to the #q\_mobility



## Gas Networks Ireland

Grainne Greehy, Ian O'Flynn, Ian Kilgallon and 7 others

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Hydrogen  
Ireland

THANK YOU.