HYDROGEN & FUEL CELL CARS

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Energy at Birmingham

July 8th 2011

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HYDROGEN & FUEL CELL CARS

- The Paradox
- A plausible solution.
- The way forward.

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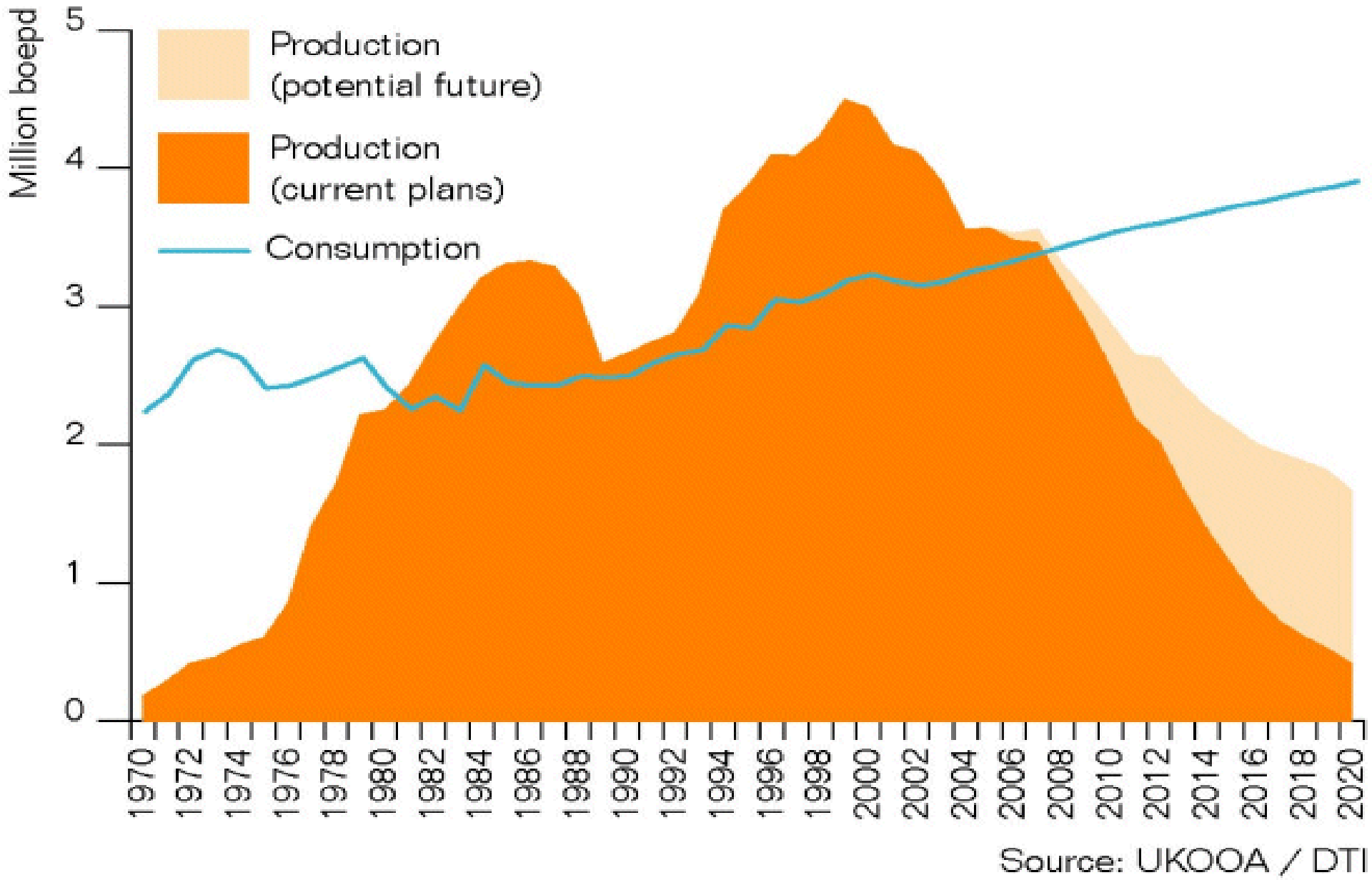
THE PARADOX

- 1 bn cars now on planet
- Will be 5bn cars by 2050
- Fossil fuel running out

THE NORTH SEA HAS A MESSAGE



SOLUTION: HYDROGEN FUEL CELL CARS

- NO EMISSIONS
- BETTER EFFICIENCY
- BUT NEED INFRASTRUCTURE

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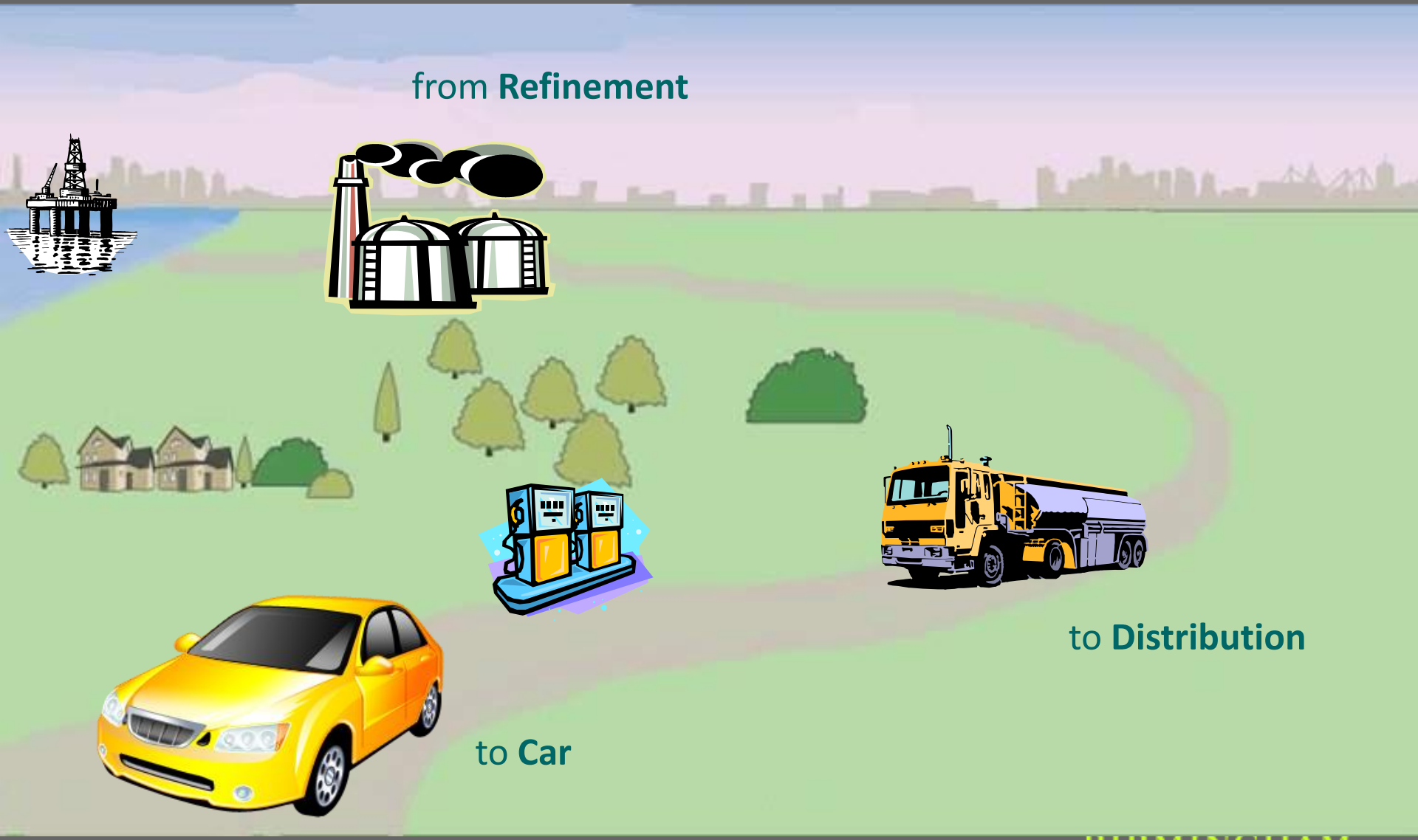
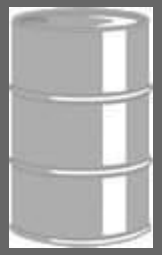
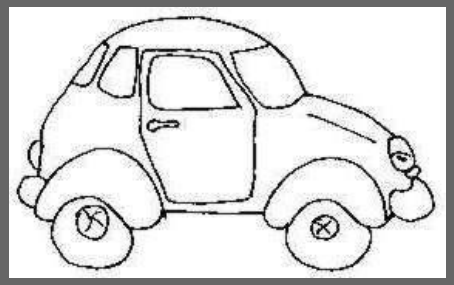
Well to Wheel Approach for Fossil Fuels





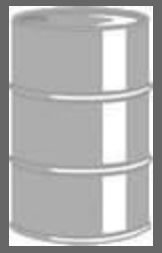
COMBUSTION CAR



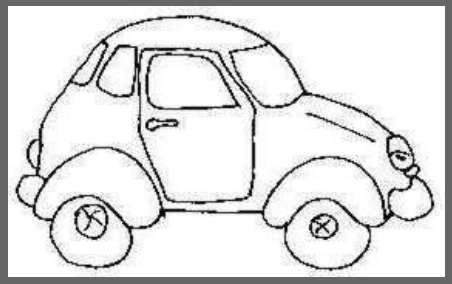
10

100

35



HYDROGEN FUEL CELL



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Possible New Generation

Wind Off-shore wind Wave Solar Nuclear

ONE SOLUTION

1.4 kW

Feed in tariff 40p/unit

Save £500/year

Cost £7000

Return 8%

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100 battery cars delivered & tested

RESULT

Nominal Range	80 miles
True range	56 miles
Filling time	6 hours
Average trip	20 miles

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Hydrogen fuel cell car 2005

MICROCAB & HYDROGEN STATION 2008


MICRO:CAB
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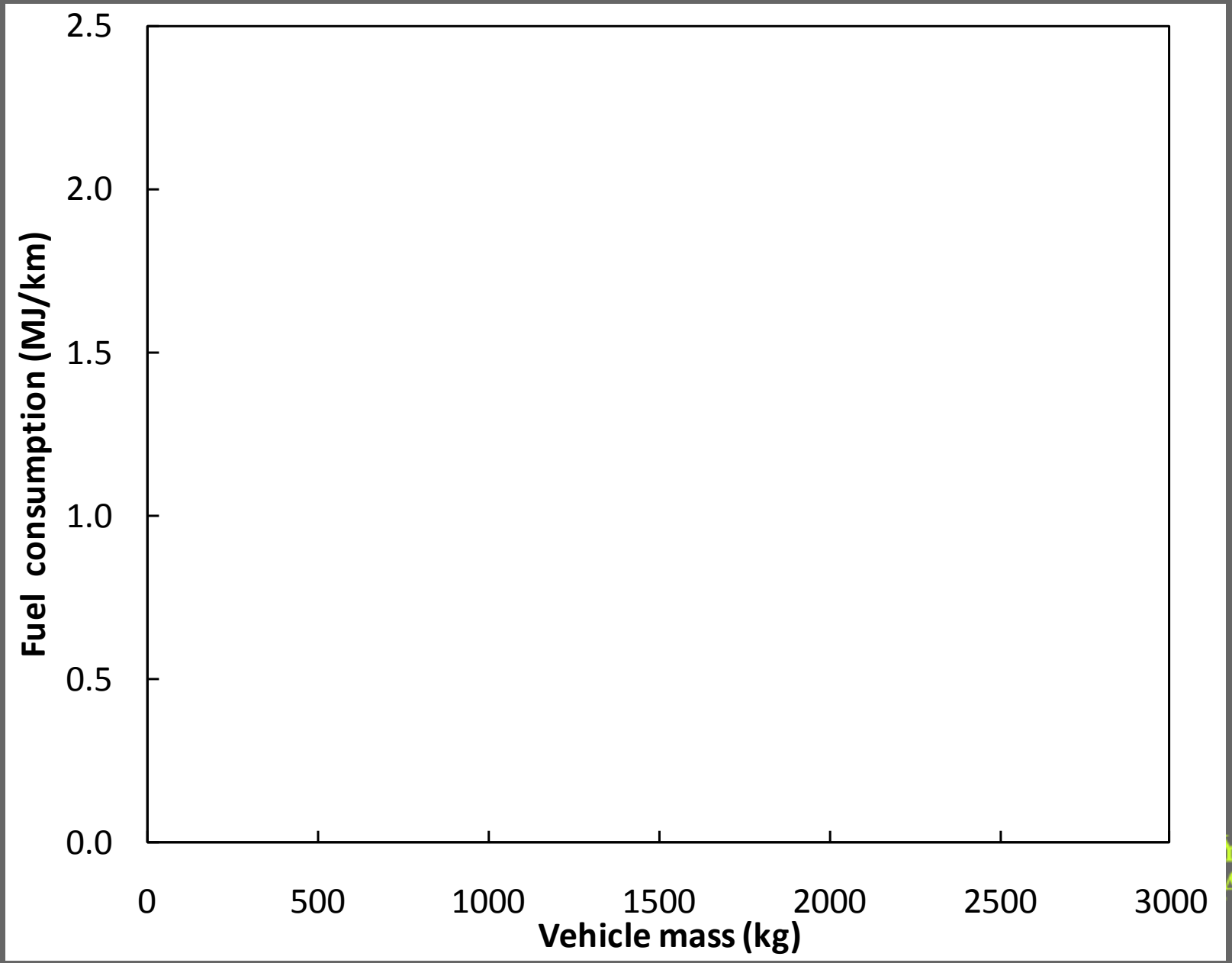
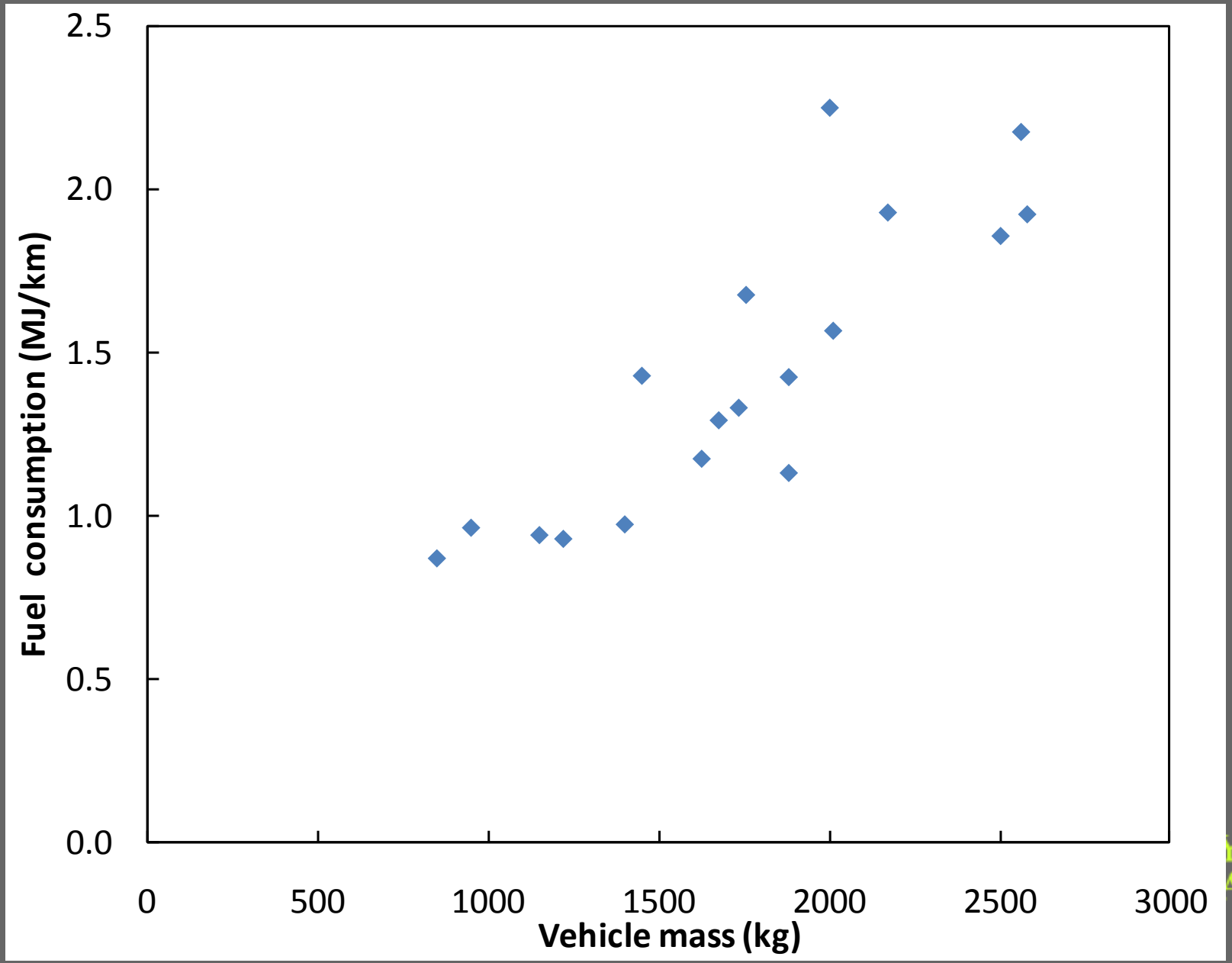
H4 005
H4 003
H4
H4 002
H4 004

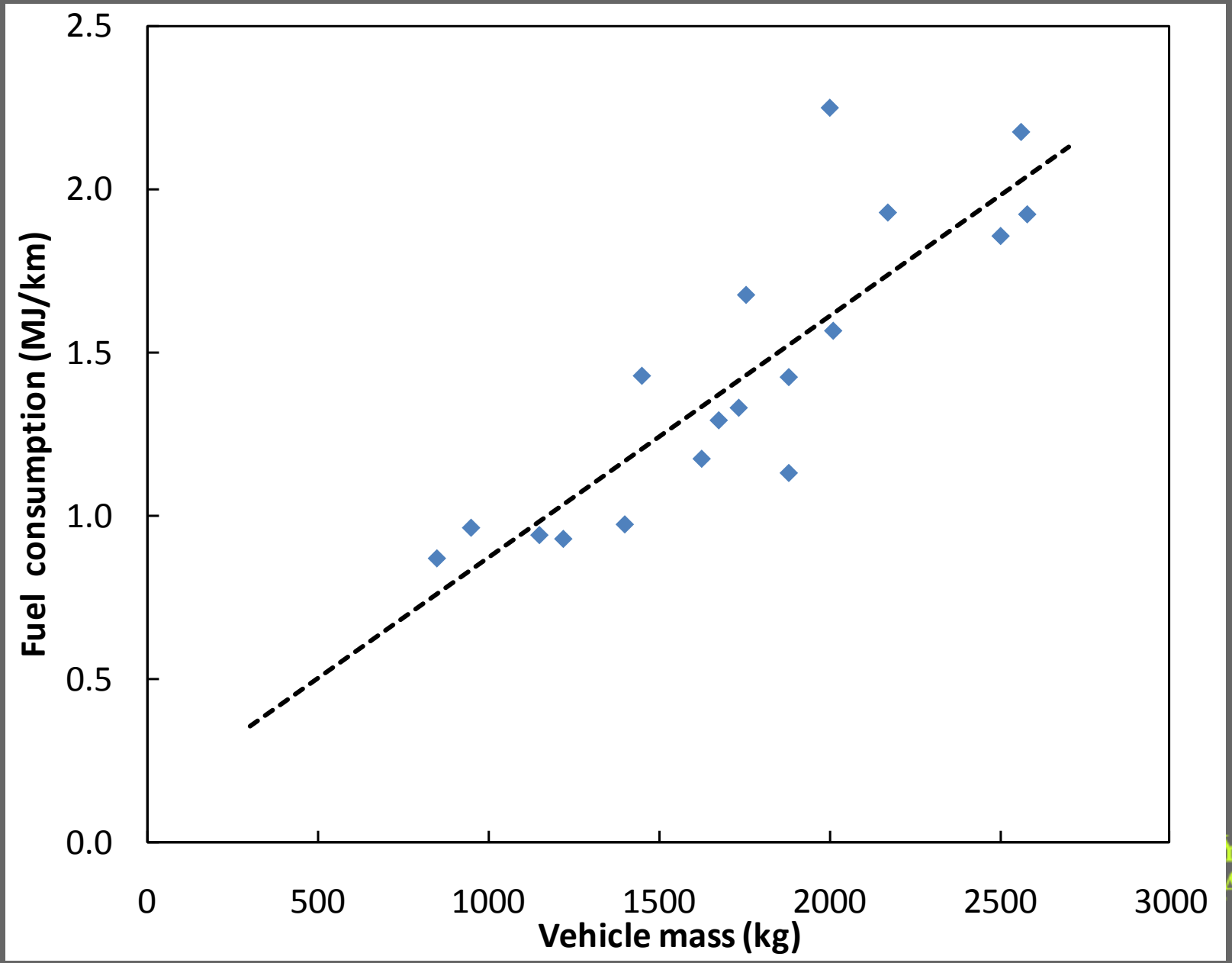
Fuel economy of major FCVs



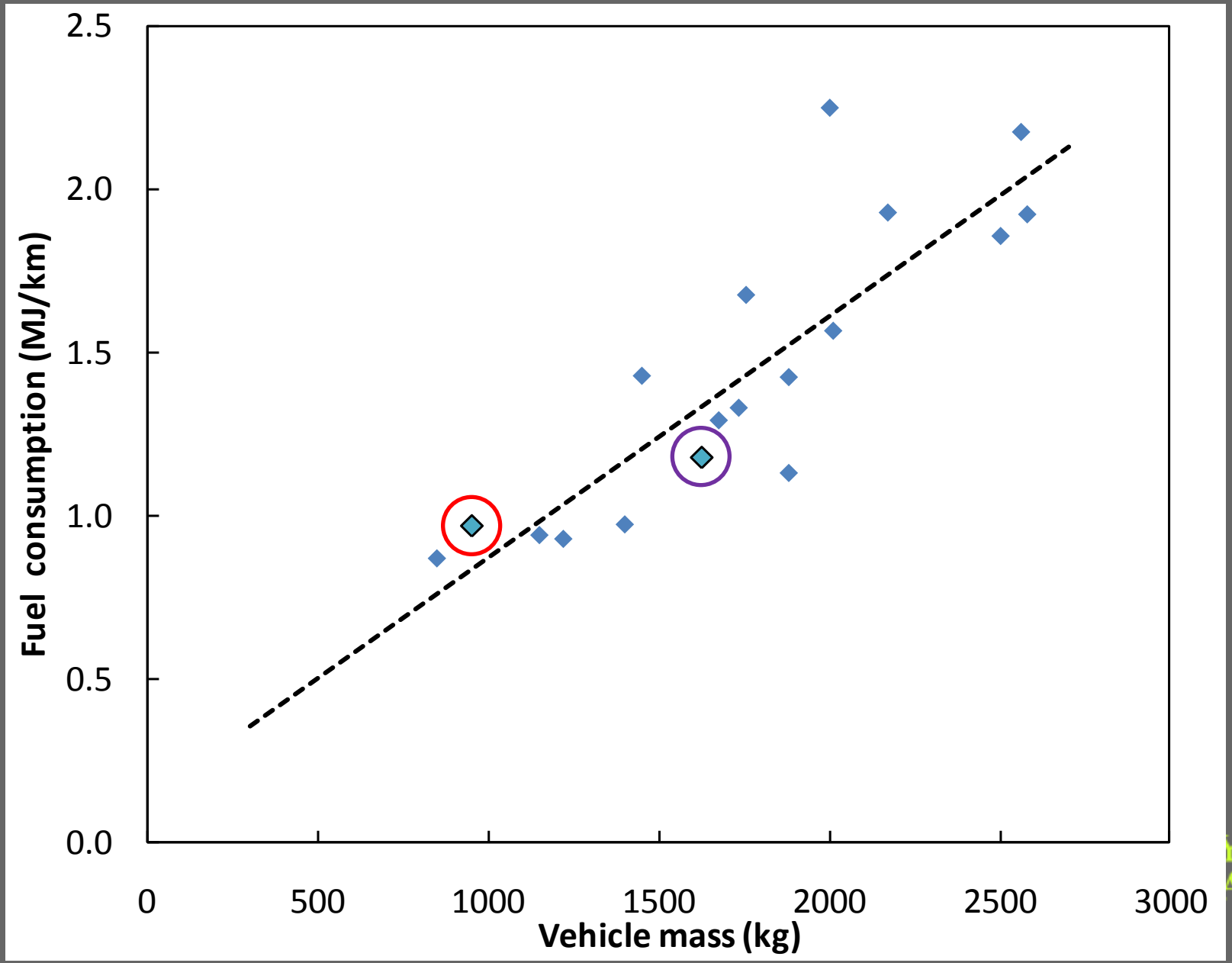
Fuel economy of major FCVs



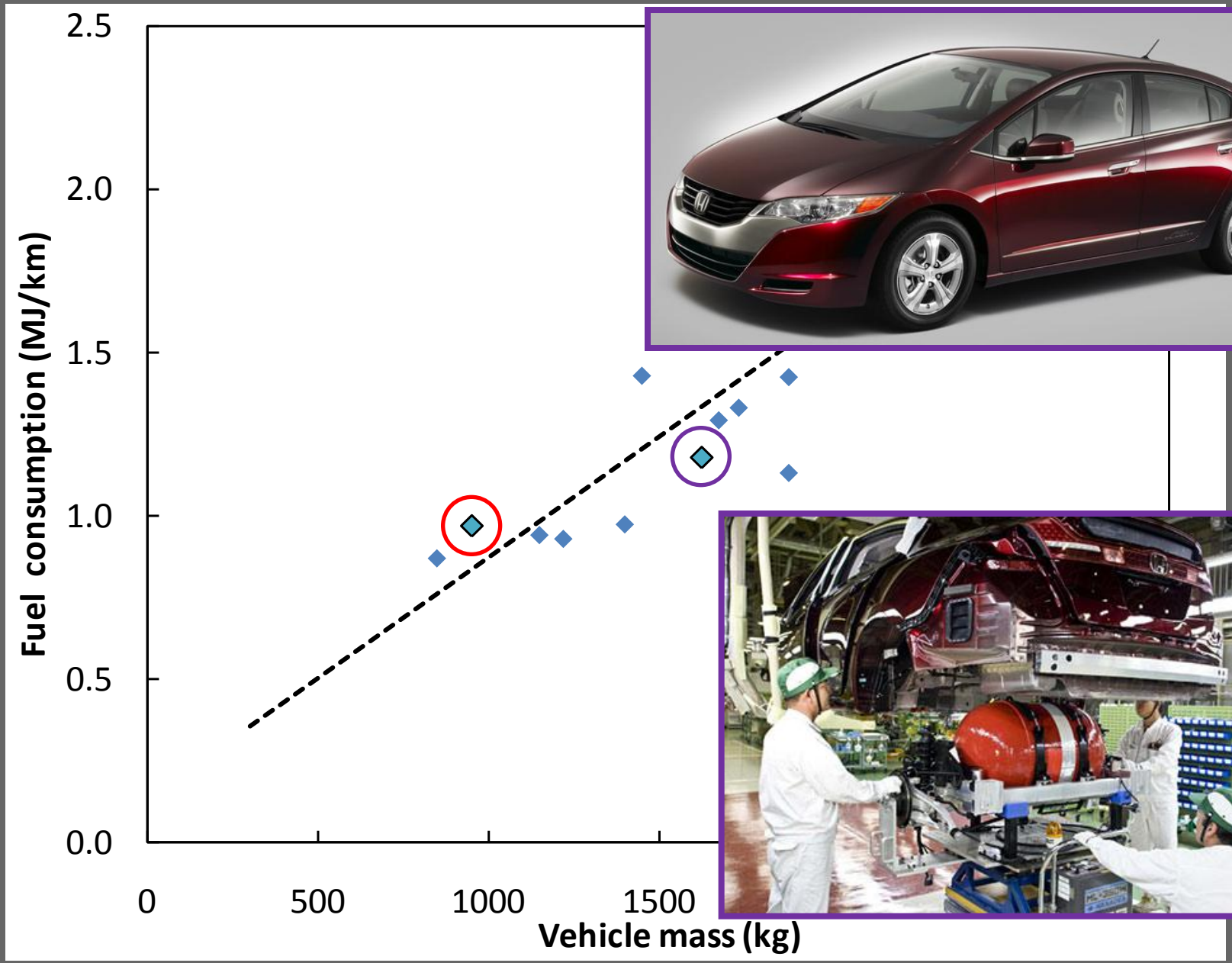
Fuel economy of major FCVs



Fuel economy of major FCVs



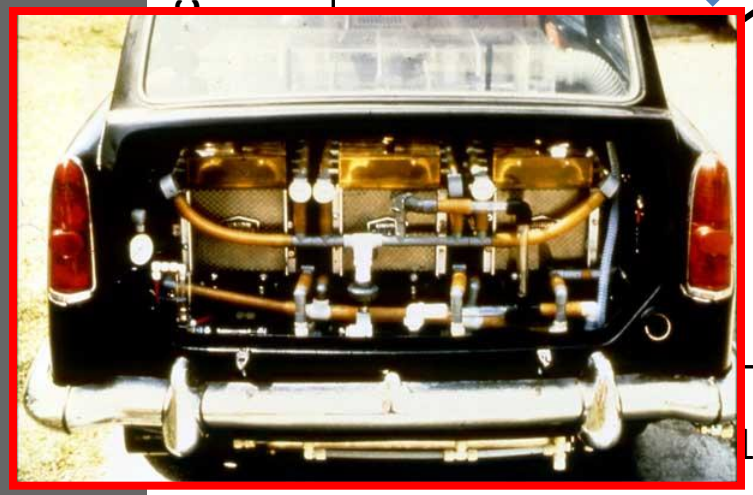
Fuel economy of major FCVs



Fuel economy of major FCVs

Honda Clarity 2008

Karl Kordesch 1970



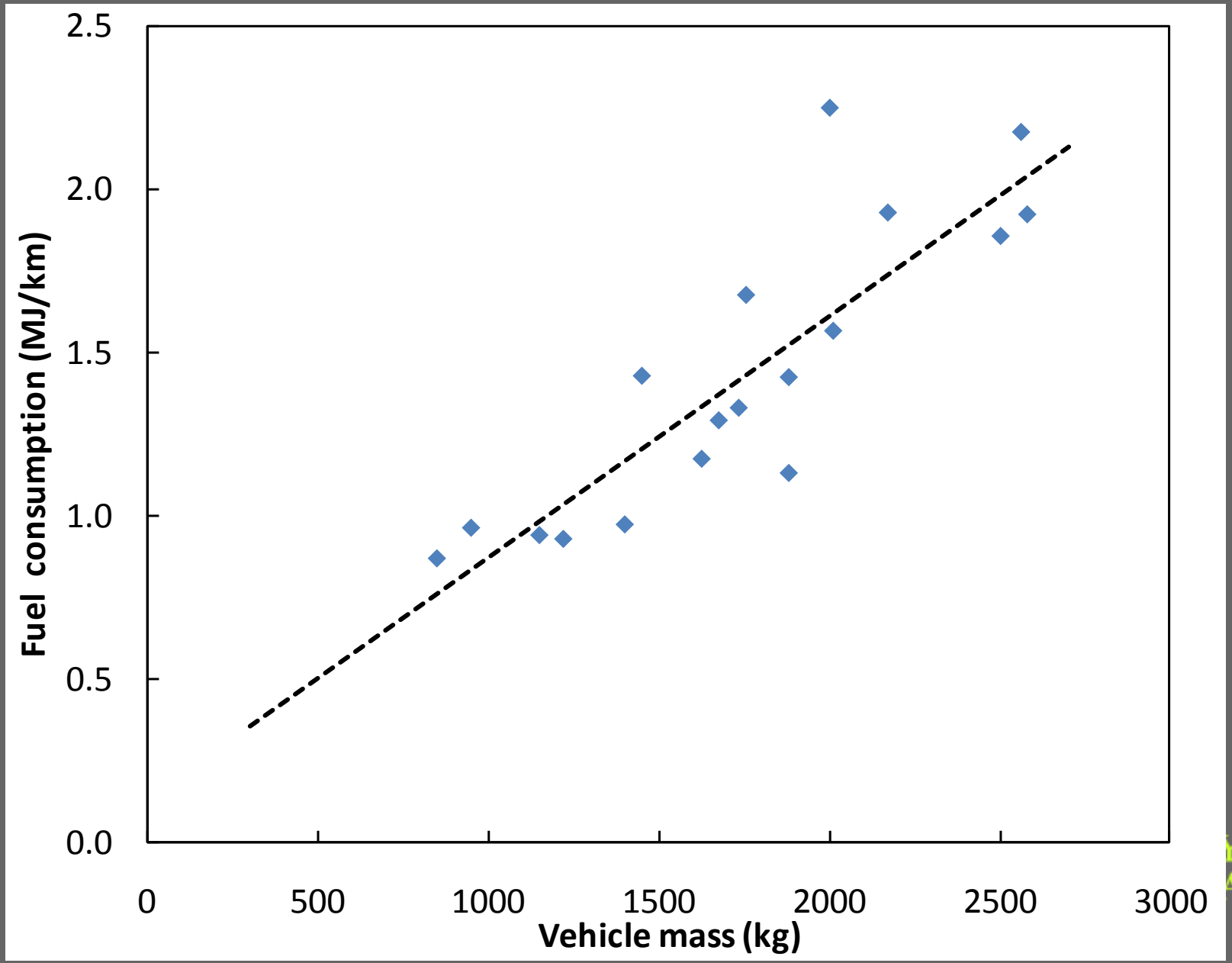
2.5

1000

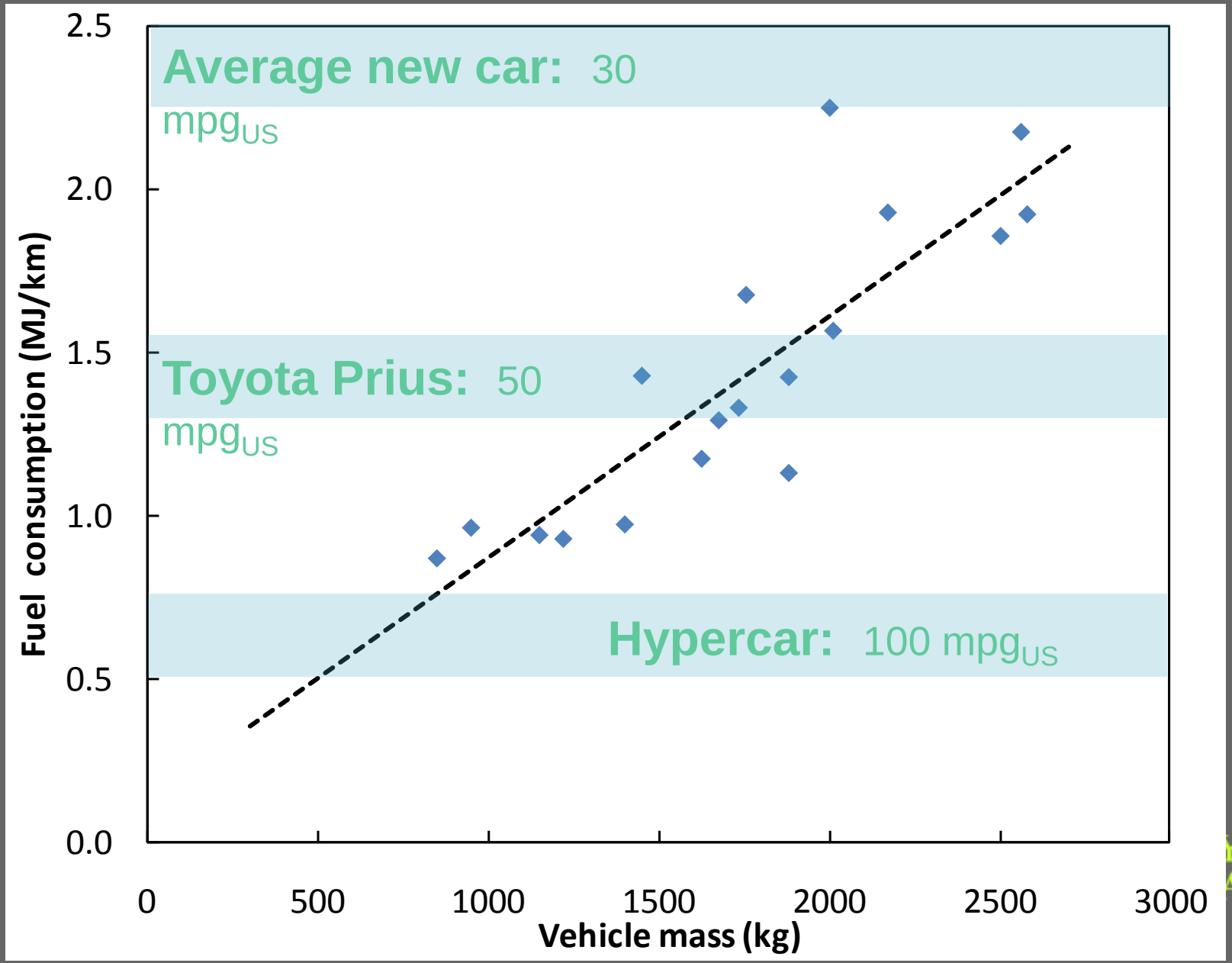
1500

Vehicle mass (kg)

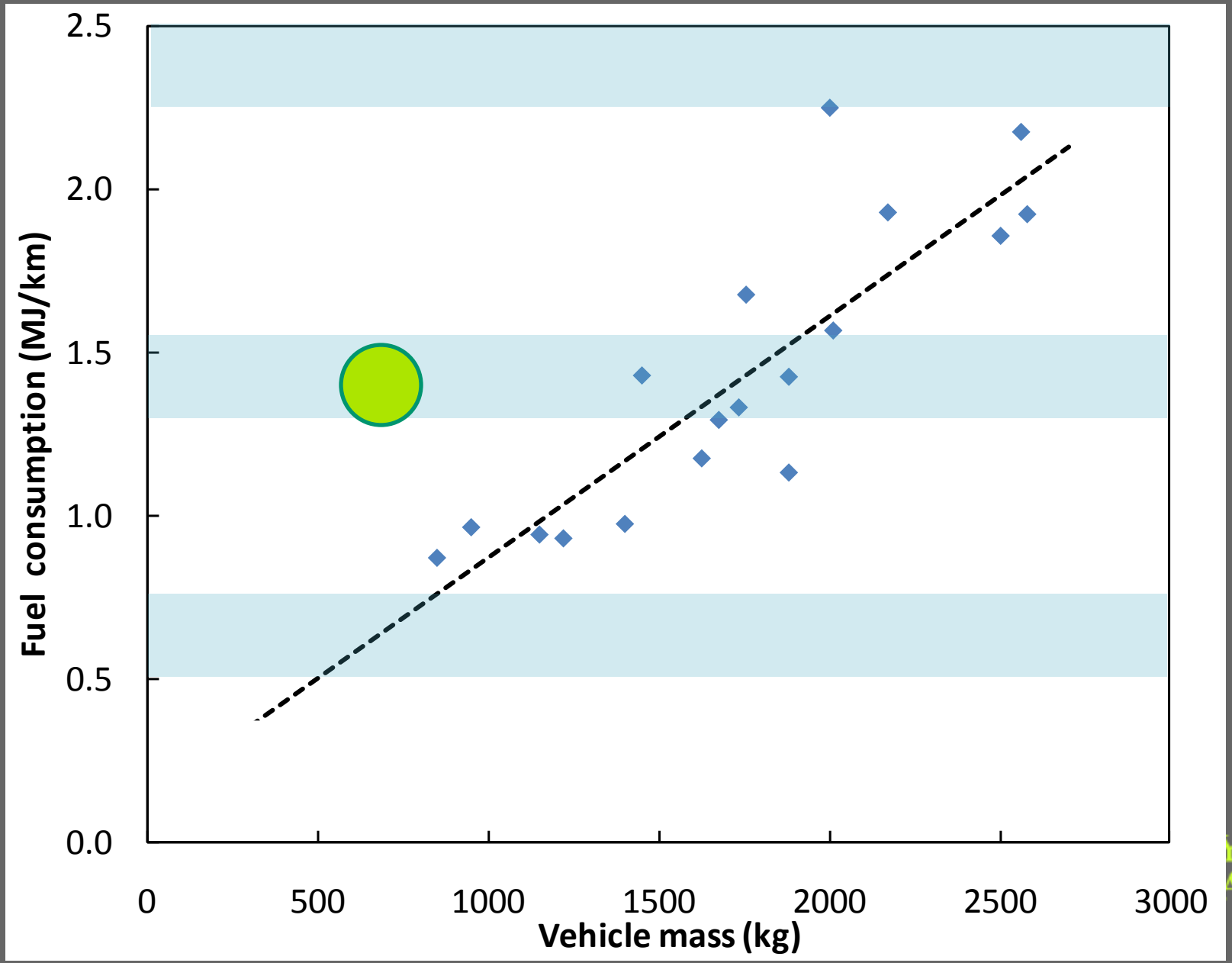
Fuel economy of major FCVs



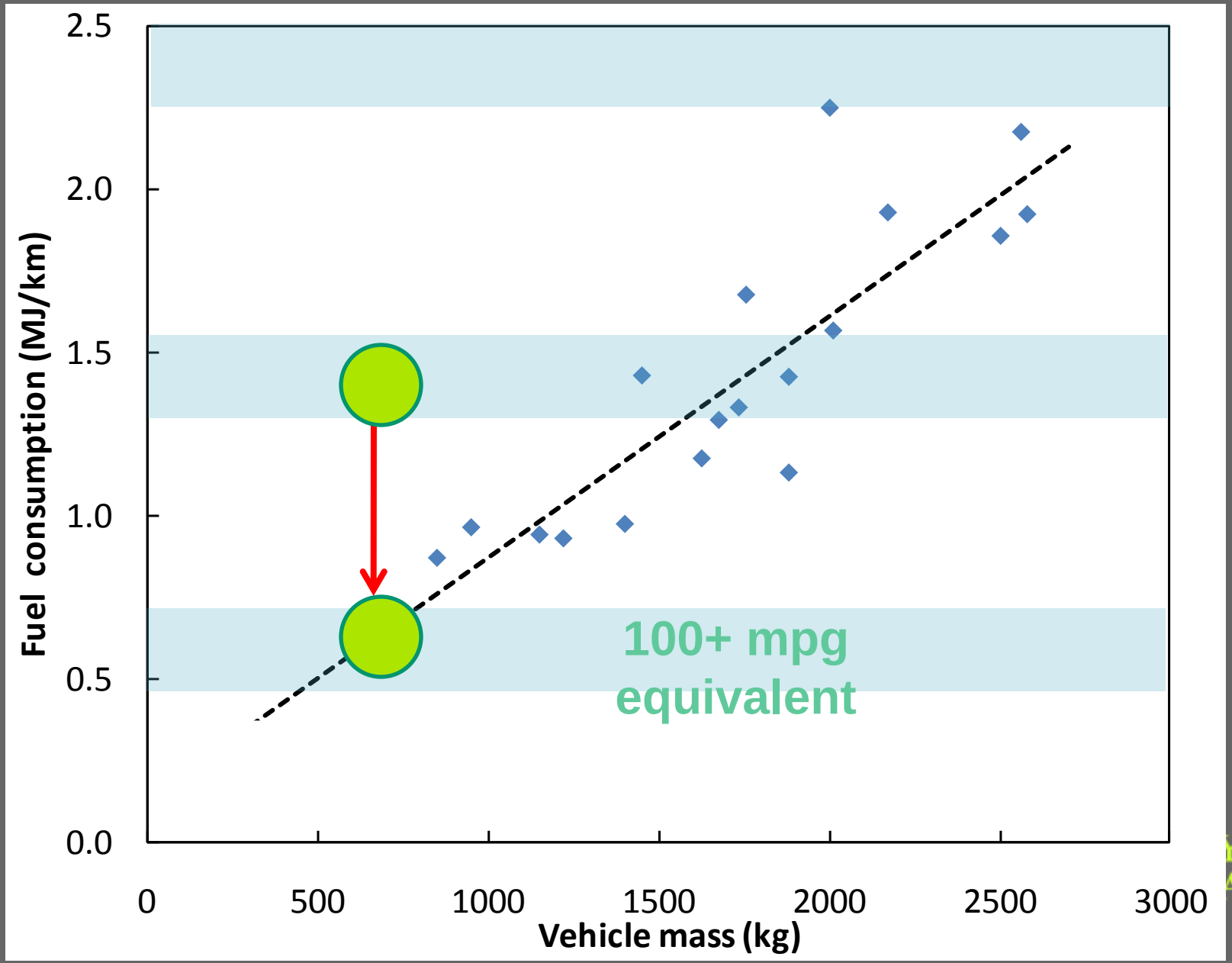
Fuel economy of major FCVs



Fuel economy of UK prototypes

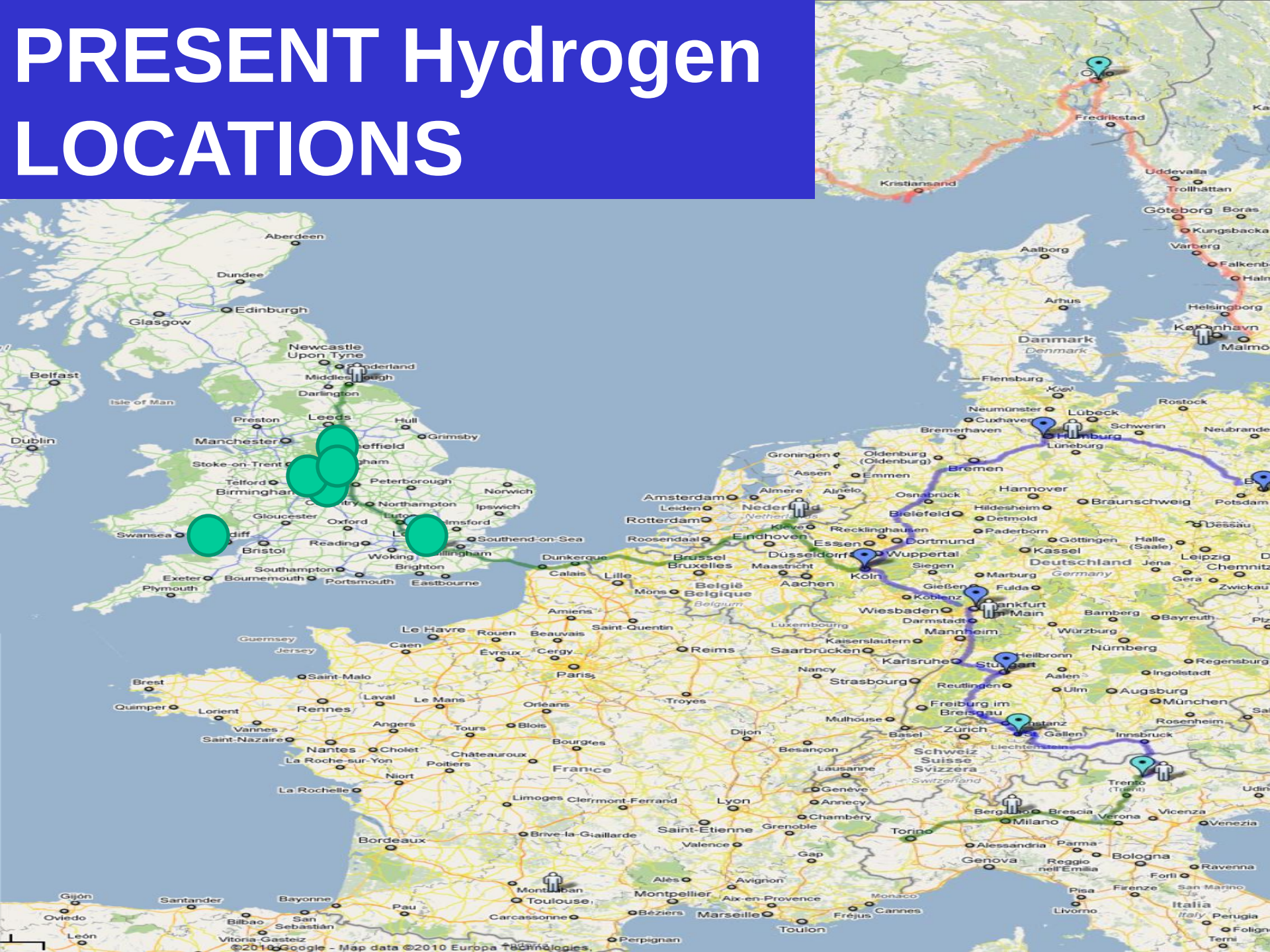


Fuel economy of UK prototypes




AIR PRODUCTS
AIR PRODUCTS
HYDROGEN
FUELLING POINT
KEEP CLEAR

PRESENT Hydrogen LOCATIONS



NEW 2012 LOCATIONS

CONCLUSIONS

- We have a problem
- Hydrogen can solve it
- 2015 is the target

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