



TOURS

23rd-25th September 2009

Ian Papworth

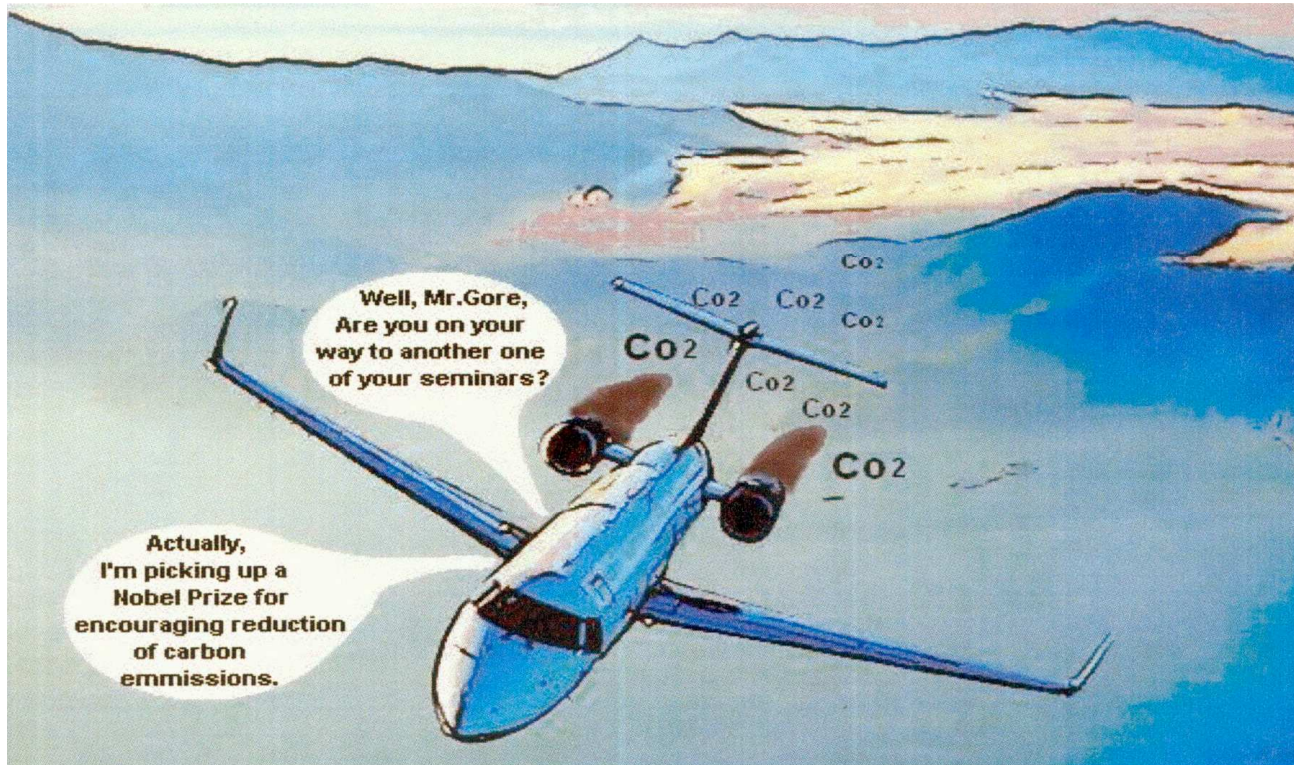


□RAILENERGY

□UIC ENERGY EFFICIENCY

□TRAINER

□WORKSHOP



"It isn't pollution that's harming the environment. It's the impurities in our air and water that are doing it."

--Al Gore, Vice President



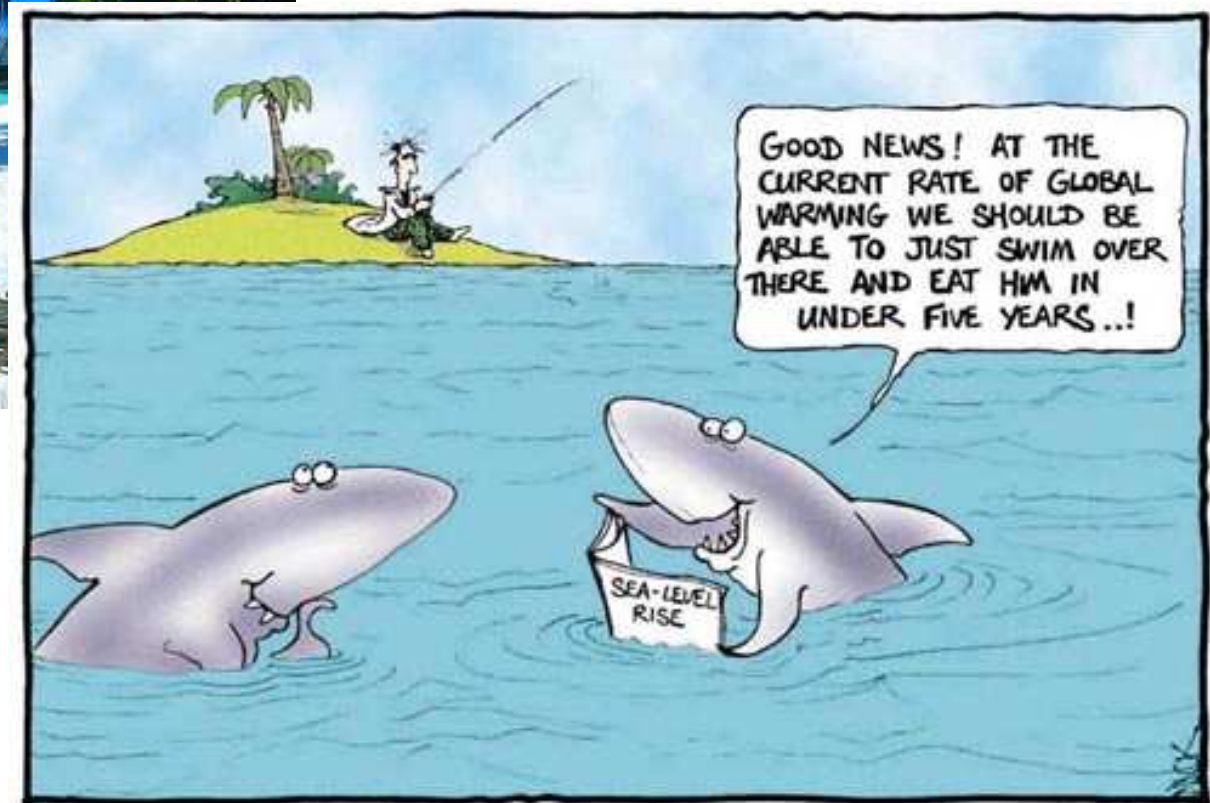
"We've got to pause and ask ourselves: How much clean air do we need?"

--Lee Iacocca

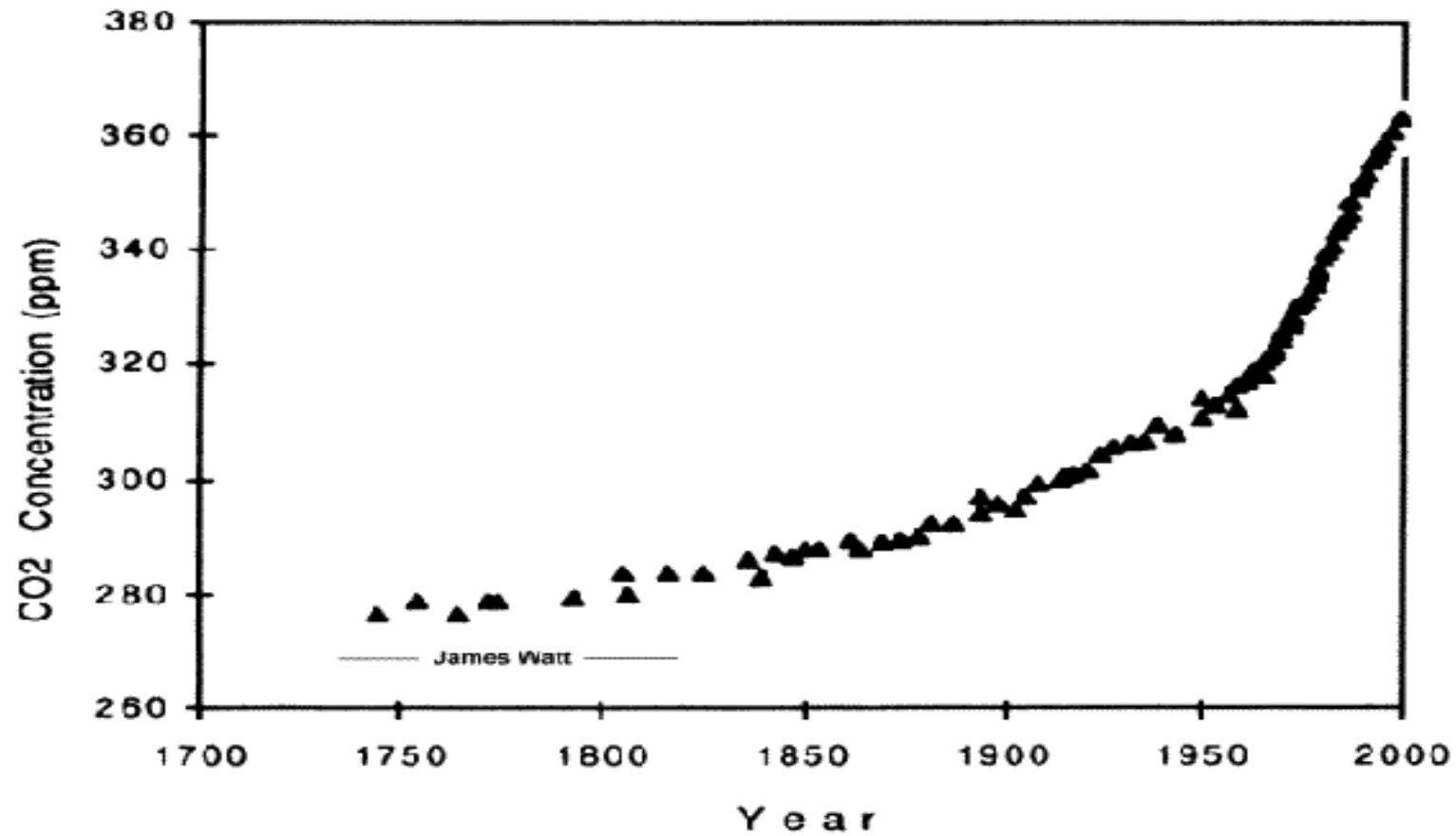
MALDIVES – 2009 dream



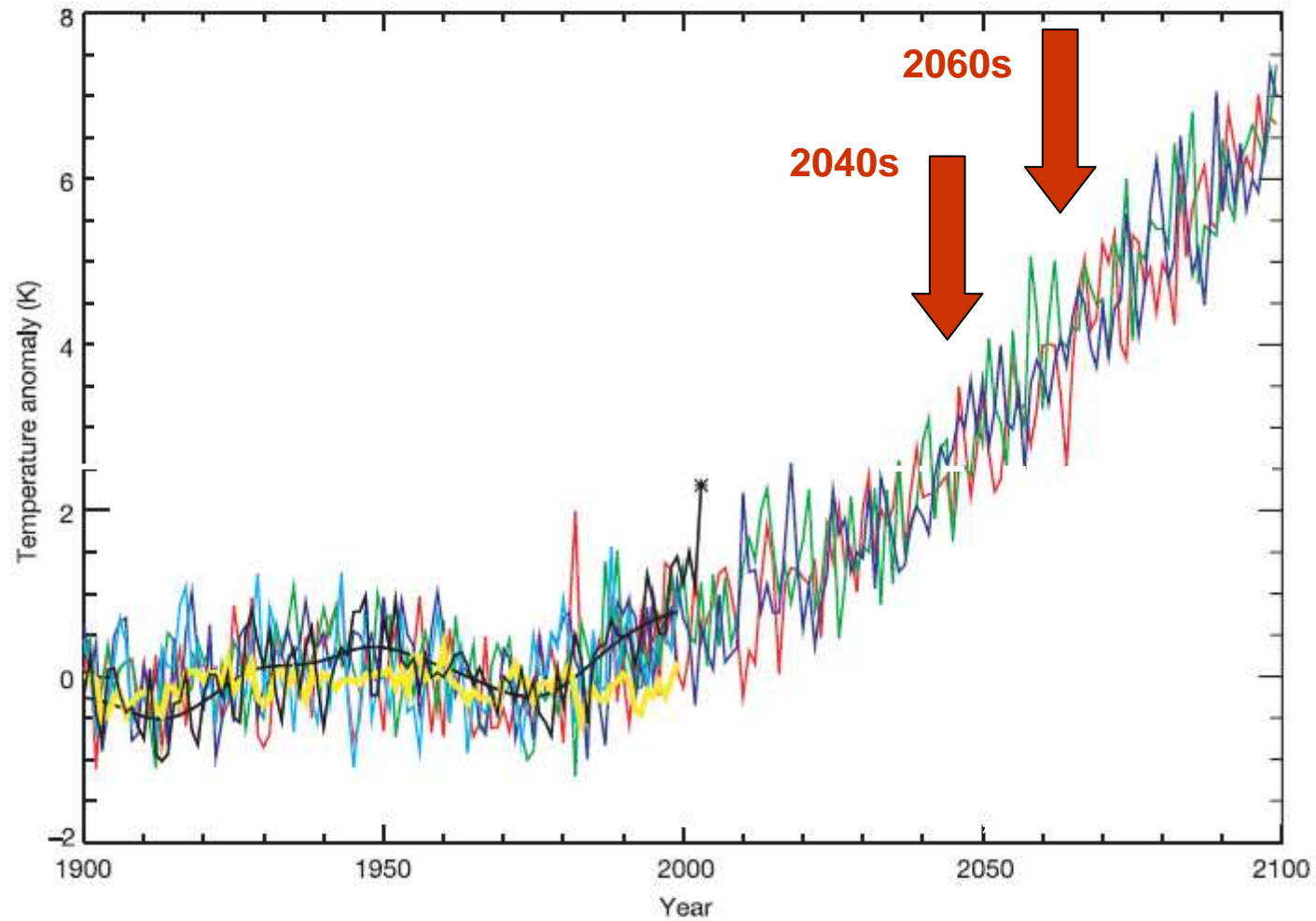
But



Carbon Dioxide 1750-2000



GB Summer heat waves!



Loire :- coming soon?



Huge growth passenger & freight



But when it goes wrong!



Expanding High Speed Network - Europe and Worldwide



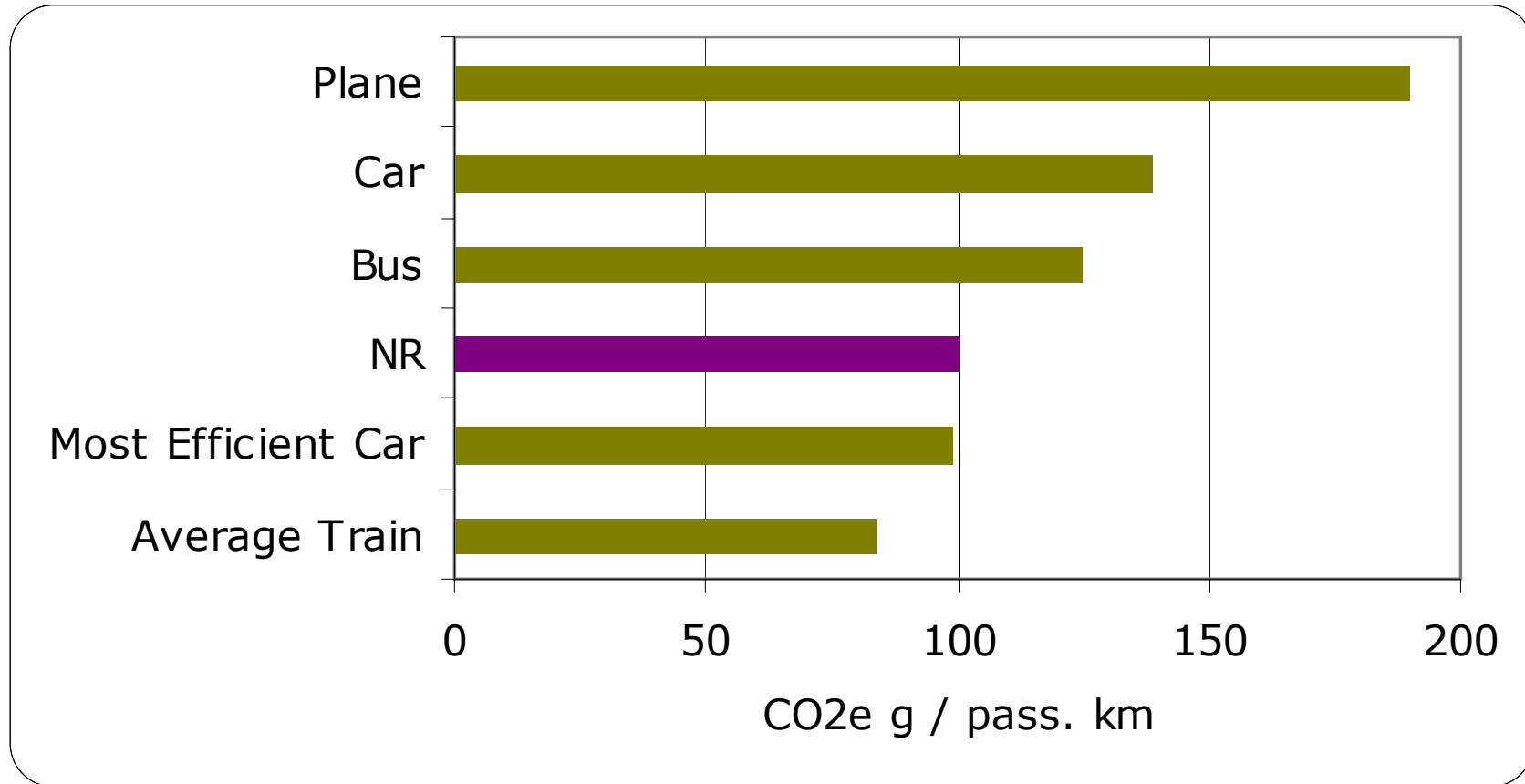
New trains – ‘Eco trains’



**But remember the more mature
(except Switzerland)**



Gosh aren't we good?



**‘Stay as you are and you are deteriorating’-
Beware Complacency!**

Remember the competition



With emerging solutions



< Development – 88gms



Hybrids gms? >



< Hydrogen gms?

Fighting back -

JR East Hybrid >

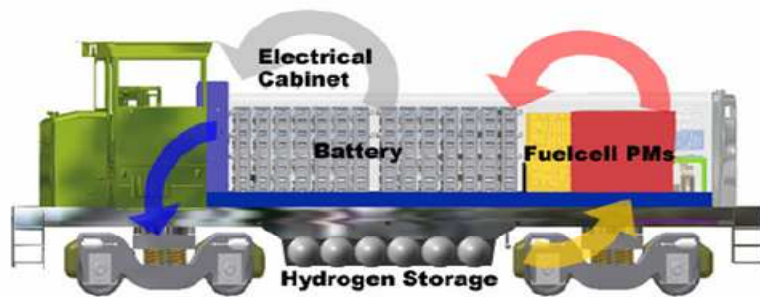


Diagram courtesy of RailPower Technologies

< Hydrogen shunter

Fighting back:- tactical

➤ ‘Can’t measure it can’t manage it’ – metering solutions

➤ Evolving & New technology



➤ Human Influences

- Eco driving
- Driver Advisory Aids

➤ System optimisation / regulation

➤ Stabling loads

➤ Networking – Workshops - sharing best practice

➤ RAIENERGY, TRAINER, UIC- **Process, Power, People**

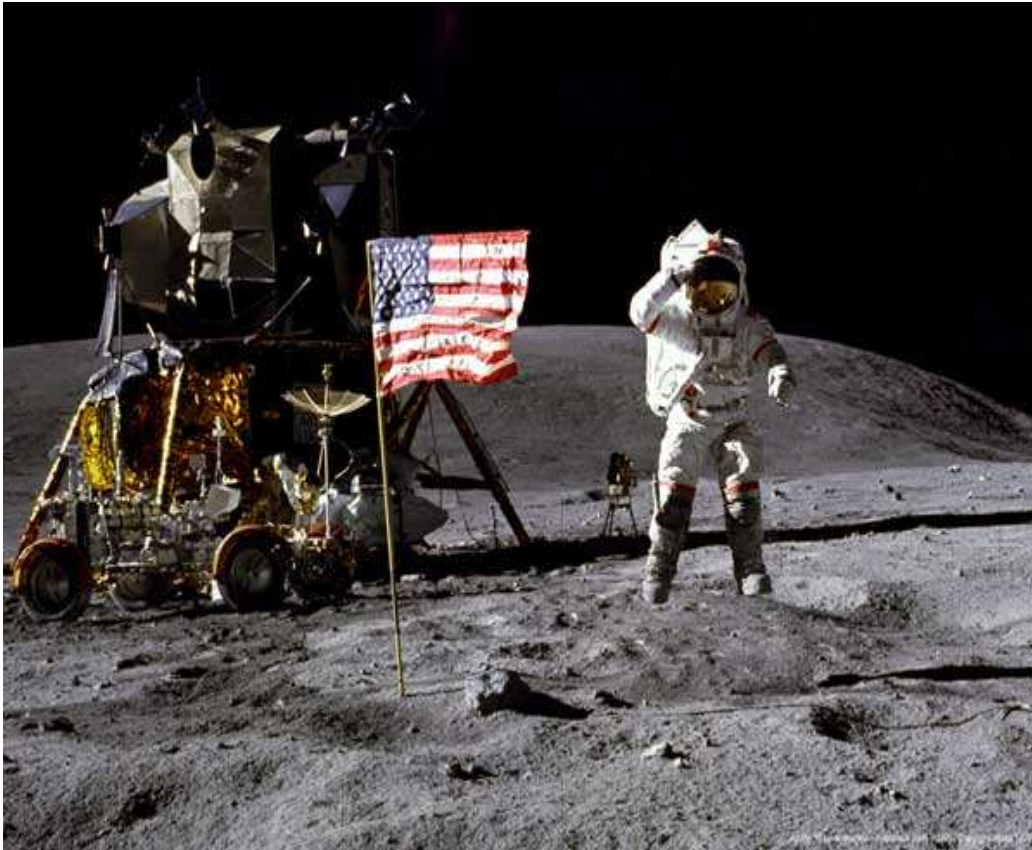
MUCH SIMPLE ‘STUFF’

Our Railway Vision – 30 yrs?



Henning or Enno?

Why a coherent / focussed vision?



‘I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to the Earth.’

John F Kennedy 1961

The long term challenges

- UK Rail Technical Strategy - future challenges for a **30-year horizon**.
- They identify several long-term agendas for Government and the rail industry working in **partnership**.
- Summarised as the '**4Cs**' and '**Balance**' required

CUSTOMERS: delivering a quality service to meet the rising expectations of passengers and freight; **99%**

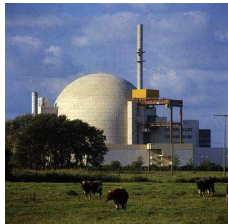
CAPACITY: increasing the capacity of the railway while further improving safety and perf. **DOUBLED**

CARBON: improving rail's environmental performance; **HALVED**

COST: improving the overall cost effectiveness of the railway **HALVED**

Have we started?

- ❖ RAILENERGY, TRAINER
- ❖ RAILWAYS, UIC, UNIFE – 20-30 YR
- ❖ ERRAC, ERA
- ❖ EUROPEAN COMMISSION FACILITATION
- ❖ COUNTRIES ENERGY POLICY



PASSIONATE ADVOCATES



OUR CHALLENGE

□WHAT DID YOU / WE DO?

□WHAT ARE YOU / WE GOING TO DO?

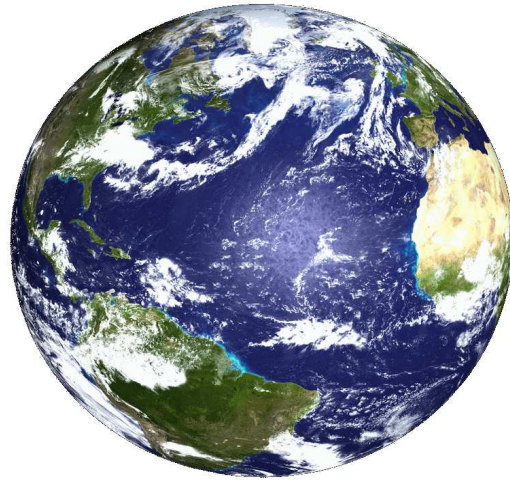
□AT A CRITICAL TIME

MALDIVES 2040- or under the waves?





GET ON WITH IT



THANK YOU

- THANK YOU TO ALL THE SPEAKERS**
- THANK YOU FOR ALL YOUR QUESTIONS**
- HAVE A GOOD EVENING**
- AND MANY 'OPINIONS' IN THE BAR**

