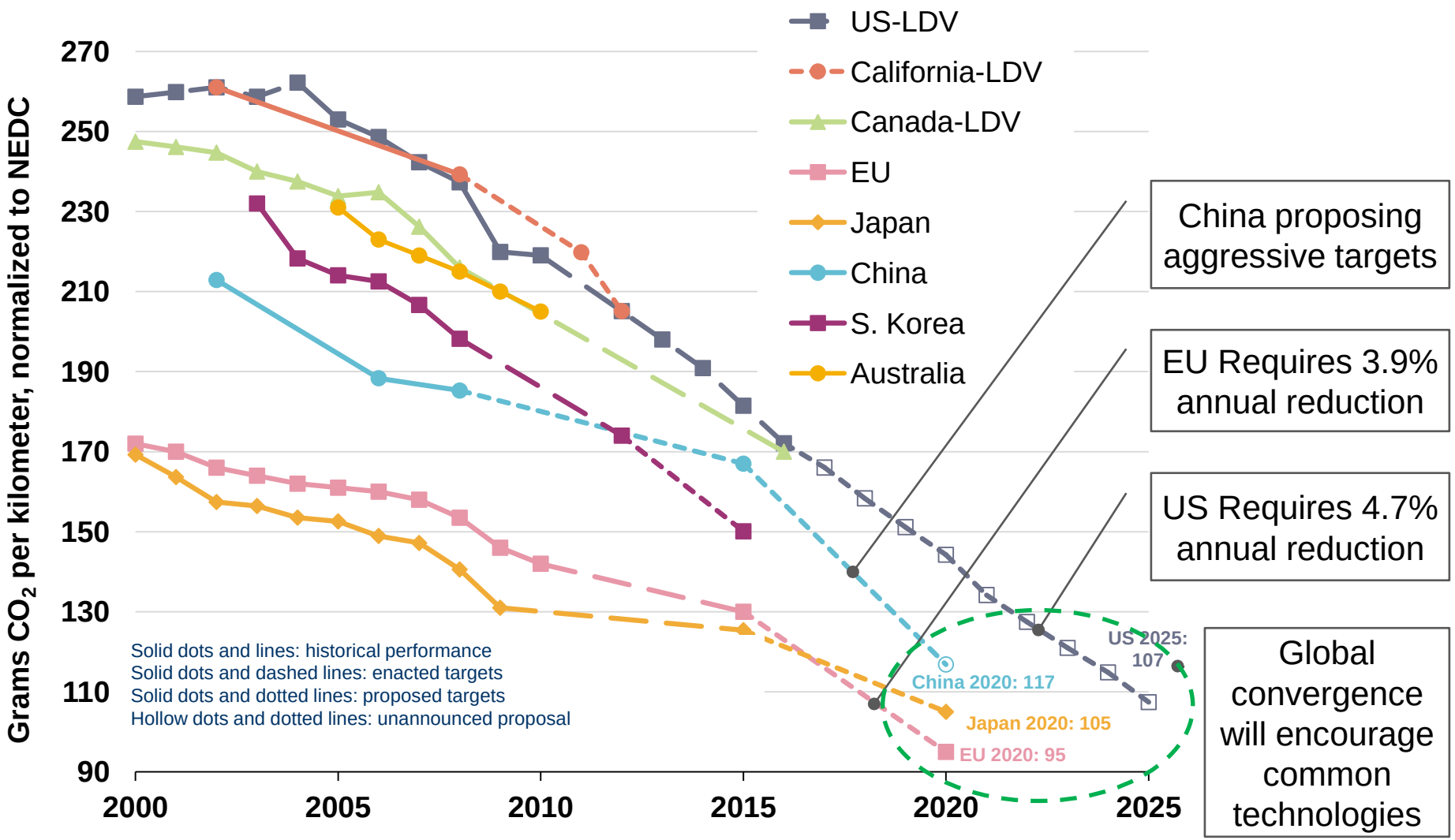
Reducing Greenhouse Gases from Transport

Prof. Neville Jackson
Chief Technology & Innovation Officer
Ricardo plc

© Ricardo plc 2013

The growth of both regulation and targets for Low Carbon Vehicles sets a major challenge for the road transport sector



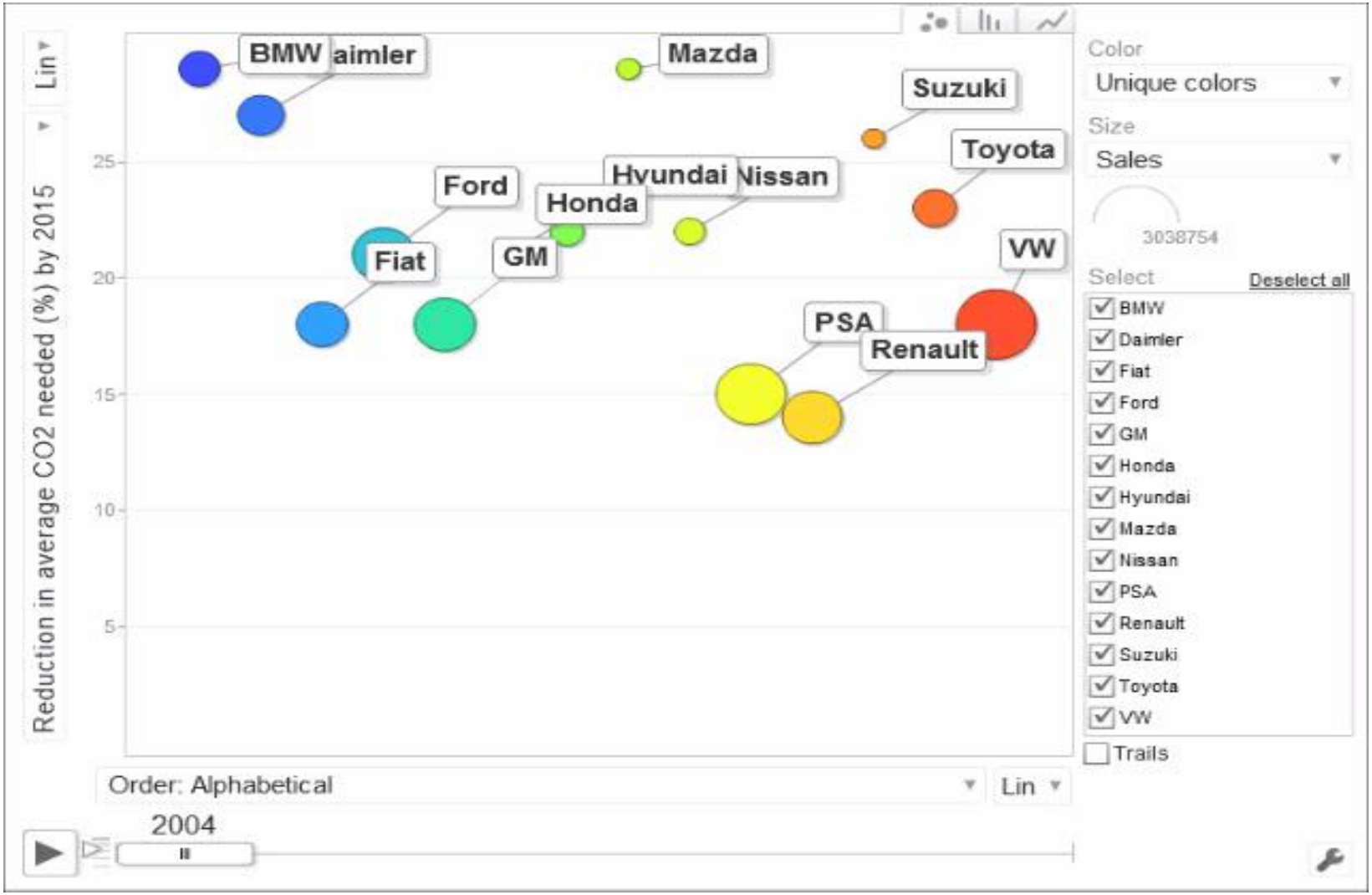
[1] China's target reflects gasoline fleet scenario. If including other fuel types, the target will be lower.
[2] US and Canada light-duty vehicles include light-commercial vehicles.

Sources: http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/Oct2010_Summary_Report.pdf www.theicct.org/info/documents/PVstds_update_apr2010.pdf;

© Ricardo plc 2013

Progress has been made against EU CO_2 legislation, and most Vehicle OEM's now admit that they will meet the 2015 targets

Progress against 2015 130g CO_2 / kM target



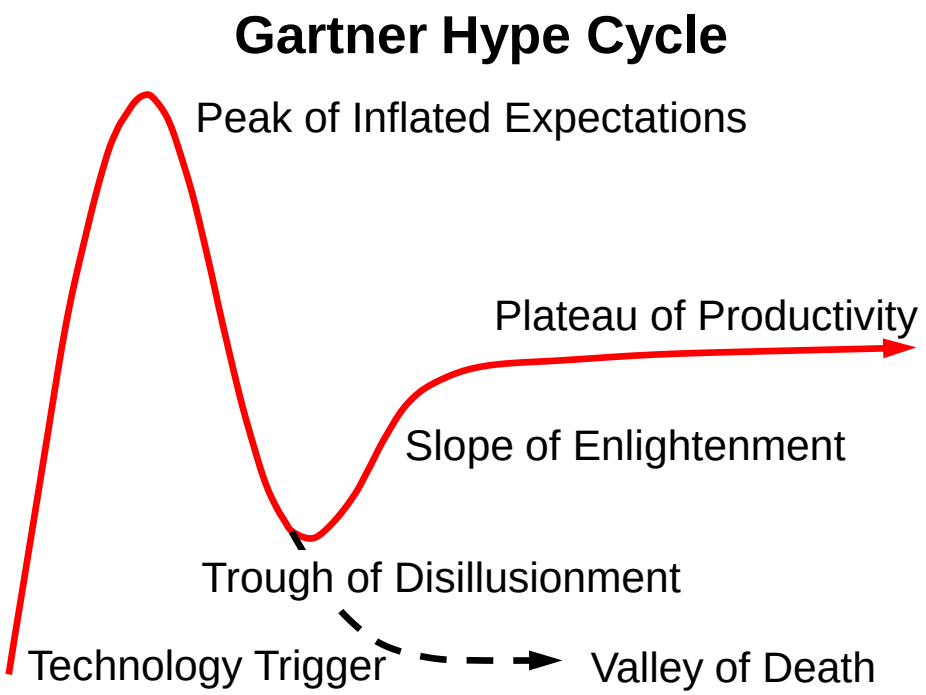
Source: http://www.transportenvironment.org/what-we-do/cars-and-co2/background

© Ricardo plc 2013

Be wary of jumping from one “favoured” technology to the next – there are no silver bullets, just hard work & persistence!

- Technology & “Fashion”

1980	Synthetic Fuels (Oil Crisis)
1985	“Adiabatic” Insulated Engines
1990	Methanol
1995	Electricity (CARB & EV1?)
2000	Hydrogen & Fuel Cells
2005	HCCI & “Alternative” Combustion
2007	Biofuels & Ethanol
2009	EV’s & Plug-in Hybrids
2013	What’s next?



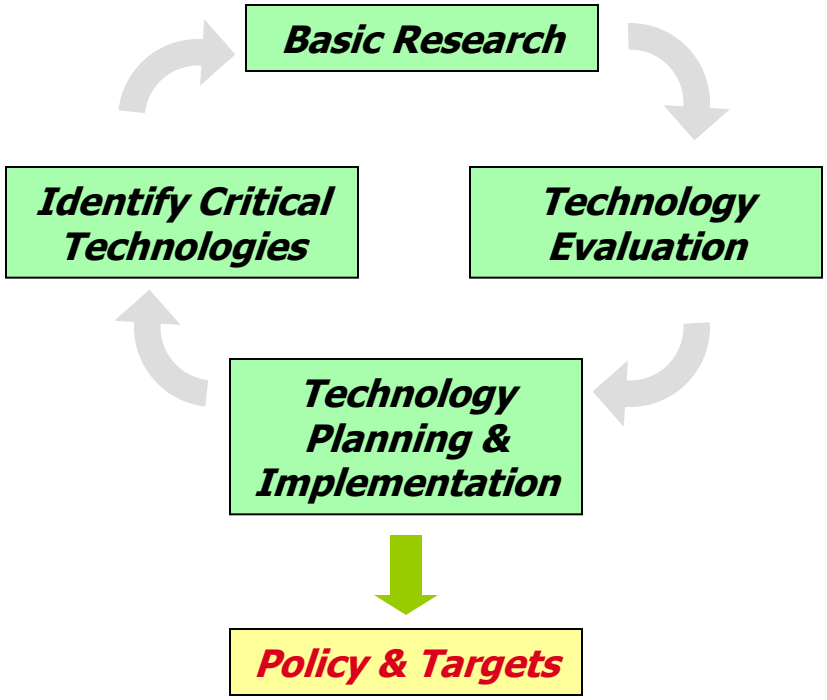
- Policy makers often look for a “simple” solution that makes good headlines
- Auto Industry sometimes too eager to promote promising “Green” techs for PR

- Where are they now?
  - Biofuels
  - Plug-in Hybrids & EV’s
  - HCCI / Alternative Combustion

© Ricardo plc 2013

Policy & Targets should be developed through robust analysis of future technology capabilities, costs & impacts

- Future transport and mobility targets in Europe likely to be increasingly reliant on development of new technologies and fuels
- Targets must be consistent with the capabilities of these new technologies or will be considered by industry as unrealistic
- Robust technology forecasts and resultant product capabilities must be a key part of any planning exercise
- Technology planning increasingly complex:
  - Interaction between safety, security, mobility, energy use
  - Technology often developed for competitive advantage
  - Research required for technology planning itself
- Policy & Targets should be developed through analysis of future technology capabilities



© Ricardo plc 2013

The best technical advice likely to come from Multi-stakeholder groups – beware of the "independent expert"

- Some thoughts on technical advice:
  - No such thing as an "Independent Expert"
  - Lobby groups never provide a balanced perspective (they would say that, wouldn't they")
  - Multi-stakeholder groups usually provide the best perspective
  - Incentives for engagement in multi-stakeholder groups – avoid the opportunity for policy "vacuum" – publicise what you all agree on
- Some Organisations that can offer good advice:

automotive council UK

- Inclusive Automotive Advisory Group
- Chaired by BIS SoS & Key Industry leader
- Consensus Roadmaps/UK Focus Areas/Supply chains

LowC VP
low carbon vehicle partnership

- Focus on accelerating deployment of Low Carbon Vehicles
- Over 200 Organisations - VM's, Fuels, user groups, NGO,s
- Car labelling, Biofuel certification, Low Carbon Buses

ERTRAC™

- European Road Transport Research Advisory Council
- All EU Road Transport Stakeholders
- Define long term targets & R&D priorities to deliver these

© Ricardo plc 2013