



# AirTN Nextgen Workshop

Information and Considerations from the European Commission



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# Changes at the Commission Services

## New Management for Transport/ Aviation Research

- Ms Ruxandra Draghia-Akli is new Deputy Director General DG for the Research Programmes (incl. Transport) since 1 Sept. 2016
- Ms Clara de La Torre is Director RTD-H Transport since 1 Febr. 2016
- Dr Sebastiano Fumero is Head of the Aviation Unit RTD-H.3 since 1 April 2016



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# Clean Sky JU

## **New Executive Director of Clean Sky JU to come**

- Term of Eric Dautriat as Executive Director Clean Sky ended on 15 September 2016.
- The selection process for a successor is on-going.
- Tiit Jurimae, RTD-H.1 and former head of Aviation Unit acts as the Clean Sky Interim Director.

## **CS2 Mid-term Assessment starts**

- The Clean Sky 2 Mid-term assessment starts in November 2016.
- Panel of independent experts looks at all transport related Joint Technology Initiatives (JTIs) together.



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# Horizon 2020

## Work programme 2018-2020

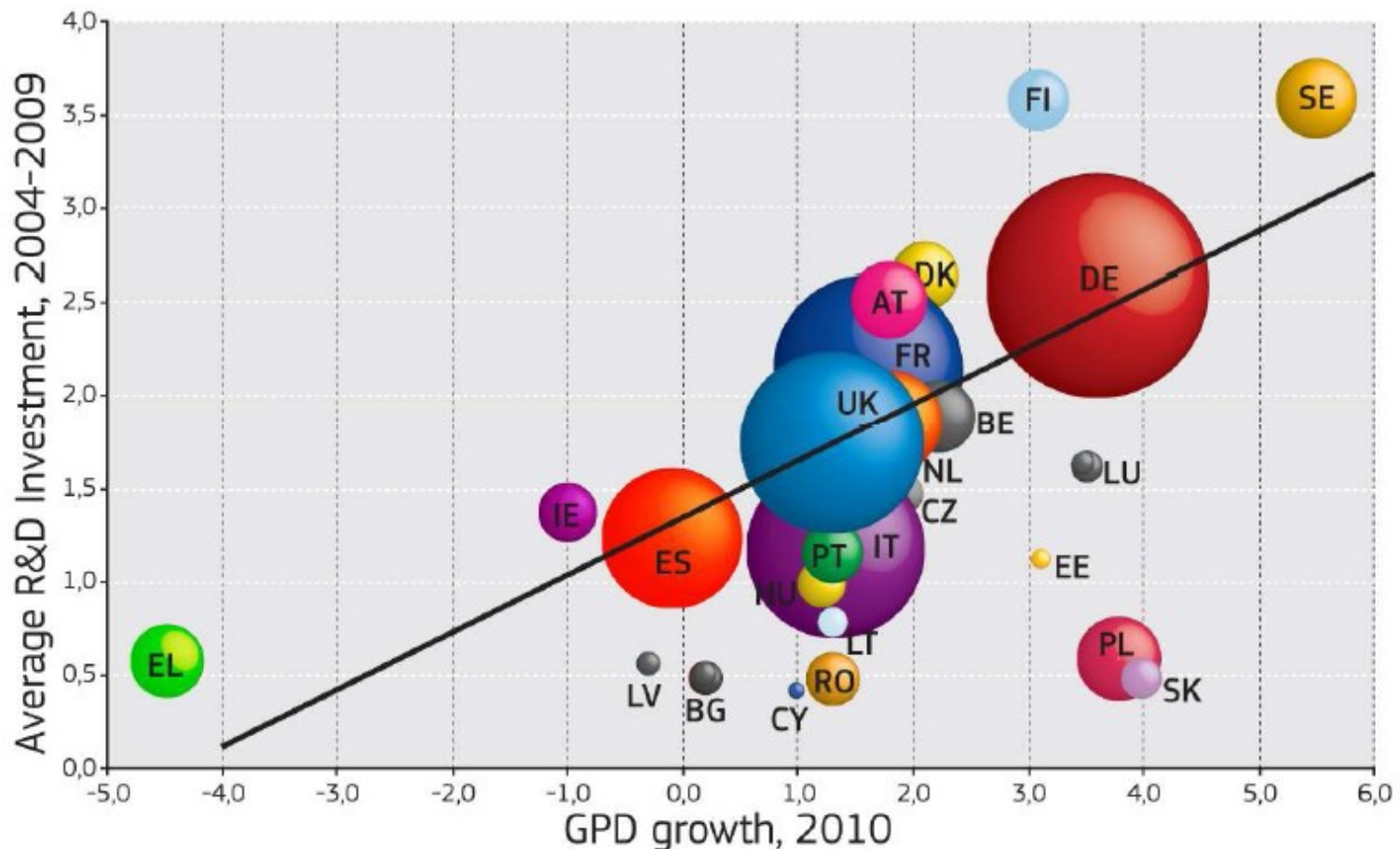
- A scoping paper of the WP 2018-20 has been endorsed by the PC Transport on 27 Sept. 2016;
- Full text of the WP 2018-20 discussed with the Member States in early 2017. The approved version will be published in July 2017 together with Call 2018;

## Call for Proposals 2017

- The Call 2017 is open from 20 September 2016 with a closing date **27 January 2017**.



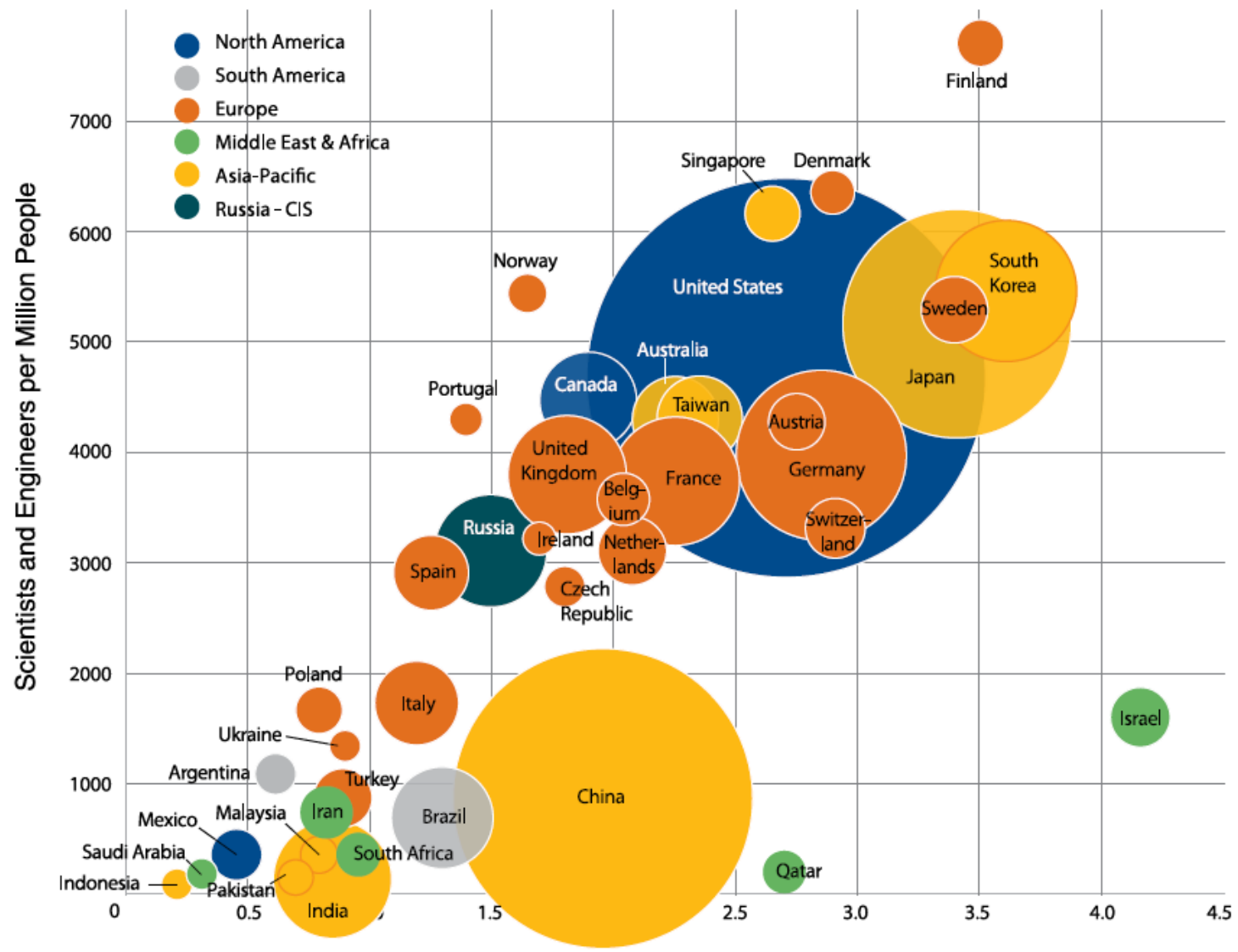
# Investment in R&D is part of the solution to exit from the economic crises



# World R&D Expenditure 2013



Size of circle reflects the relative amount of annual R&D spending by the indicated country



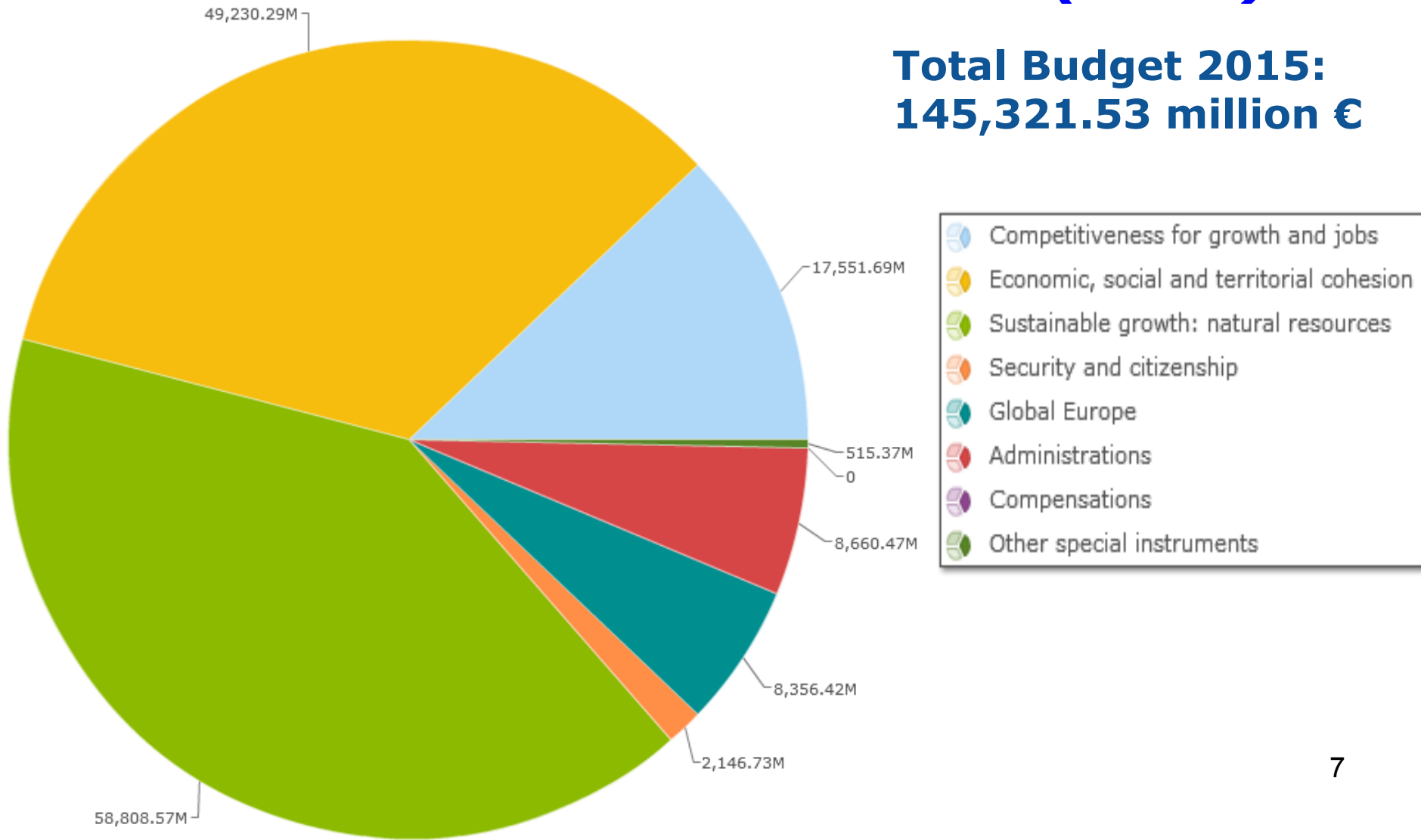
Source: Battelle, R&D Magazine, International Monetary Fund, World Bank, CIA Fact Book, OECD



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# Budget of the European Union (2015)

**Total Budget 2015:  
145,321.53 million €**





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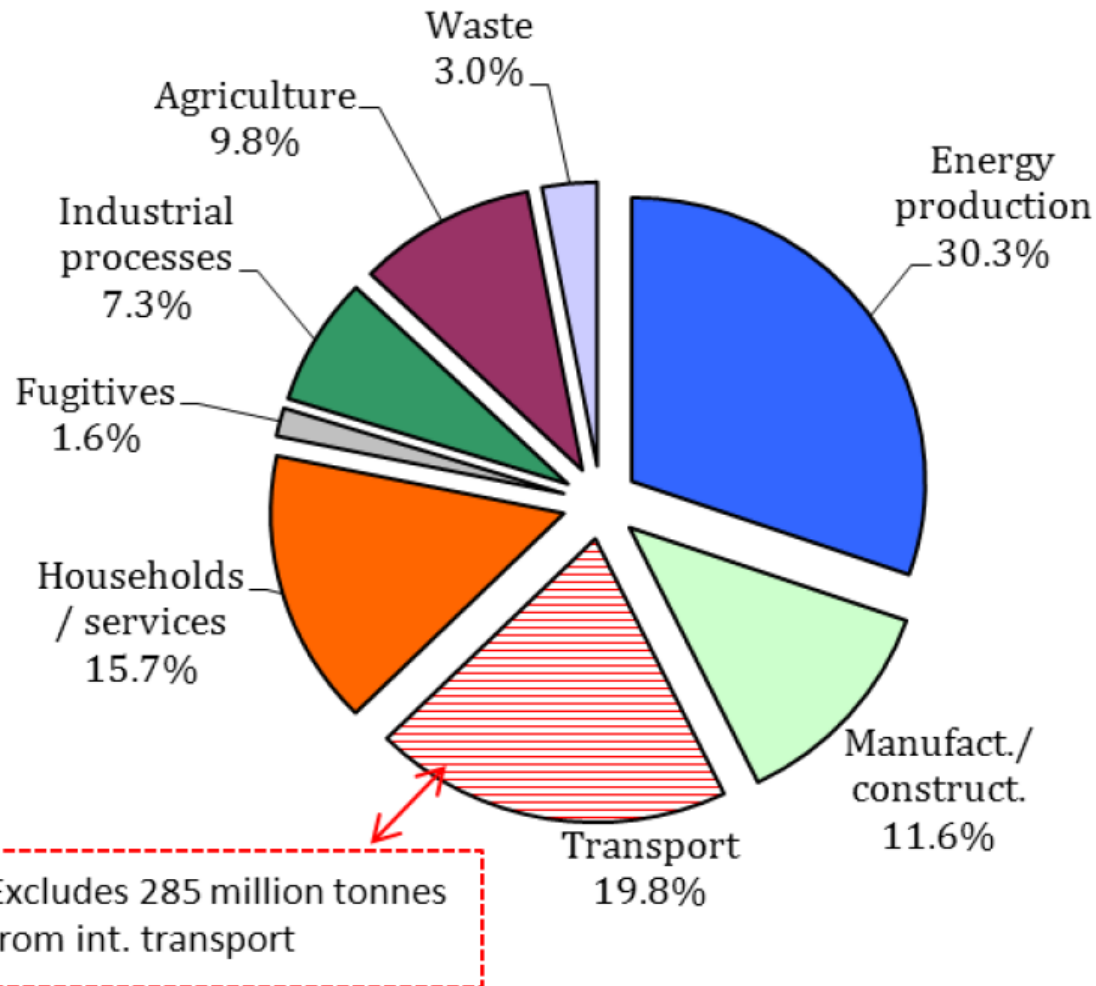
# Global Warming is a Key Issue for All

- *The decarbonisation of the society is an important goal for Europe*
- *Europe has approved the COP 21 targets (Paris 2015)*
- *The Energy package of the EU has high priority*
  - European Strategic Energy Technology Plan (SET-Plan)
  - Strategic Transport Research & Innovation Agenda STRIA





# Total Greenhouse Emissions by Sector in the EU 2010

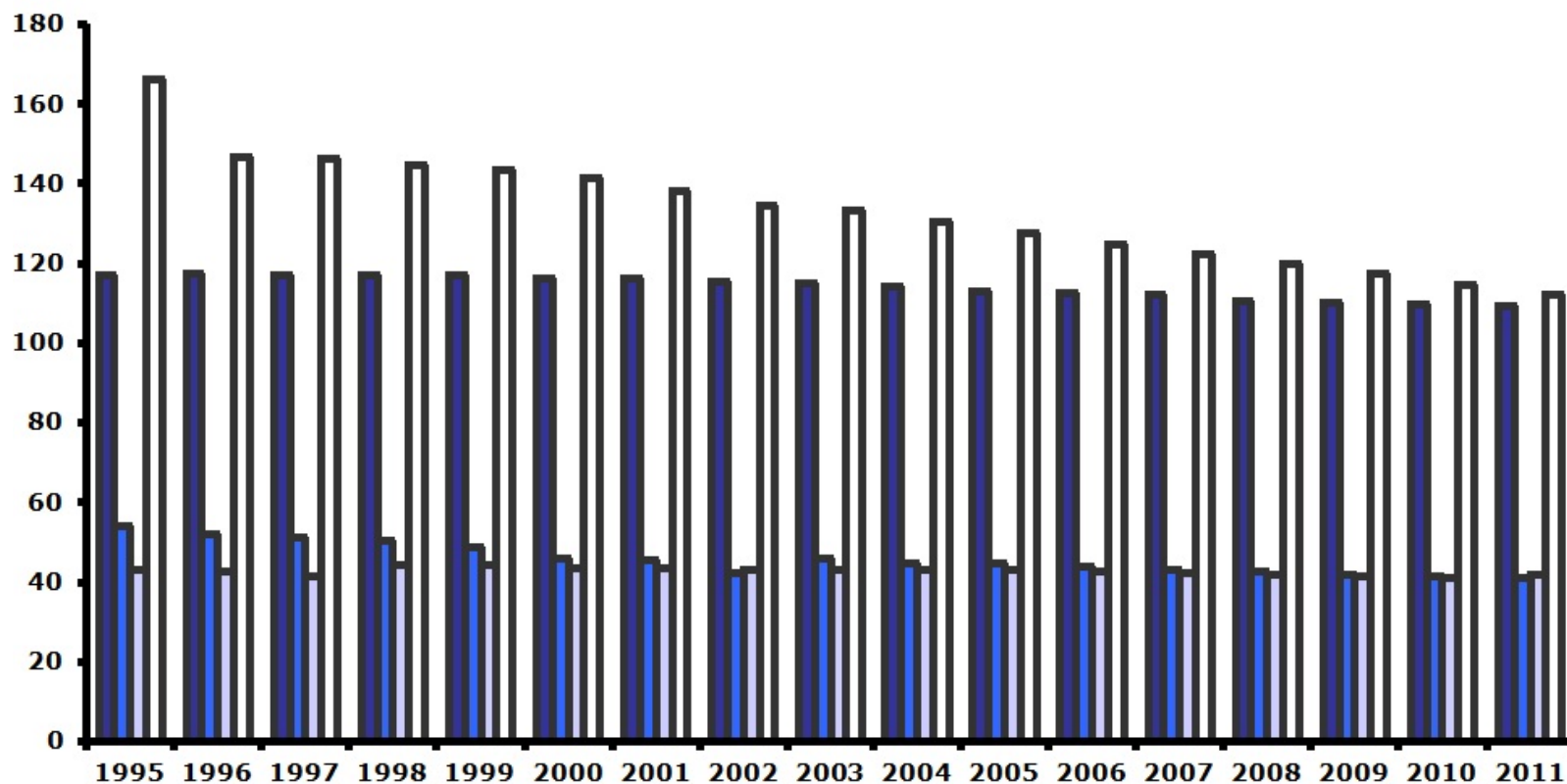




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# Specific CO<sub>2</sub> Emissions per Passenger-km and per Mode of Transport in Europe 1995 - 2011

CO<sub>2</sub> emissions [g/pkm]



Road

Rail

Maritime

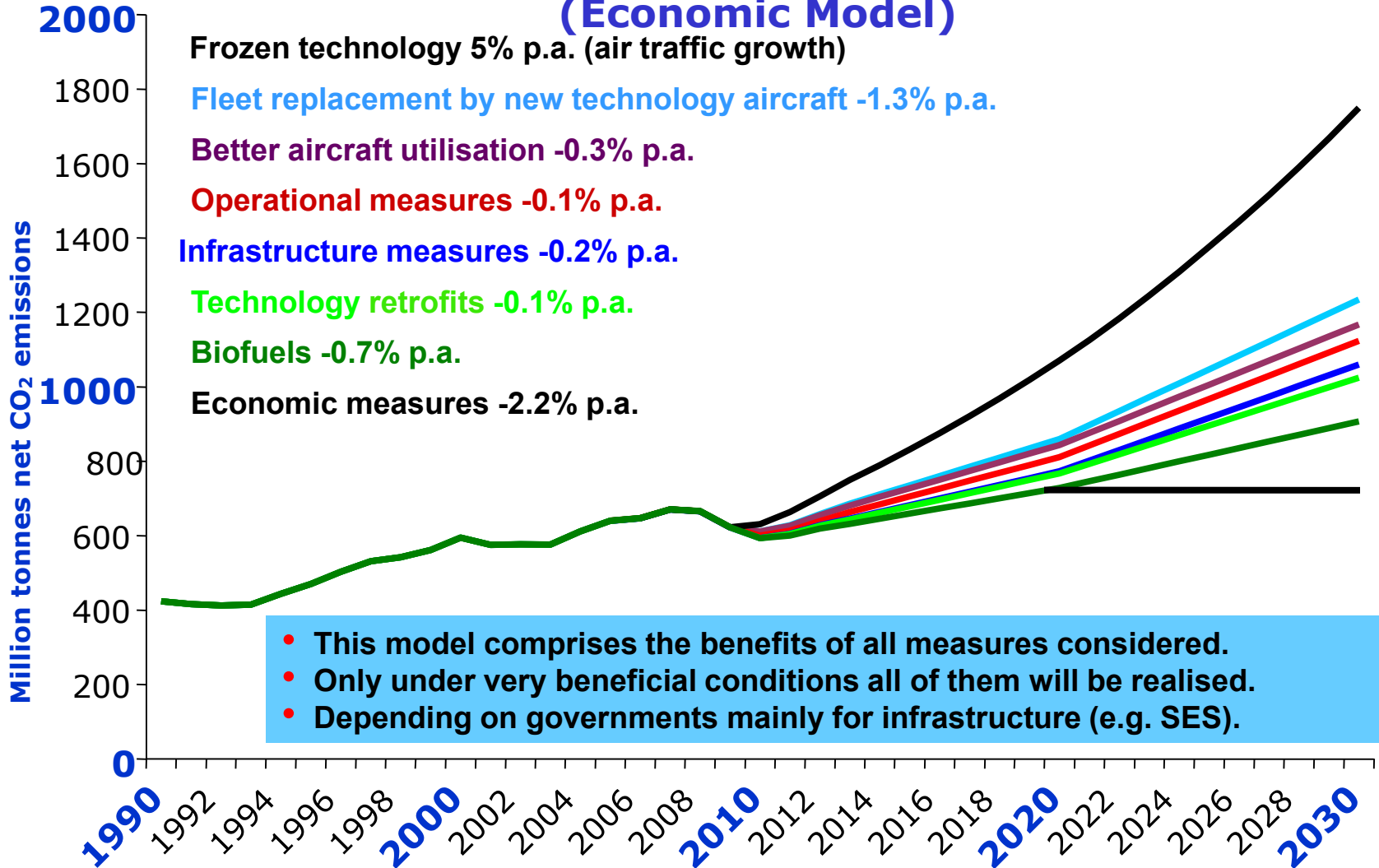
Air

Source:  
European Environment Agency



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# CO<sub>2</sub> Emissions from Commercial Airlines Global Fuel Burn (Economic Model)



Source: IATA Aviation Carbon Model



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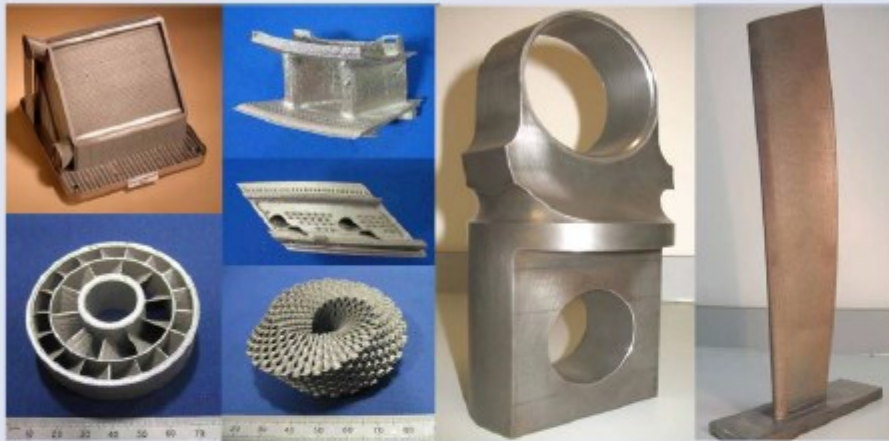
# STRIA contributes to EU Energy Package

- The Strategic Transport Research & Innovation Agenda STRIA is the contribution of the transport sectors to the Energy Union;
- The other major pillar is the European Strategic Energy Technology Plan (SET-Plan);
- Seven technical STRIA working groups delivered their reports by end of September;
- Commission services will prepare a communication for November based on these report;
- ACARE Working Groups had experts in the different STRIA panels.

# Advanced Manufacturing



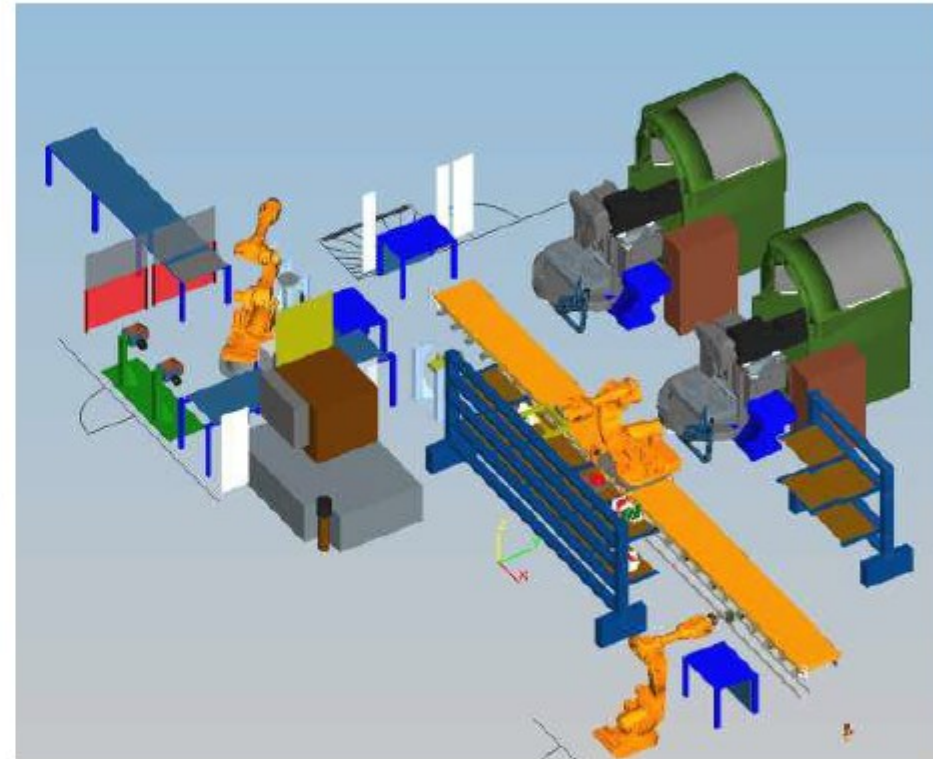
## Metal Components by Additive Manufacture



A350 – cable beams



## Flexible manufacturing cells



EU-Projects: FLEXA, ADMAP-GAS, ACCENT



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# Airline Industry View on Long-term Emissions Reduction

- ***Every aircraft will have been replaced more than once by 2050***
  - Typical aircraft lifetime around 30 years
- ***After production ramp-up, the share of biofuels is expected to strongly grow***
  - Analyses confirm that even 100% of biofuels in 2050 are realistic if appropriately supported
  - Some biofuels have a lifecycle CO<sub>2</sub> emissions reduction of >80% already today
- ***Revolutionary aircraft technologies predicted by 2050***
  - e.g. blended wing body, unconventional engines, hydrogen aircraft (?)
- ***Technology development needed at all-time horizons (short/long-term)***
  - Requires continuous public support



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# Concept Study: Novel Aircraft-Engine Integration



Source: Airbus





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# Outlook to the Future

- *The duo-pole Airbus/ Boeing gets global competition (Brazil, Canada, China, Japan and Russia)*
- *Europe's new Vision for Aviation 'Flightpath 2050' will be implemented by the new Strategic Research & Innovation Agenda Update 2017*
- *'Horizon 2020', the Strategic Framework Programme for Research & Innovation of the EU started with significant research activities in Aviation, hopefully also the follow-on FP*
- *EU introduced Emission Trading Scheme (ETS) for Aviation is on halt for global scheme through ICAO*
- *New technologies as biofuel for aviation beyond trial phase*





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# The Future at the Commission

## Follow-on Framework Programme (FP9)

- With mid-term assessment of Horizon 2020, the discussion on the follow-on Framework Programme (FP9) has started already;
- FP9 will start by January 2021.

## Aviation Unit in transition to a policy unit

- The Aviation Unit continues its transition to a policy unit for aviation research and innovation;
- Close cooperation with other DGs, the executing agency INEA and Clean Sky;
- Development of future aviation R&I on EU level together with Member States and stakeholders.



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*Thank you for your attention!*

