

# Impacts of the consumption-based improvement options on the EU economies and beyond (WP7)

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**11<sup>th</sup> October 2016**

**Brussels**



1. Harmonising the data in the suite of models
2. Defining baseline and policy scenarios and related inputs for the scenario modelling
3. Policy scenario modelling including the base case/reference scenario
4. In-depth analysis and synthesis of outputs of the models



- **FIDELIO** (IPTS, Spain) a dynamic econometric input-output model based on Eurostat's supply and use tables and the WIOD
- **EXIOMOD** (TNO, Netherlands) a Global Computable General Equilibrium (CGE) model based on detailed EXIOBASE MREEIO
- **E3ME** (Cambridge Econometrics, UK) macroeconomic energy-environment-economy (E3) model



### Scenarios 2020- 2050:

- Reference scenarios
  - IEA WEO 2014 **current policies** (baseline)
  - IEA WEO 2014 **current policies + Paris COP21 pledges – NDCs – E3ME only**



Scenarios 2020- 2050:

- **Buildings**
- **Transport**
- **Food waste**

Run one-by-one and all together for each of the EU MS (including UK)



Scenarios 2020 - 2050 will give us changes in

- sectoral outputs,
- changes in GDP,
- employment,
- trade,
- GHG and non-GHG emissions

in the EU, in the rest of the world and globally



### Scenarios 2020- 2050:

- **Food**

- 1) Reduce over purchasing and food waste

- 2) Shift from meat to veggie

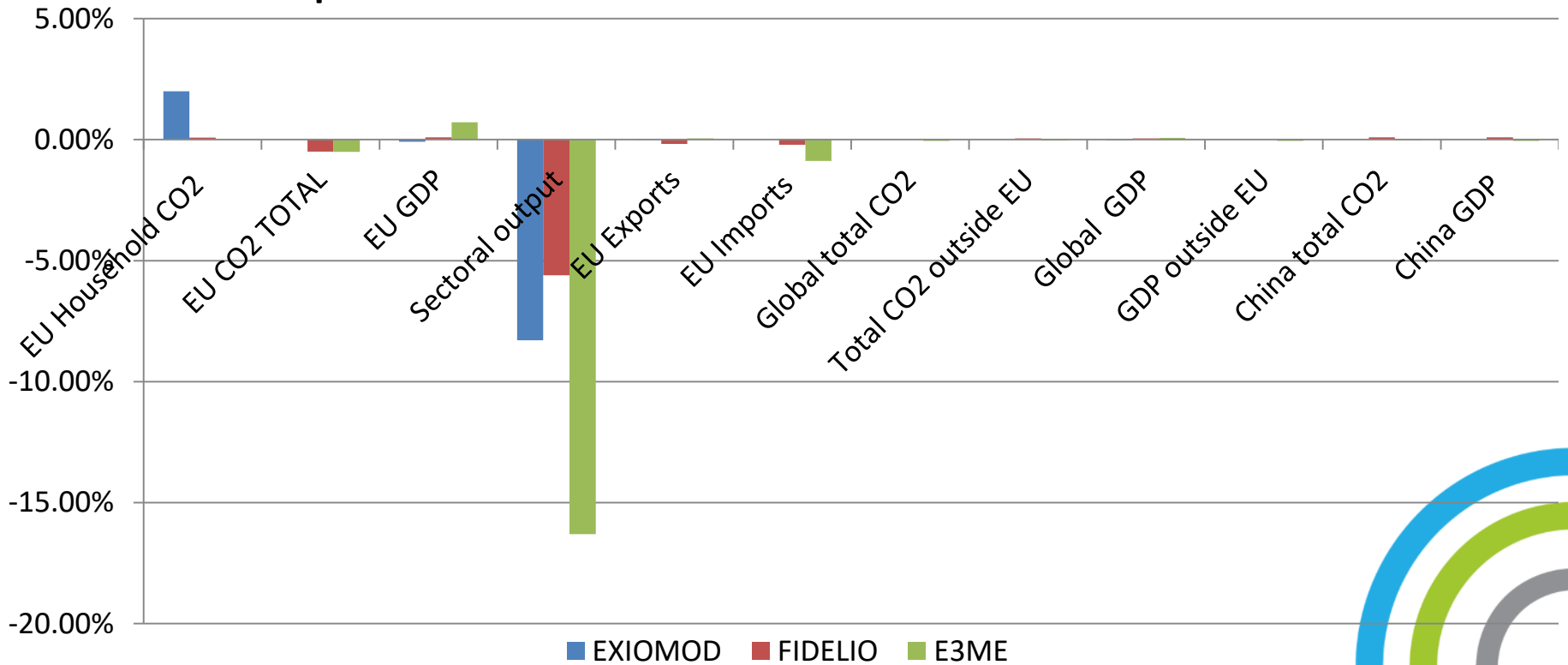
- Less dairy

- Less food with low nutritional value

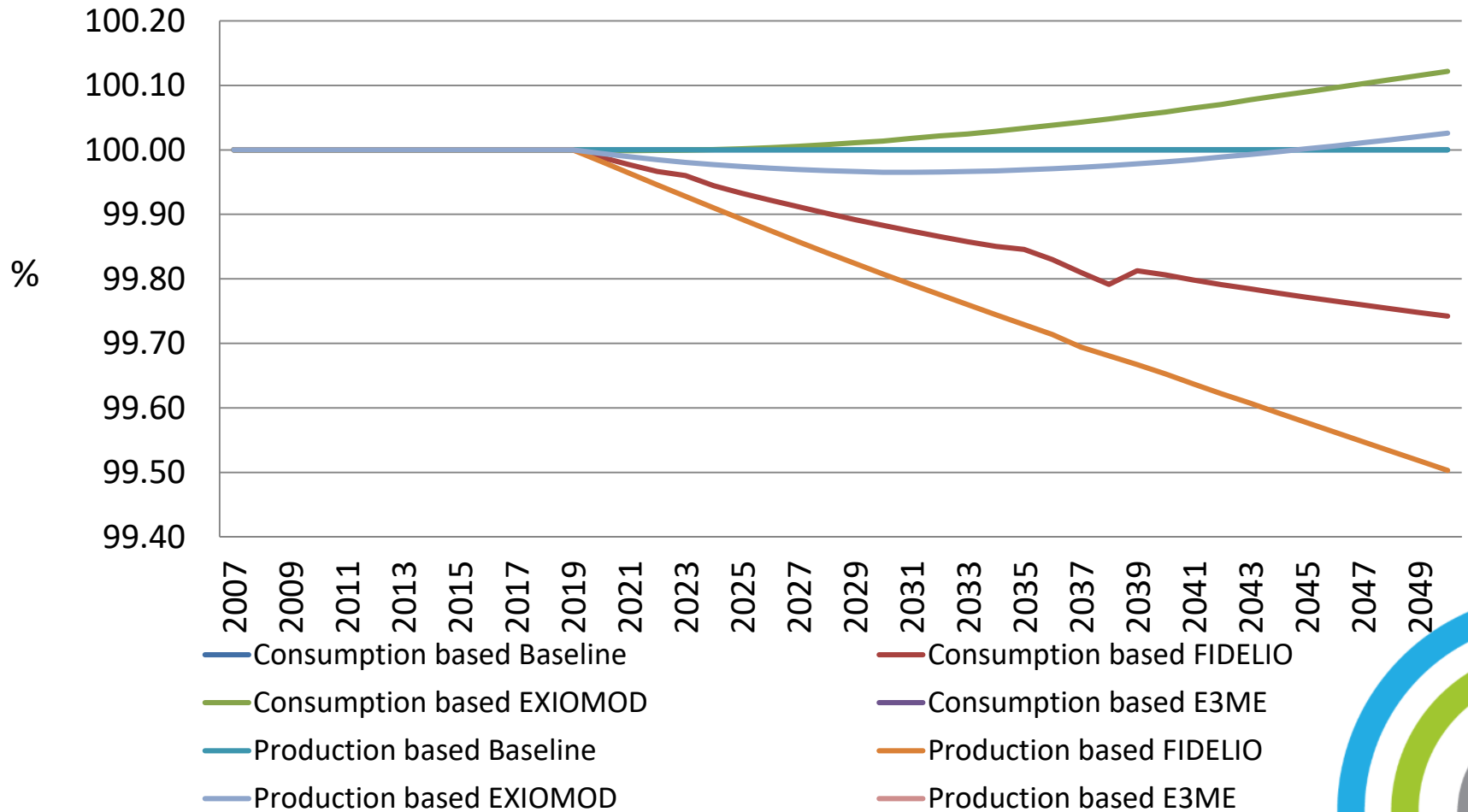
- 3) = 1) + 2)



### Impact of the food scenarios in 2050, % change from the IEA current policies scenario





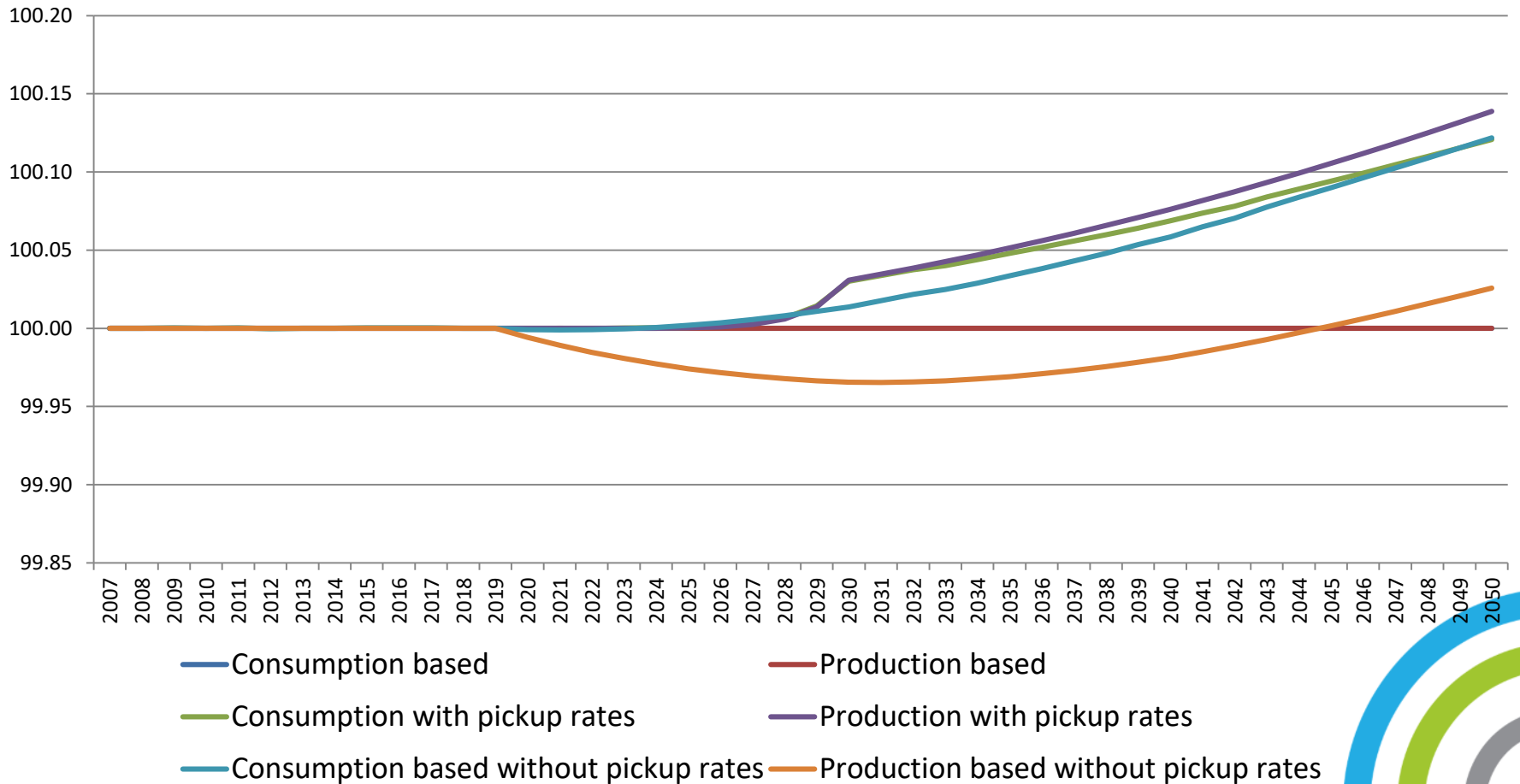


Scenarios 2020- 2050:

- **Food policy pickup rates (%)**

SCENARIO	2020	2030	2050
Food (less waste only)	0	35	50
Food (less meat/dairy/low nutritional food)	0	15	25





### Scenarios 2020- 2050:

- **Buildings**

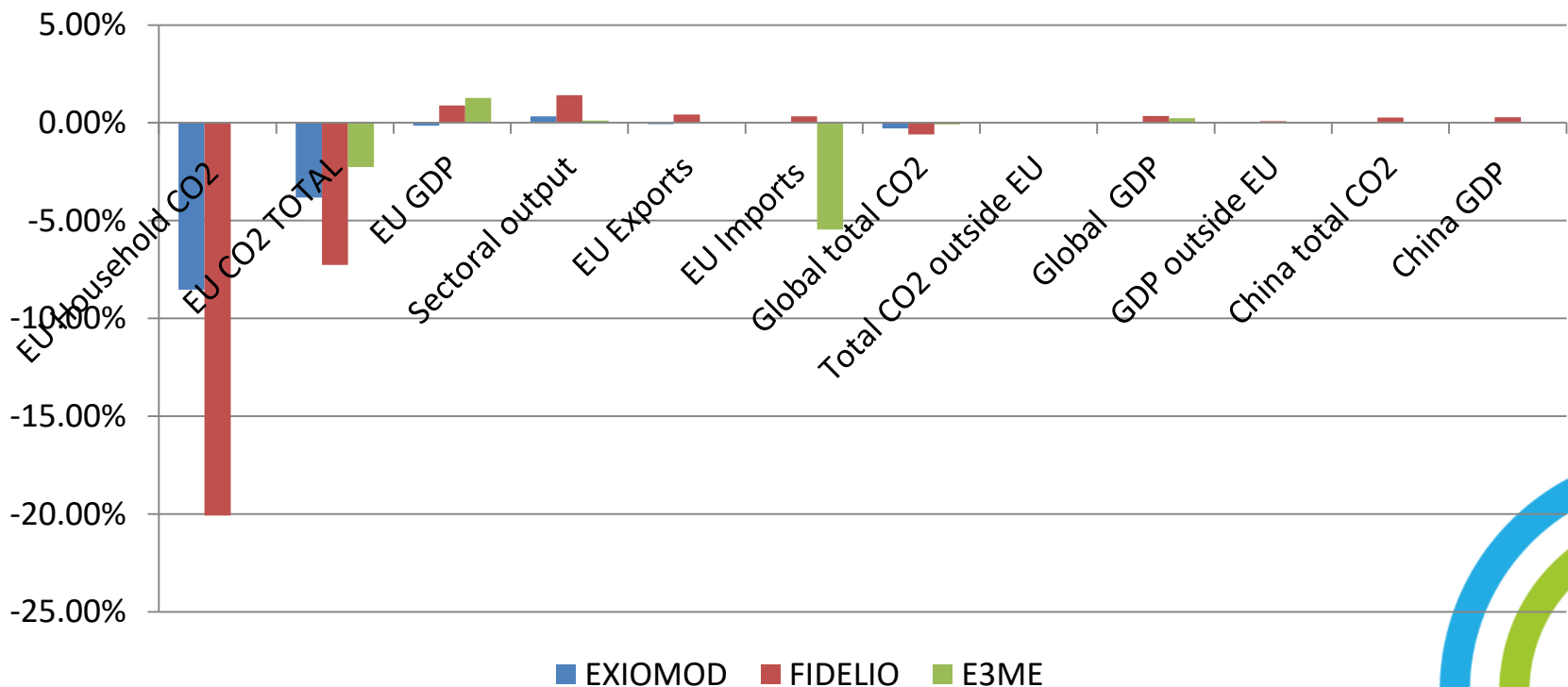
- 1) Zero-emission houses/Passive houses plus  
Use timber-frame constructions instead of concrete or steel framed constructions

- 2) Thermal insulation of houses ( New sealings to reduce ventilation, additional facade insulation, additional roof insulation, replacement of windows)

- 3) = 1)+2)



### Impact of the building scenarios in 2050, % change from the IEA current policies scenario



### Scenarios 2020- 2050:

- **Transport**

- 1) Electric (BEV) and hydrogen (FCEV)

- Reduction of cars per households/car sharing

- Car pooling

- Shift to public transport

- Lighter cars

- Cars from recycled materials

- 2) Reduced air travel

- 3) = 1) + 2)



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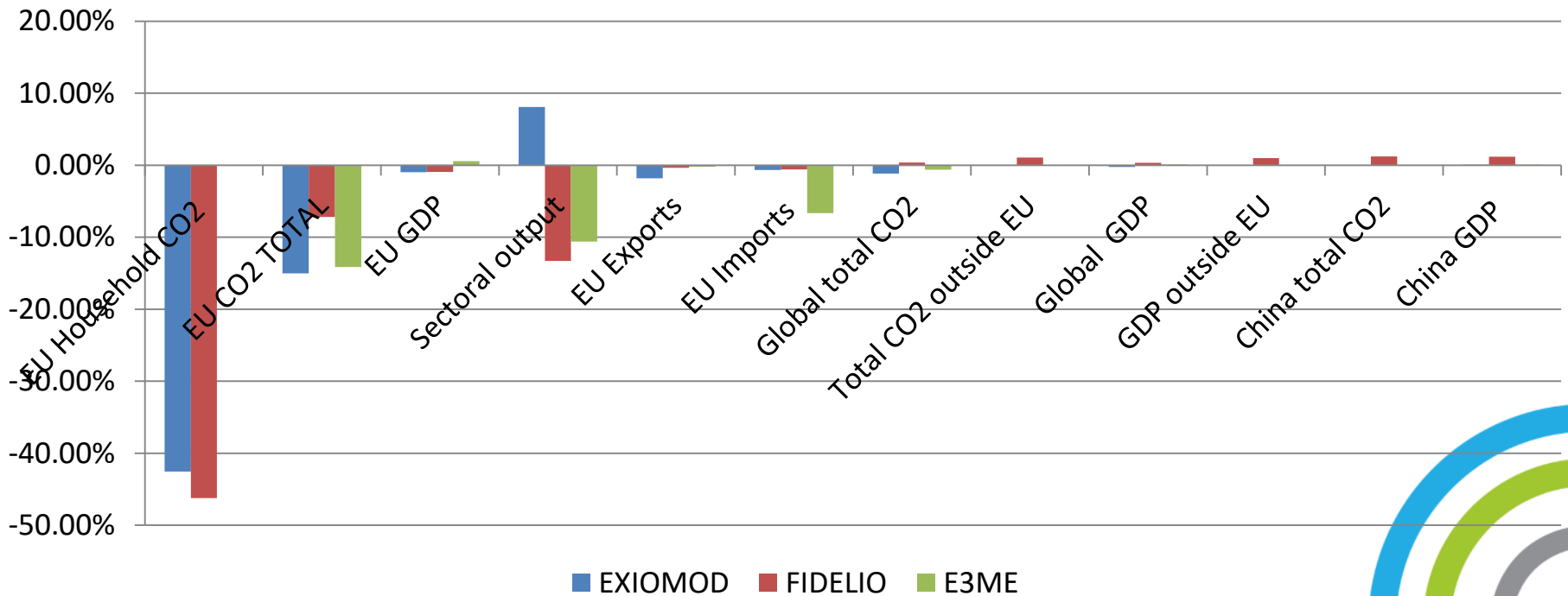
- Cars from recycled materials

- 2) Reduced air travel


- 3) = 1) + 2)



### Impact of the transport scenarios in 2050, % change from the IEA current policies scenario





- 1) Food sector CO<sub>2</sub> emissions reductions small, reductions in CH<sub>4</sub> add value (ca 3% CO<sub>2</sub>eq in 2050)
  - 2) EU CO<sub>2</sub> emission reductions (15-19% in 2050) vastly user emission reductions – transport and buildings *i.e.* reduction in emissions related to domestic consumption
  - 3) Economic impacts small but some negative industry specific impacts that are compensated by increase in output in other sectors
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- 1) Finalising the scenarios
- 2) Adding policies – help from WP4-6
- 3) Reading out output variables - help from WP4-6 plus stakeholders
- 4) Reading out embedded emissions for every scenario
- 5) Writing a report



**Thank You!**  
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