



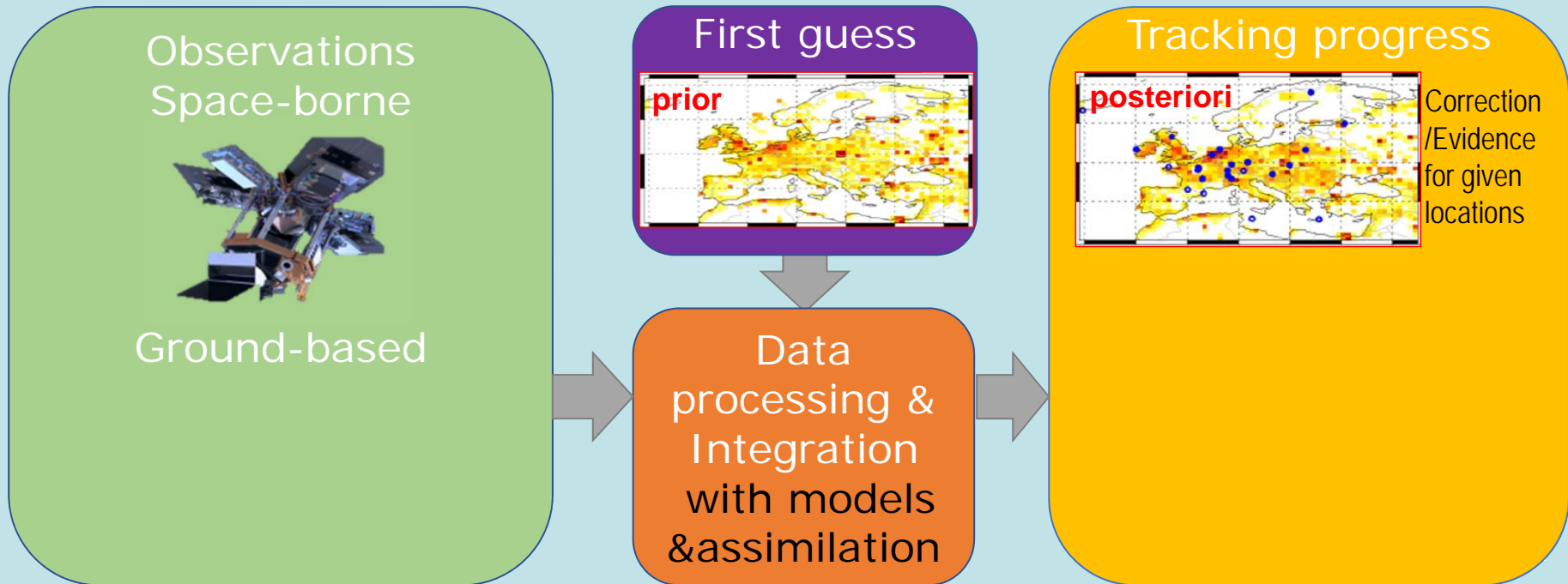
European Commission - Joint Research Centre

# Observation-based evidence for GHG emission trends in EU28 and globally

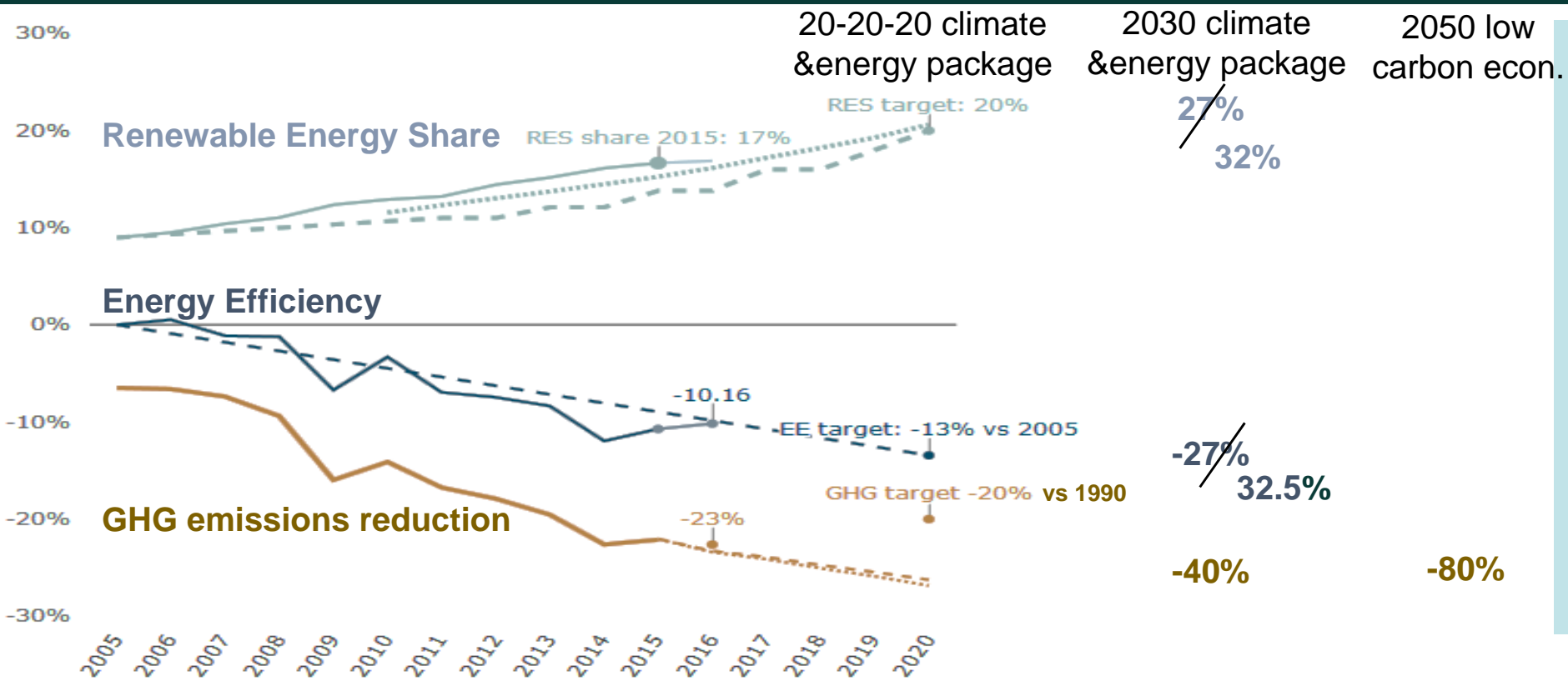
G. Janssens-Maenhout

- GHG monitoring for reality check
- Actionable information at local level
- Opportunity of the Global Stock Take

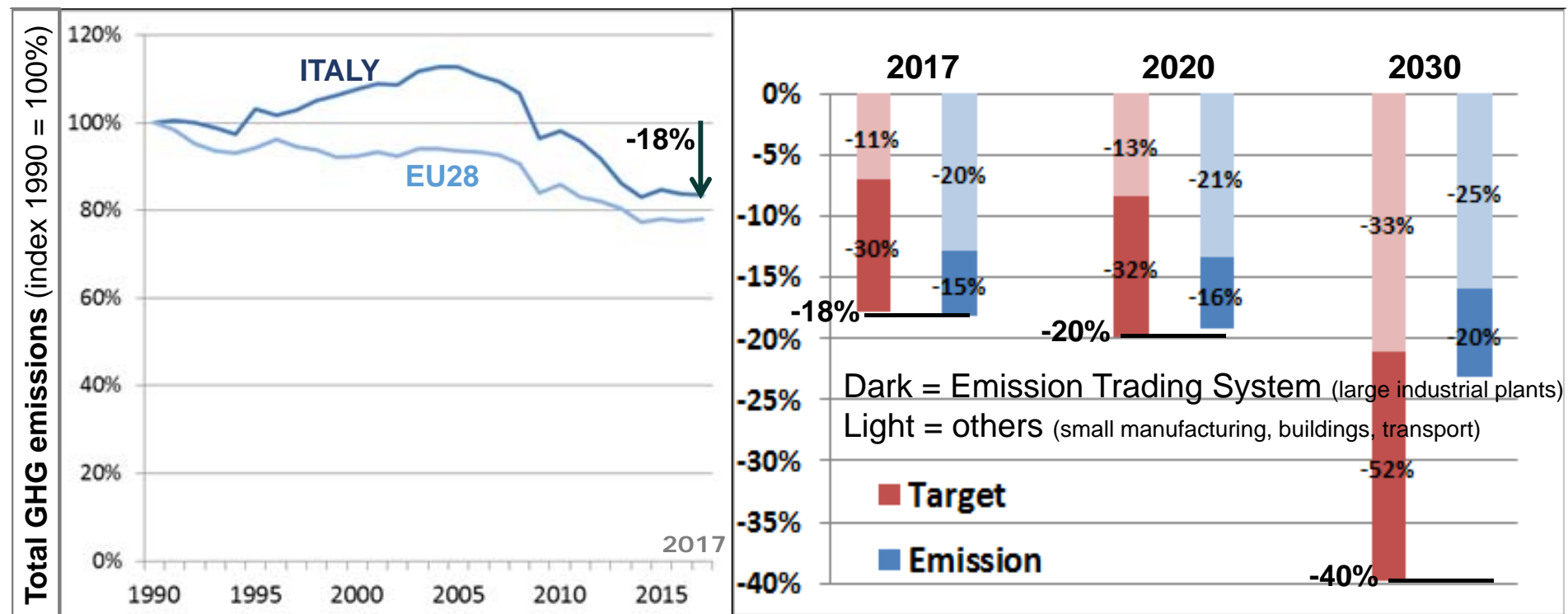
# GHG monitoring for reality check



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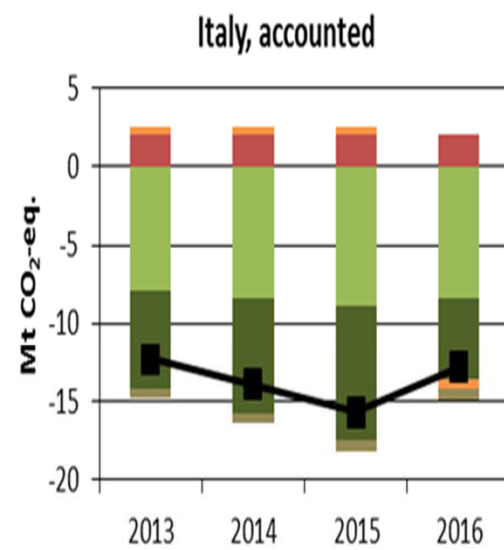
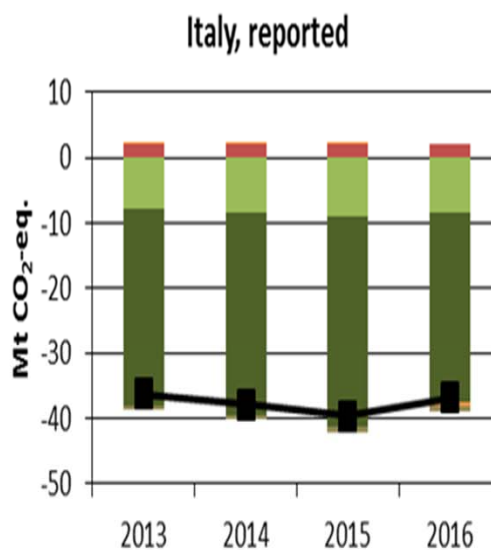
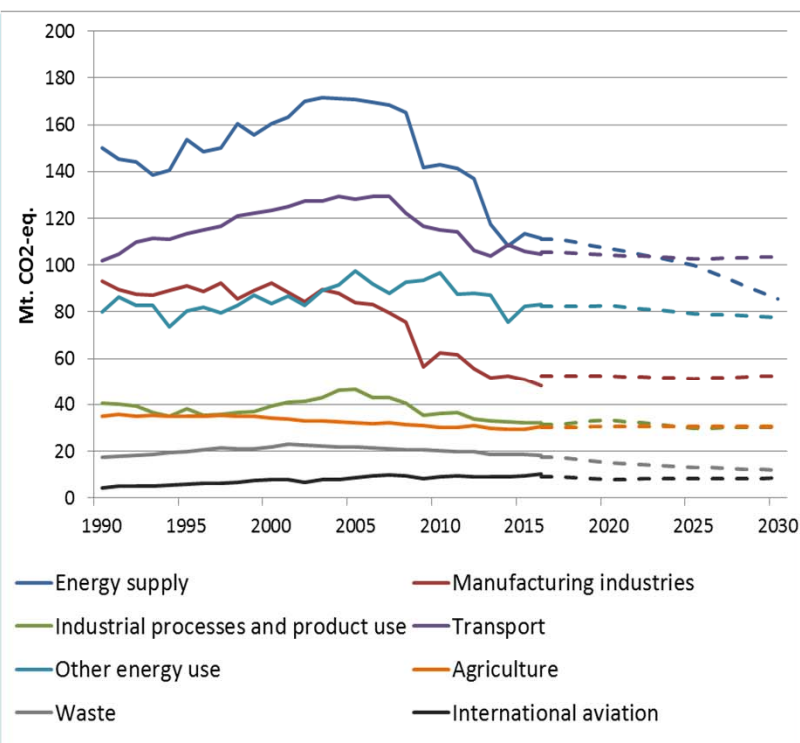


# Country factsheets to track progress

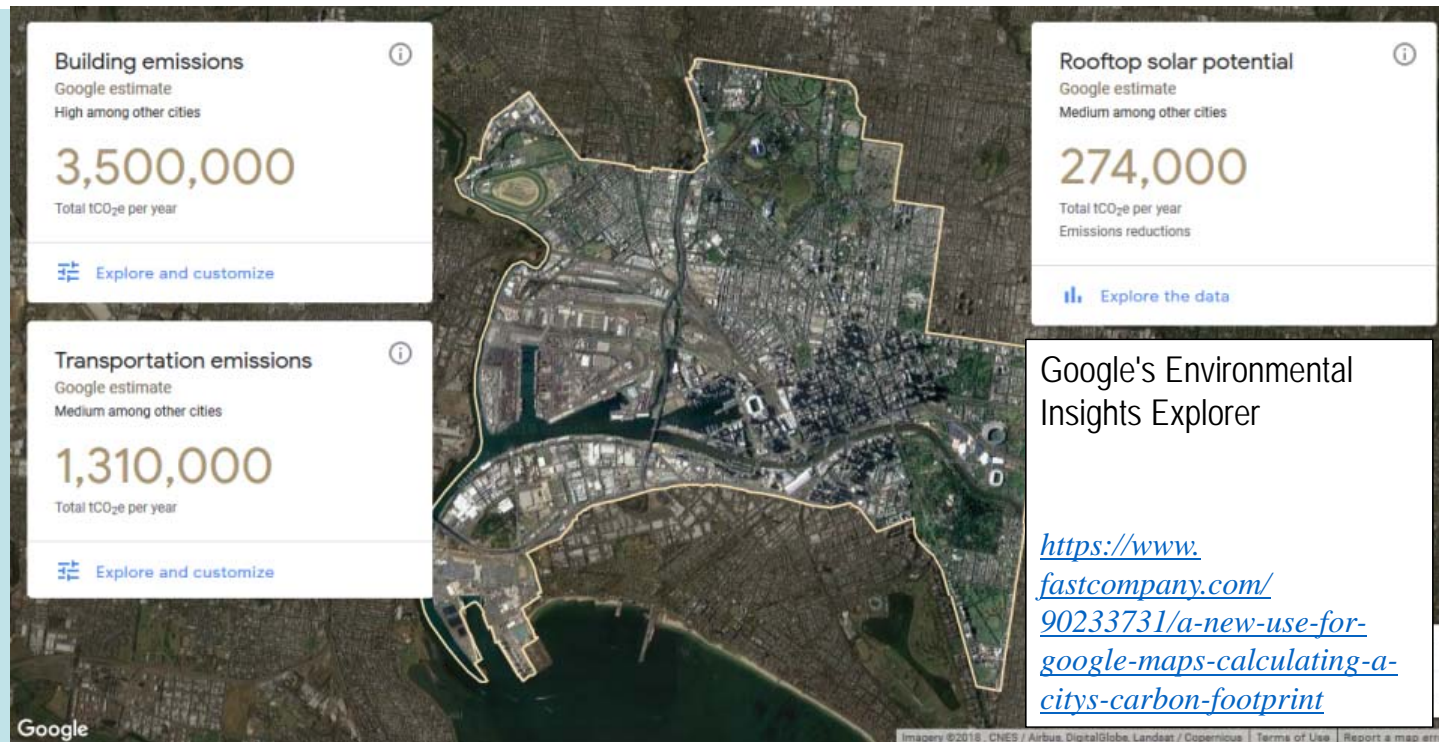


Staff working document DG CLIMA (September 2018): Factsheet Italy

# Country factsheets to track progress



# Multilevel governance up to city scale level



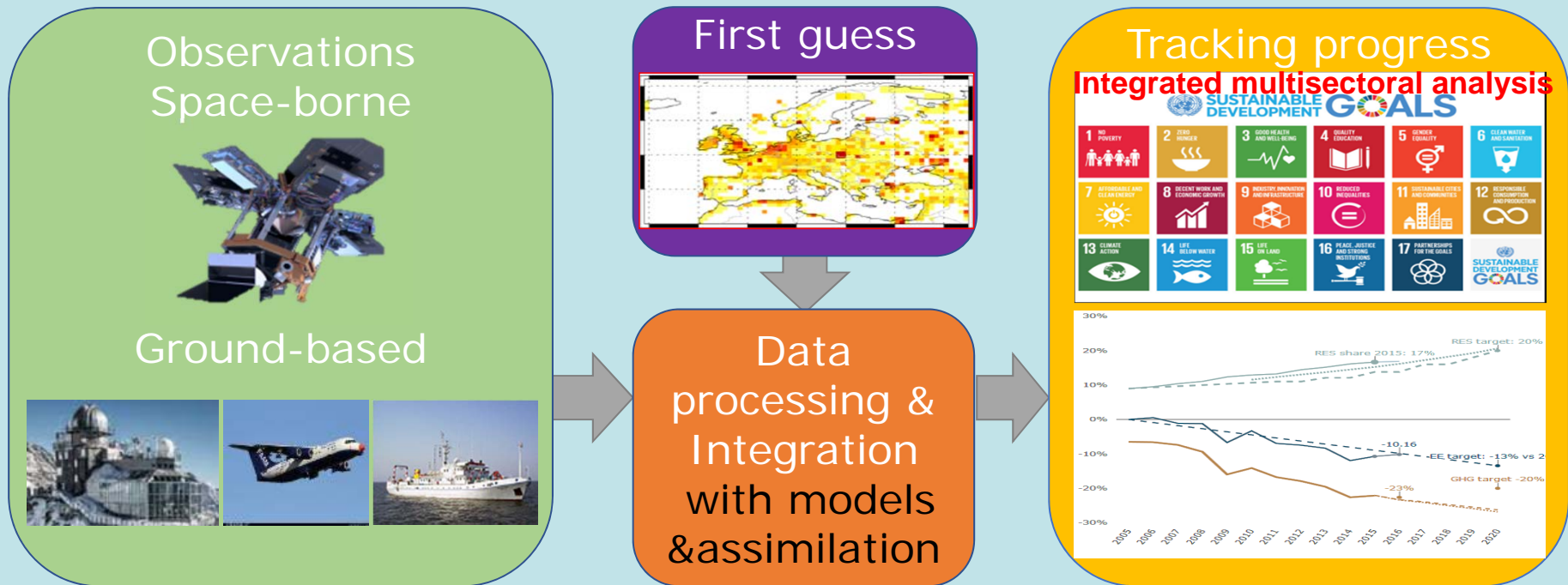
The global covenant is contributing to the GHG mitigation.

# While keeping the overview (50.8 Pg CO<sub>2</sub>eq in 2017 excluding LULUCF)

(2017)	Key driver	2017 share	Δ04/14	Δ15/16	Δ2017
<b>CO<sub>2</sub></b> 37.0Pg	<b>Coal combustion (14.8 ±0.7 PgCO<sub>2</sub>/yr)</b>	<b>29.2%</b>	<b>2.2%</b>	<b>-0.3%</b>	<b>0.5%</b>
	<b>Oil combustion (11.5±0.8 Pg CO<sub>2</sub>/yr)</b>	<b>22.6%</b>	<b>0.7%</b>	<b>1.6%</b>	<b>1.5%</b>
	<b>Gas combustion (6.7±0.3 Pg CO<sub>2</sub>/yr)</b>	<b>13.1%</b>	<b>2.1%</b>	<b>1.5%</b>	<b>1.4%</b>
	<b>Cement clinker production (1.5 ±0.2 Pg/yr)</b>	<b>2.9%</b> (73%)	<b>6.8%</b>	<b>-0.4%</b>	<b>-0.7%</b>
<b>CH<sub>4</sub></b> 9.2Pg	<b>Cattle stock (1.9±1.2 PgCO<sub>2</sub>eq/yr)</b>	<b>3.8%</b>	<b>0.5%</b>	<b>1.0%</b>	<b>0.9%</b>
	<b>Gas production +distr. (1.2±0.4 PgCO<sub>2</sub>eq/yr)</b>	<b>2.3%</b>	<b>2.1%</b>	<b>1.0%</b>	<b>0.8%</b>
	<b>Oil production+venting(1.0±0.4 PgCO<sub>2</sub>eq/yr)</b>	<b>2.0%</b>	<b>0.7%</b>	<b>1.0%</b>	<b>0.1%</b>
	<b>Coal mining (1.0±0.4 PgCO<sub>2</sub>eq/yr)</b>	<b>2.0%</b>	<b>3.1%</b>	<b>-3.5%</b>	<b>-4.6%</b>
	<b>Rice production (0.9±0.3 PgCO<sub>2</sub>eq/yr)</b>	<b>1.8%</b>	<b>0.8%</b>	<b>-1.0%</b>	<b>0.3%</b>
	<b>Landfills (MSW generation ~ food)</b>	<b>1.4%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>
	<b>Wastewater</b>	<b>1.4%</b> (18%)	<b>1.0%</b>	<b>1.0%</b>	<b>1.0%</b>
<b>N<sub>2</sub>O</b> 3.0Pg	<b>Cattle stock (pasture, range,paddock)</b>	<b>1.3%</b>	<b>0.5%</b>	<b>1.5%</b>	<b>1.5%</b>
	<b>Synthetic fertilisers</b>	<b>1.1%</b> (6%)	<b>2.0%</b>	<b>0.4%</b>	<b>1.2%</b>
<b>Fgas</b> 1.6Pg	<b>HFC use (1.0±0.2 PgCO<sub>2</sub>eq/yr)</b>	<b>2%</b> (3%)	<b>5.6%</b>	<b>4.5%</b>	<b>4.1%</b>

Source: EDGAR; Olivier et al. (2018), Janssens-Maenhout et al. (2017), Muntean et al. (2018)

# GHG monitoring for Global Stock Take





# Key messages

The **Global Stock Take** provides us the OPPORTUNITY:

1. To get a global overview on the share of total GHG emissions that are accounted for the reduction measures
2. To track emission reductions and local actions, if emission budgets are spatially & temporally also disaggregated.
3. To provide observation-based evidence on the presence/absence of the atmospheric trend, in line or not with the emission trends (considered to be the drivers).