Evidence on structural change across EU regions

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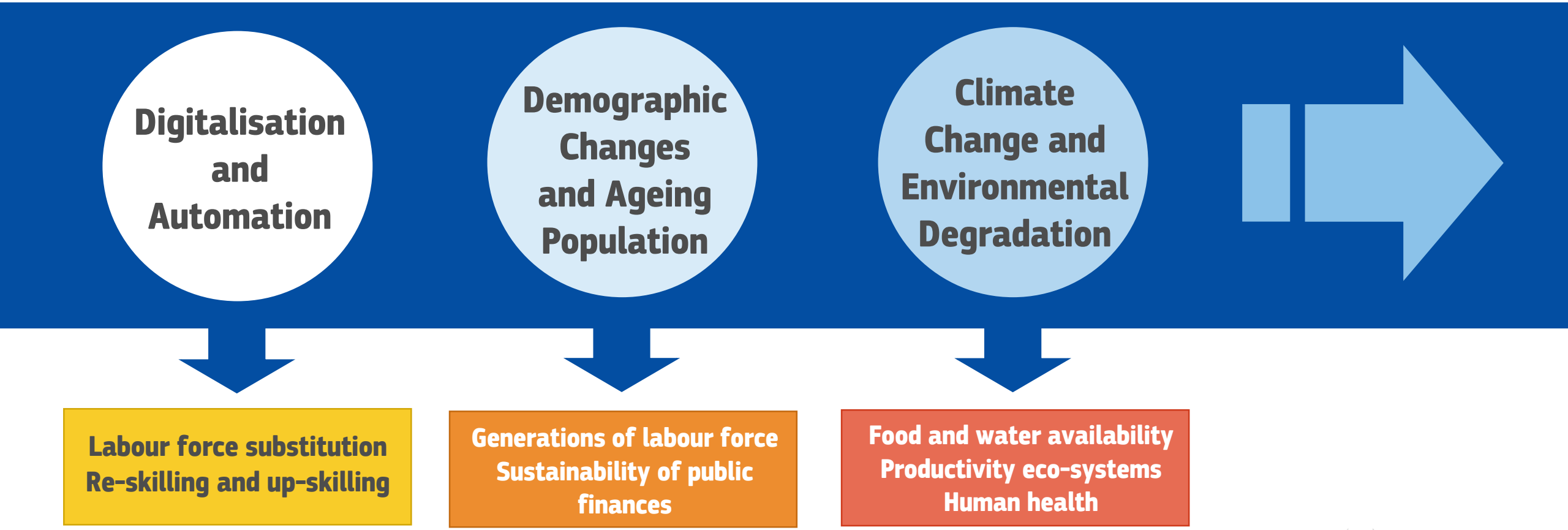
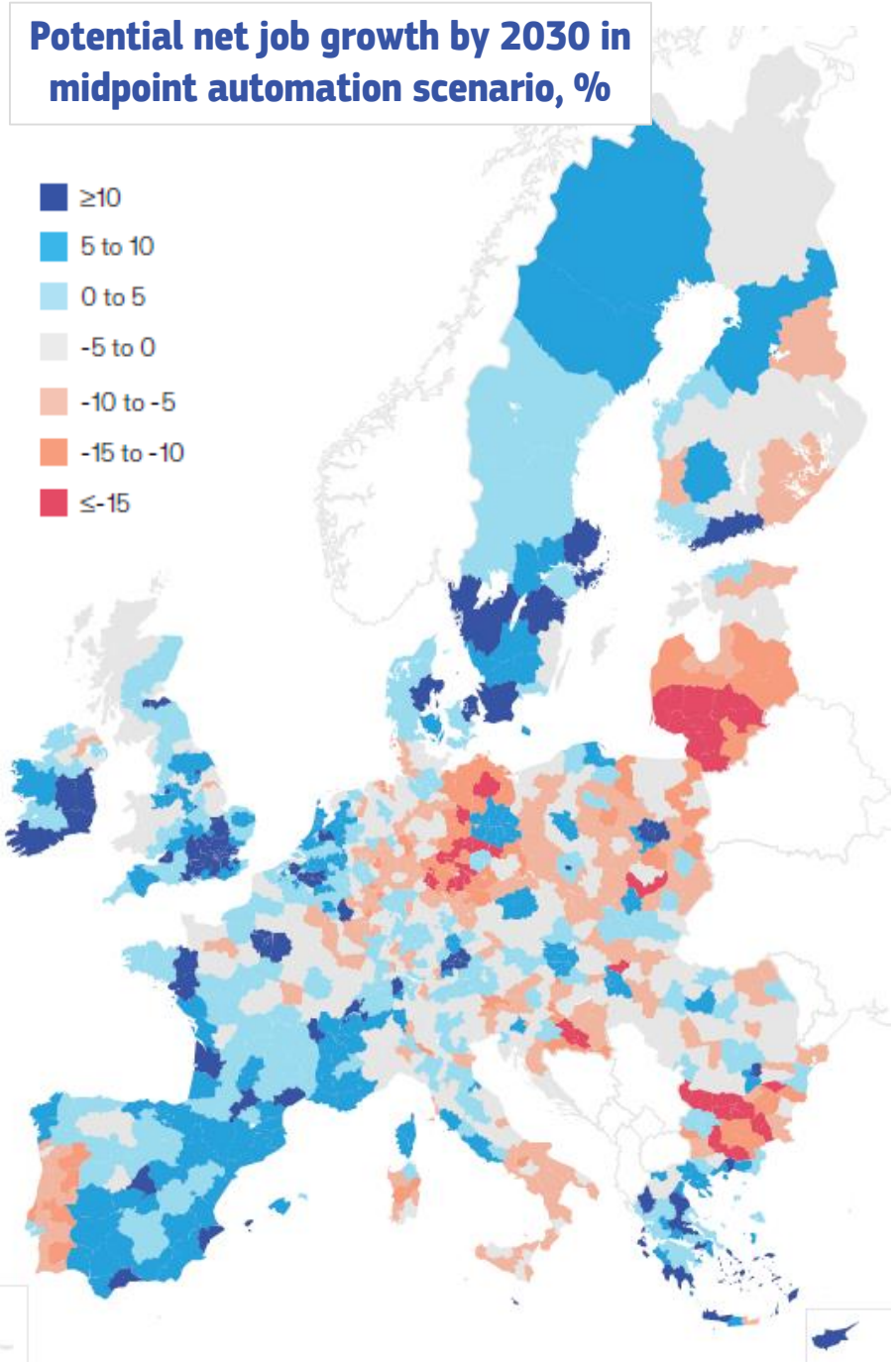
Structure of the presentation

(Some) Grand Socioeconomic Challenges



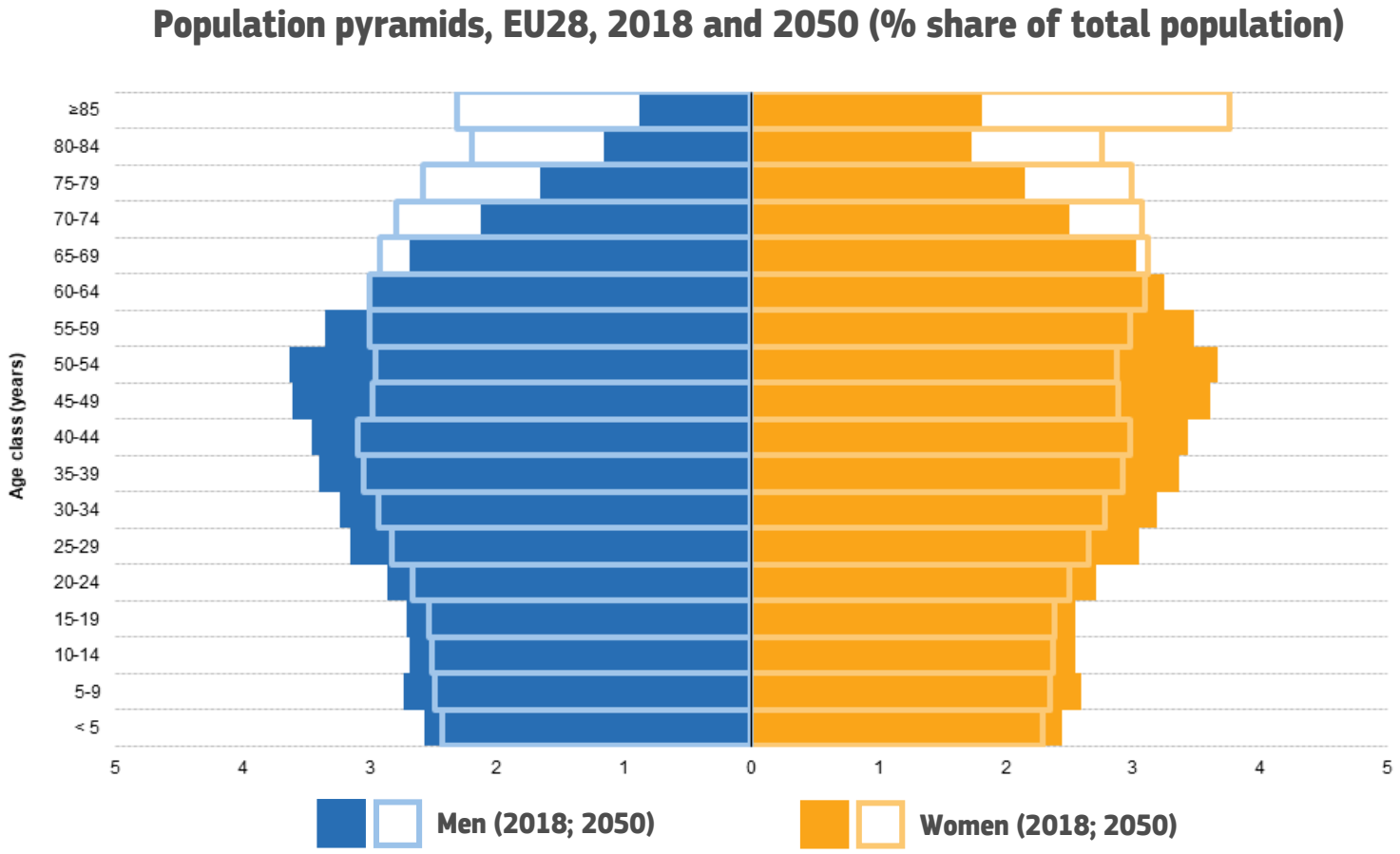
Possible Automation Effects on Employment

- **By 2030**, and due to automation, most the European workers will face at some degree of change on their work occupations
- More than **90 million workers** may need to **develop significant new skills**
- Up to **21 million workers** may have to **leave declining occupations**
- **Geographic mismatches are likely to emerge**, with more accentuated decline on jobs in Eastern Europe, eastern Germany, southern Italy, and Portugal



Source: Smit, S.; Tacke, T.; Lund, S.; Manyika, J.; Thiel, L. (2020). *The future of work in Europe: Automation, workforce transitions, and the shifting geography of employment*, Discussion paper, McKinsey Global Institute (MGI), June 2020.

Demographic Change and Ageing Population



- Demographic ageing means the proportion of people of working age is shrinking, while the number of older people is expanding
- It has profound implications on health and social care systems, labour markets, public finances and pension entitlements

Note: all data as January 202050; population according to the 2018 projections, baseline variant (EUROPOP2018)
Source: Eurostat

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Climate Change negative effects

- Climate change **affects all regions around the world**
- Melting ice and rising seas ➡ flooding and erosion of coastal and low lying areas
- Extreme weather, shifting rainfall ➡ floods and **decreasing water quality and availability**
- Risks for wildlife
- Damage to property/infrastructure and human health ➡ **Costs for society and economy**
- **Direct economic losses of floods** (1980-2011): **> €90 billion**
- Sectors most affected: agriculture, forestry, energy and tourism

Source: European Commission (https://ec.europa.eu/clima/change/consequences_en)

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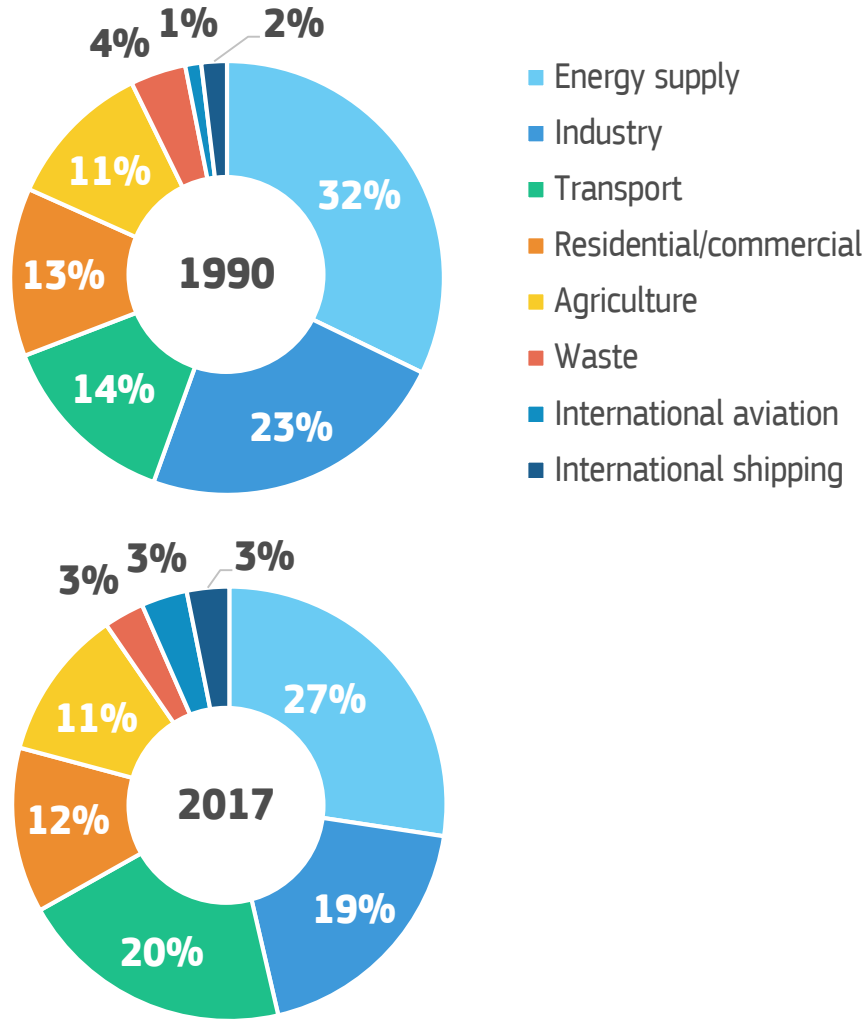
Main drivers of Climate Change

- **Human activity and consumption are influencing climate** and earth's temperature by burning fossil fuels, cutting down rainforests and farming livestock
  - ➡ △↗ greenhouse gases
  - ➡ △↗ greenhouse effect and global warming [1]

- Main contributors to greenhouse gases emissions in Europe [2]:
  - 〉 **Energy supply**: 27% (↙ 1990)
  - 〉 **Transport**: 20% (↗ 1990)
  - 〉 **Industry**: 19% (↙ 1990)
  - 〉 **Buildings**: 12% (= 1990)

Greenhouse gas emissions in the EU (% total), by sector (1990 and 2017) [2]



Source: [1] European Commission (https://ec.europa.eu/clima/change/causes_en)
[2] Statista (2020). *Greenhouse gas emissions: Emissions in the EU*.

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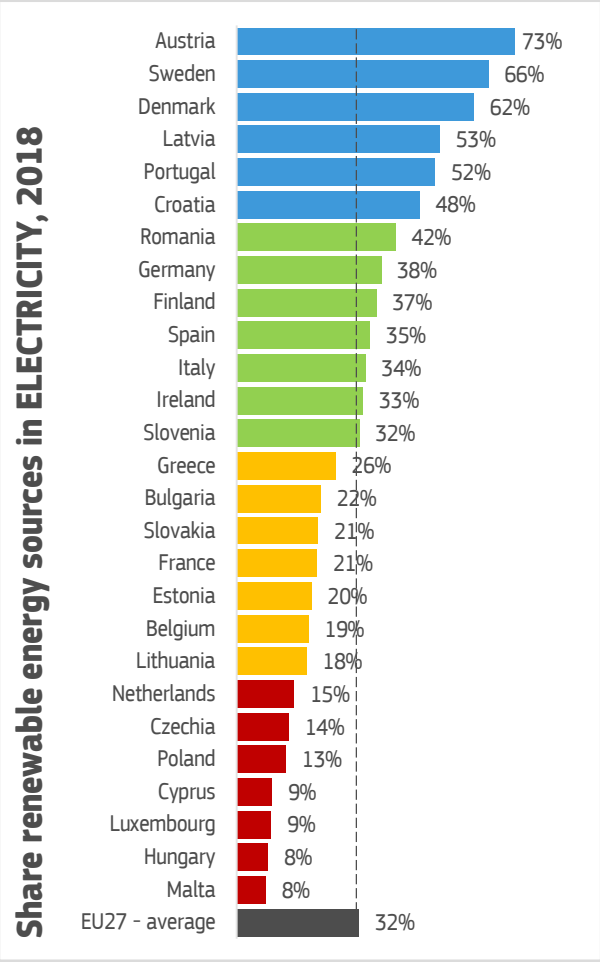
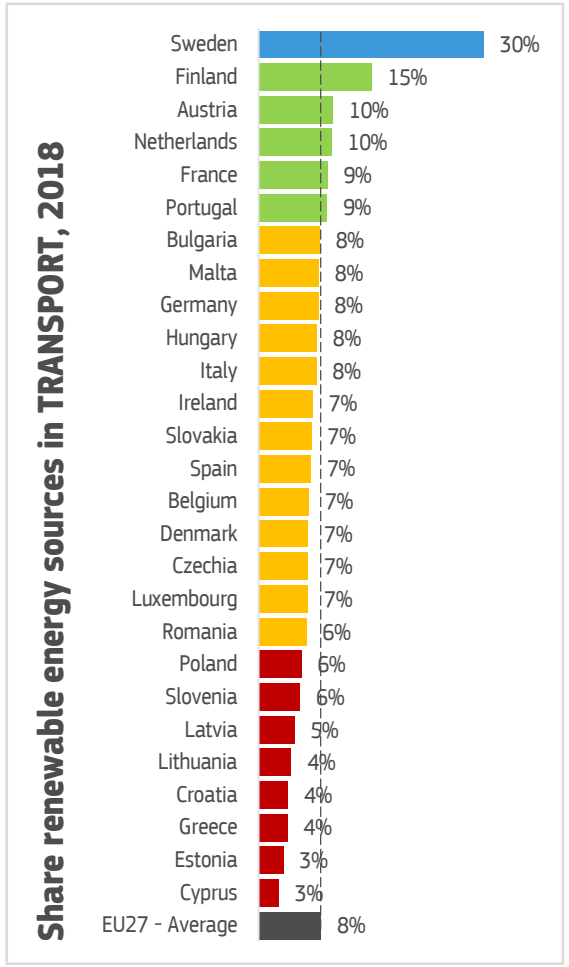
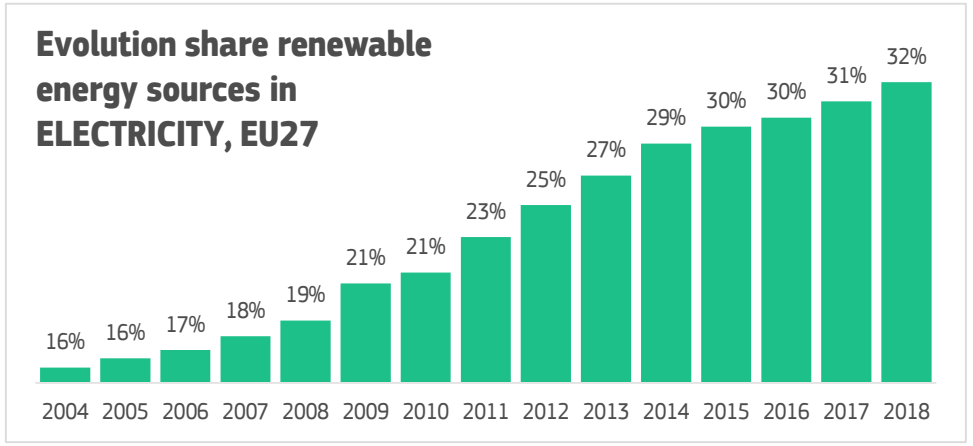
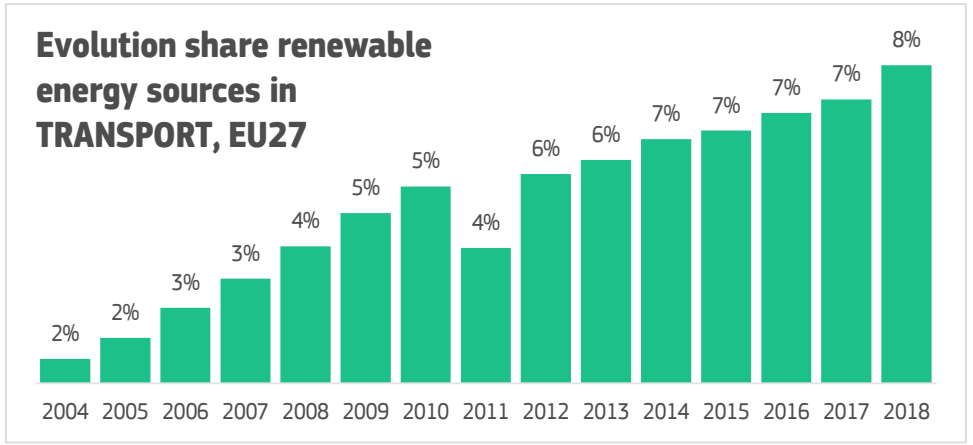
Share of Renewable Energy









Source: Own estimation based on Eurostat.

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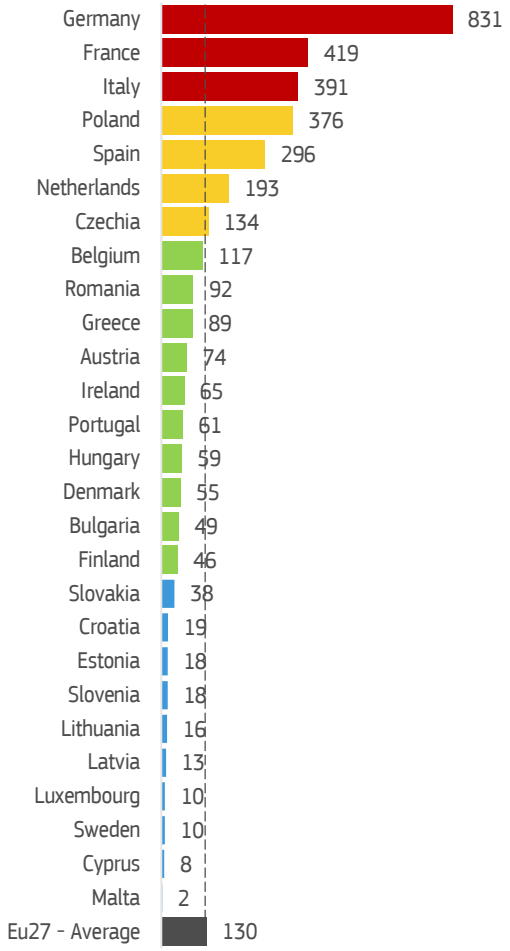
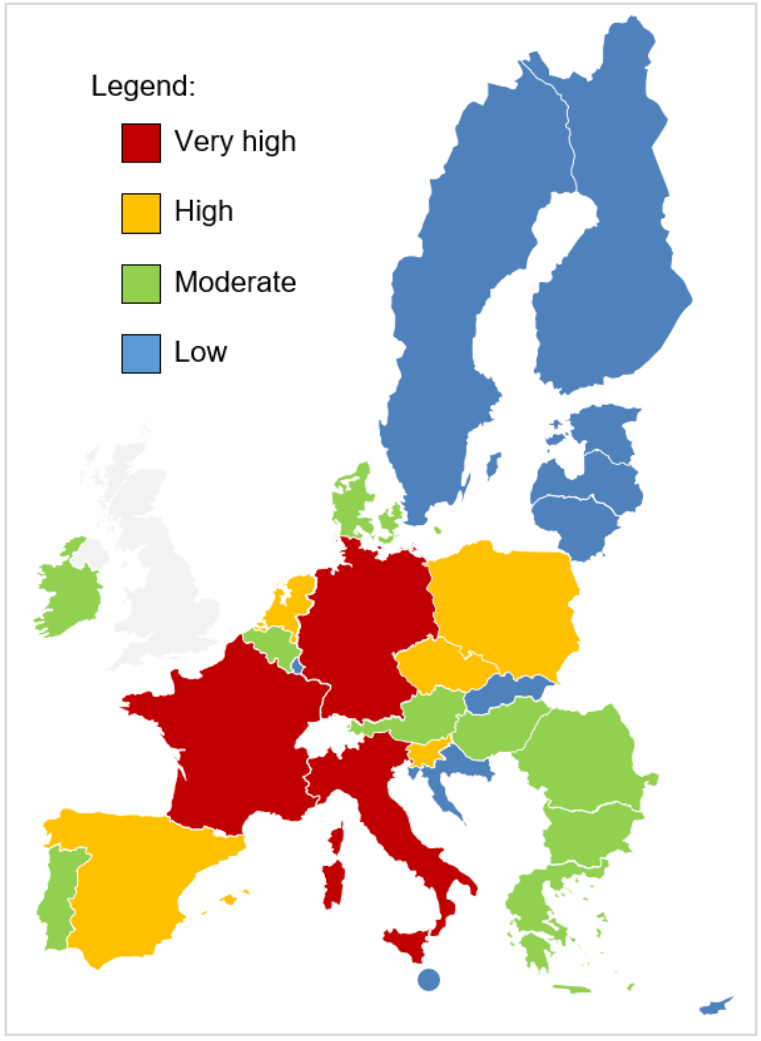
Member States' Contribution to Greenhouse Gases

Total Greenhouse Gases (Million tonnes) - 2018





Germany (24%), France (12%), Italy (11%) accounted for around **50% of total** EU27 Greenhouse Gases emissions in 2018

Source: Own estimation based on Eurostat.

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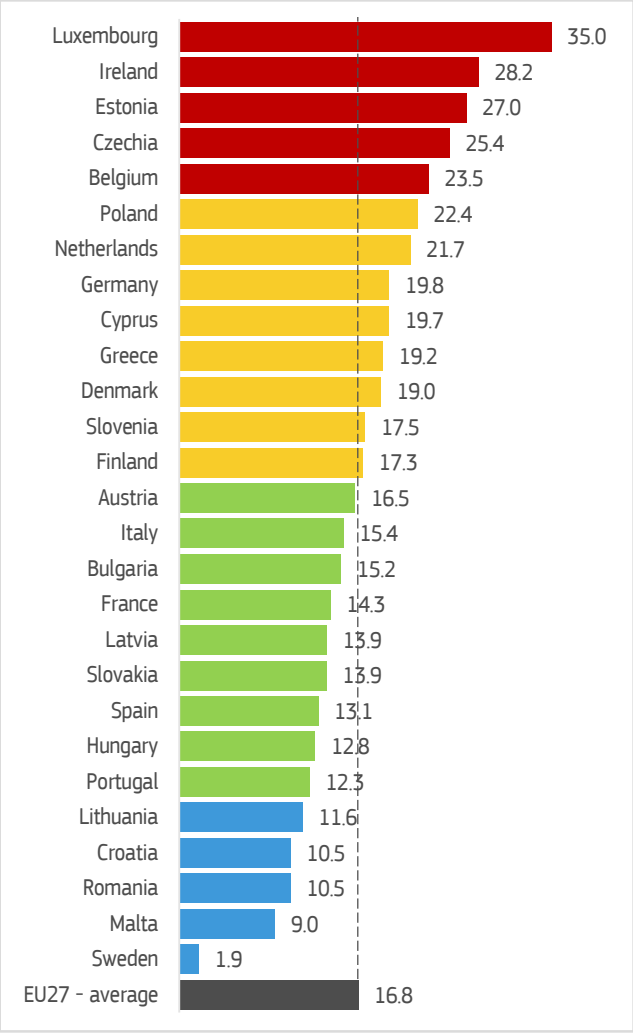
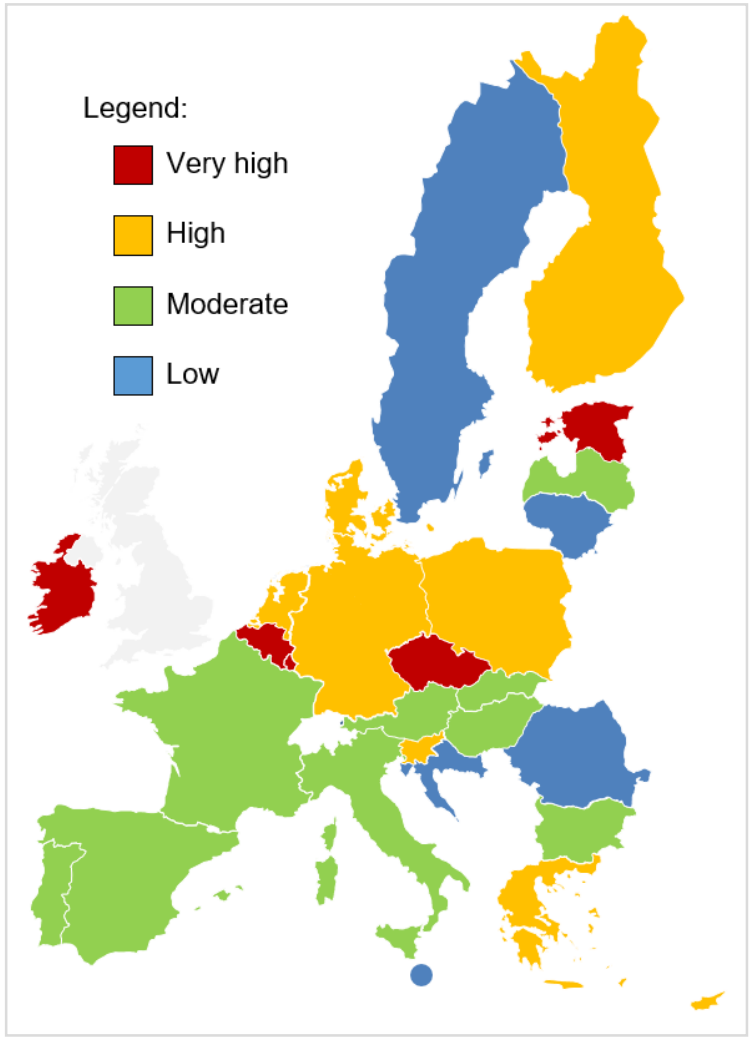
Member States' Contribution to Greenhouse Gases

Intensity Greenhouse Gases (tonnes per employee) - 2018





After controlling for country size, **Luxembourg**, **Ireland**, **Estonia**, **Czechia** and **Belgium** reported the highest intensity

Source: Own estimation based on Eurostat.

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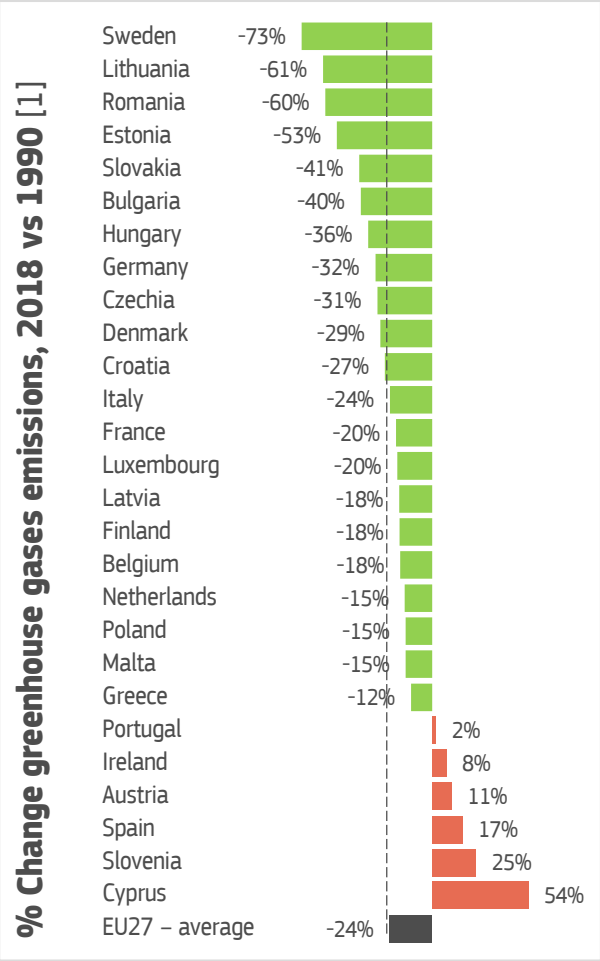
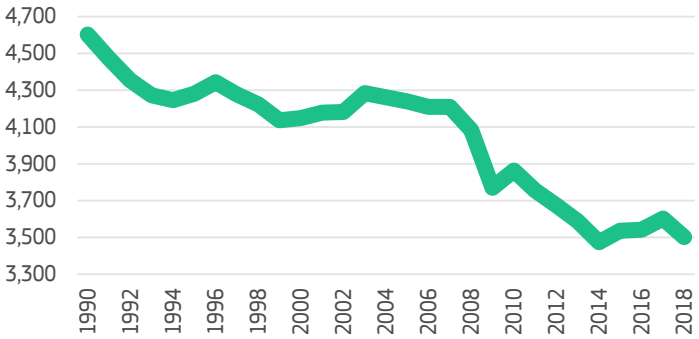
Greenhouse gases emissions evolution



Greenhouse gases emissions, EU27, 1990 – 2018, Million tonnes [1]



- Changes between 1990-2018: -24%
- Highest reductions: Sweden, Lithuania and Romania
- **Commission target 2030**: reduction of (at least) 40% compared to 1990

European Green Deal Contribution for Commission target [2]

- Providing a policy and legal framework
- Developing of a specific financial system
- Enhancing Research, Innovation and Digitalization
- Helping in the transition by re-skilling and up-skilling labour forces capabilities (education and training)

Source: [1] Own estimation based on Eurostat.
[2] European Commission (2019). *The European Green Deal*, COM(2019) 640 final, Brussels 11.12.2019.

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Investment Cost of Green Transition

Average **ADDITIONAL** investment to achieve the EU's 2030 objective

260Eur billion per year

Residential sector: 125Eur billion

Services sector: 71Eur billion

Energy sector: 34Eur billion

Transport sector: 21Eur billion

Source: European Commission (2019). *United in delivering the Energy Union and Climate Action - Setting the foundations for a successful clean energy transition*, COM(2019) 285 final, Brussels, 18.6.2019

Jobs at risk from climate transition

Persons employed in sectors likely almost to disappear or being profoundly transformed

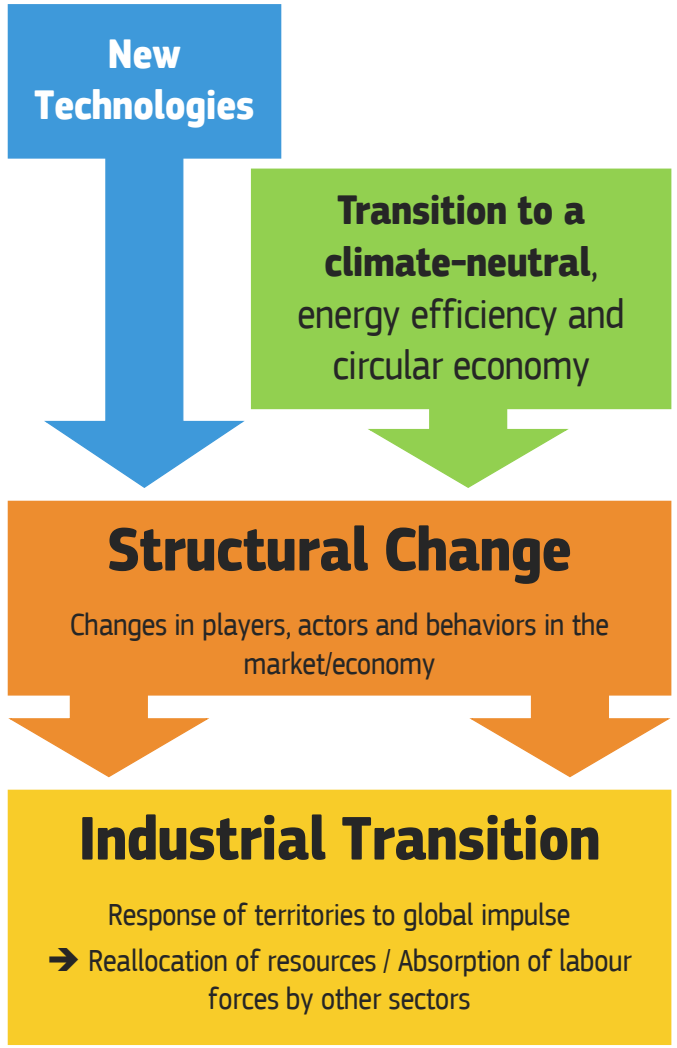
Economic activity (NACE code rev. 2) [1]	**Persons employed** [2]
B05: Mining of coal and lignite	121,809
B06: Extraction of crude petroleum and natural gas	27,710
B09: Mining support service activities	23,626
C20: Manufacture of chemicals and chemical products	1,069,839
C23: Manufacture of other non-metallic mineral products	1,000,128
C24: Manufacture of basic metals	932,017
C29: Manufacture of motor vehicles, trailers and semi-trailers	2,580,713
TOTAL – EU27 (2018)	**5,755,842**

- Transitions to a low-carbon and climate-neutral economy will affect all countries around the world
- Some sectors and economic activities are likely to fade into insignificance (e.g. coal, petroleum and natural gas related-activities) and other are being profoundly transformed (e.g. some branch in manufacturing industry)
- The sectors most affected by the climate-neutral transition contribute around 6 million of jobs in the EU27 (only direct effect)
- Re-skilling and up-skilling labour force capabilities will play a role to mitigate the negative effects

Source: [1] Griffin, M., György, E., Jakšič, K., & Siebern-Thomas, F. (2019). "Towards a greener future: Employment and social impacts of climate change policies". In *Sustainable growth for all: Choices for the future of Social Europe* (p. 332). Publications Office of the European Union.
[2] Eurostat.

Some last reflections

- Global impulses (e.g. megatrends), new trends are affecting employment in existing sectors and resources are reallocated to other sectors.
- There will be job losses in transitions, but also opportunities for some sectors
- Studies [1] anticipate that the net effect could be even be positive if the transitions are managed correctly (education/training are fundamental for re-skilling and up-skilling labour forces capabilities)
- European Green Deal [2] includes several policy measures to achieve EU targets
- A clear understanding of territorial challenges and opportunities are needed to draw the correct pathway (through POINT methodology) [3]



Source: [1] For example, Griffin, M., György, E., Jakšič, K., & Siebern-Thomas, F. (2019). "Towards a greener future: Employment and social impacts of climate change policies". In *Sustainable growth for all: Choices for the future of Social Europe* (p. 332). Publications Office of the European Union.

[2] For more details see: European Commission (2019). *The European Green Deal*, COM(2019) 640 final, Brussels 11.12.2019.

[3] For more details see: Pontikakis, D. et al. (2020). *Projecting Opportunities for INdustrial Transitions (POINT): Concepts, rationales and methodological considerations for territorial reviews of industrial transition*, Publications Office of the European Union, Luxembourg, 2020, doi:10.2760/673858.

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Thank you

Please ask questions in the chat

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