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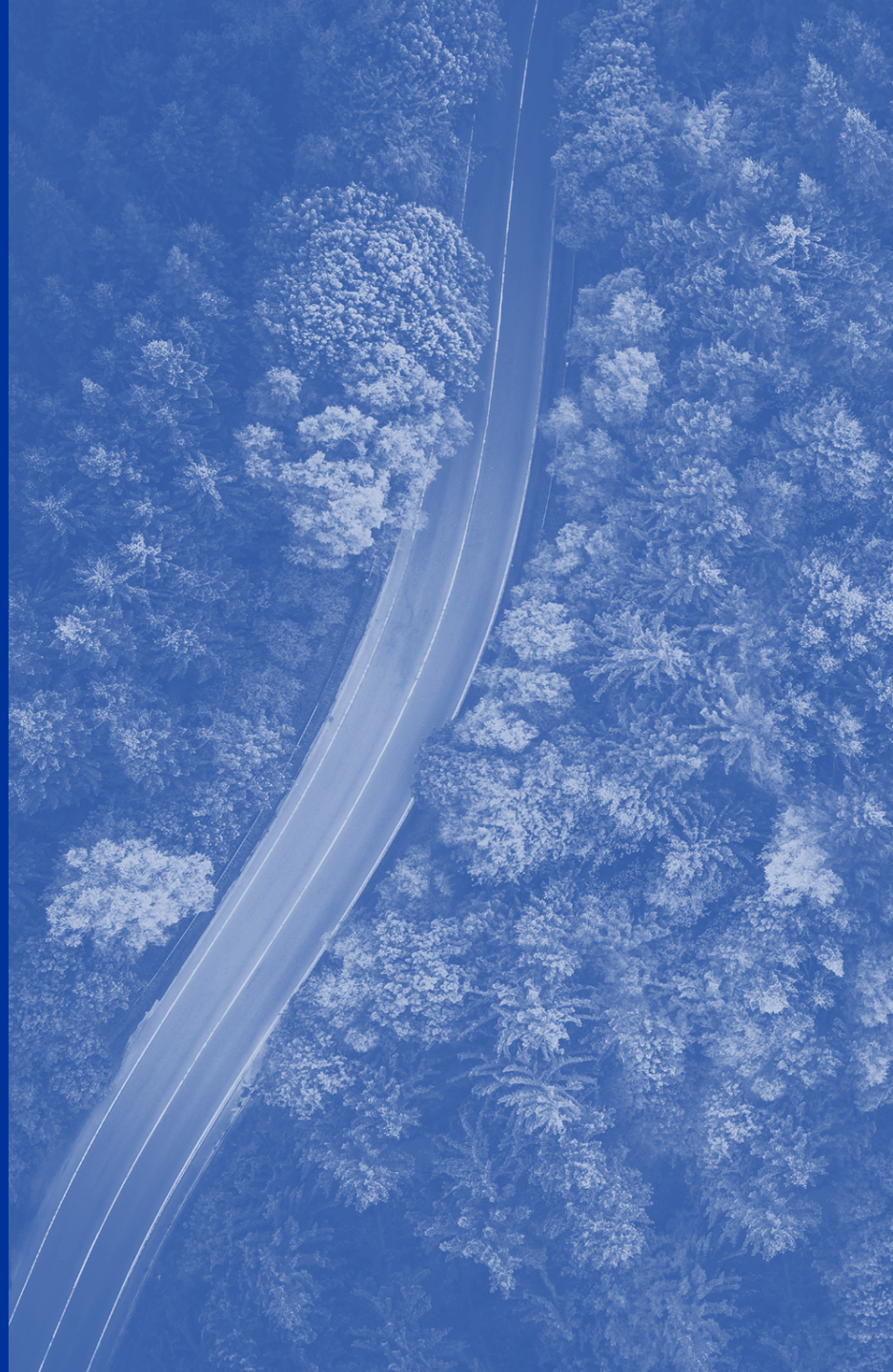
Entre crises et transitions : scénarios pour les marchés du travail régionaux en Europe

Nicolas Rossignol, Directeur adjoint ESPON

« Permettre à davantage de personnes de travailler en Grande Région: augmenter le taux d'emploi, pourquoi, comment ? »
„Mehr Menschen in der Großregion Arbeit ermöglichen: Die Beschäftigungsquote erhöhen – warum und wie?“
Atelier débat / Werkstattgespräch – 04.12.2025 – LISER / Esch-Belval



An Age of Transitions

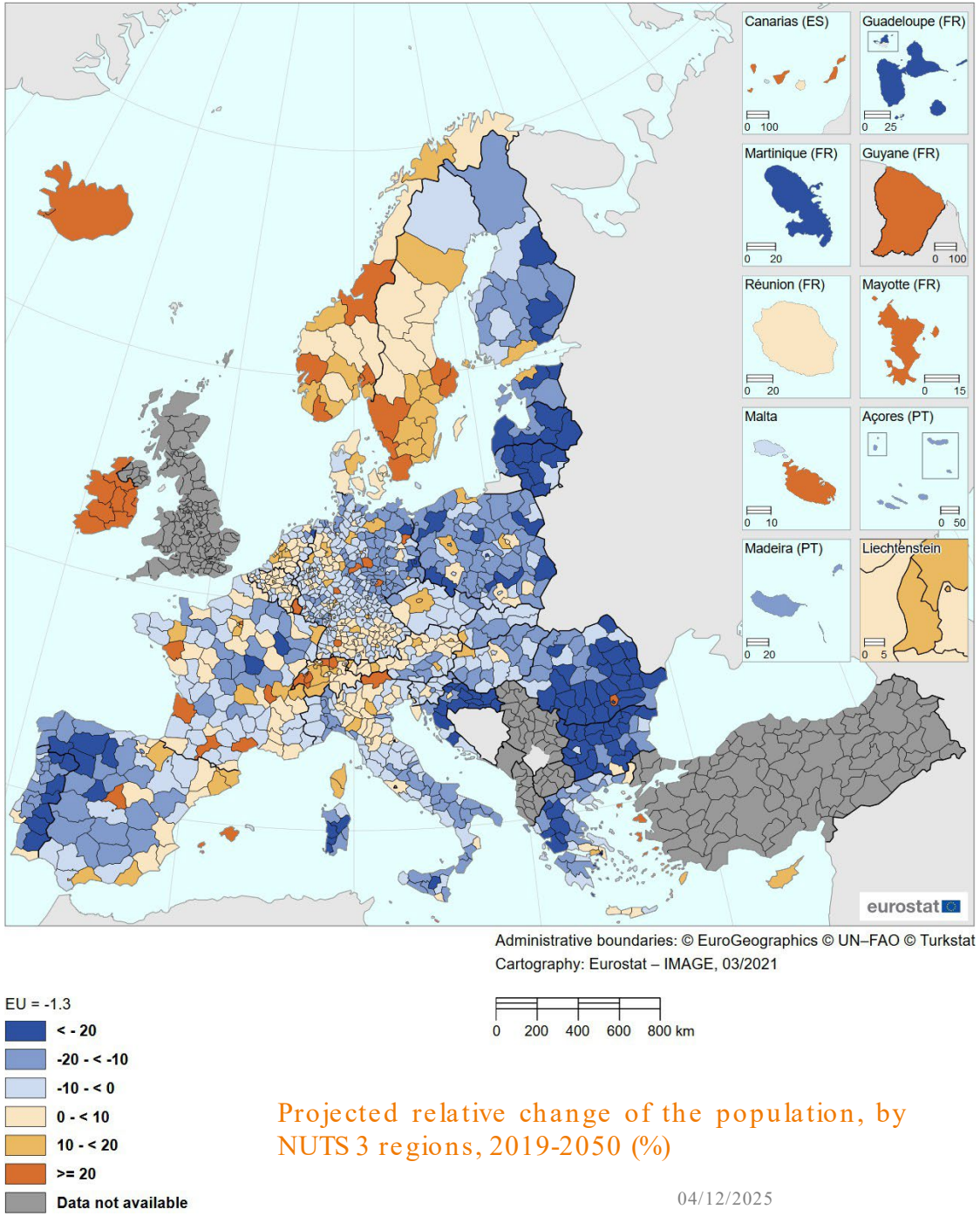
Demographic transition: The European population is projected to decline from 2030, posing structural challenges for European economies. While longer, healthier lives are positive, shrinking labour forces will drive shortages, skill mismatches, reduced economic dynamism, and increased pressure on welfare systems, with varying regional impacts.

Digital transition: The EU's digital transition, accelerated by COVID-19, aims to drive growth and innovation with a people-centred approach. However, the digital shift poses labour market disruptions, with regional disparities in readiness, underscoring the need for targeted investments in skills and infrastructure.

Green transition: While promoting resilience, the green transition requires structural changes that may temporarily affect productivity and job security, especially in regions where high-emission industries are located.

"If left unaddressed, this process [shrinking working age population] will trigger new and growing territorial disparities as regions age and fall behind in terms of size and skills of their workforces. **The change in Europe's demographic landscape will hamper the resilience and competitiveness of the EU as a whole and compromise Cohesion.** This is taking place in the context of a fierce global race for talent and against the backdrop of other structural transformations, such as the transition to a climate neutral and resilient economy and technological change, that may also exacerbate disparities between regions."

Communication of the European Commission: *Harnessing talent in Europe's regions*



Projected relative change of the population, by NUTS 3 regions, 2019-2050 (%)

Overlapping crisis (re)shaping the future of regional labour markets [OVERLAP]

Demographic and Regional Analysis: OVERLAP examines **demographic trends** across ESPON countries at the NUTS 3 level and forecast their impacts on regional labour markets by projecting the **size of the employed population** over the medium term (2035).

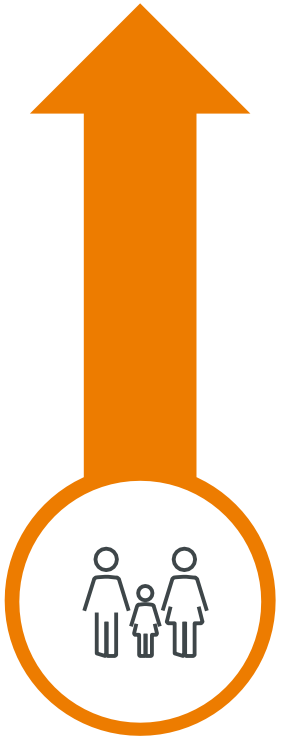
Digital and Green Transitions: The project investigates the impact and scope of **digital and green transitions**, assessing how these shifts can either exacerbate or mitigate labour market pressures.

Scenario Development for Policy Guidance: OVERLAP develops **multiple scenarios** to inform policy decisions and address demographic imbalances and labour shortages.

Overlapping crisis (re)shaping the future of regional labour markets [OVERLAP]

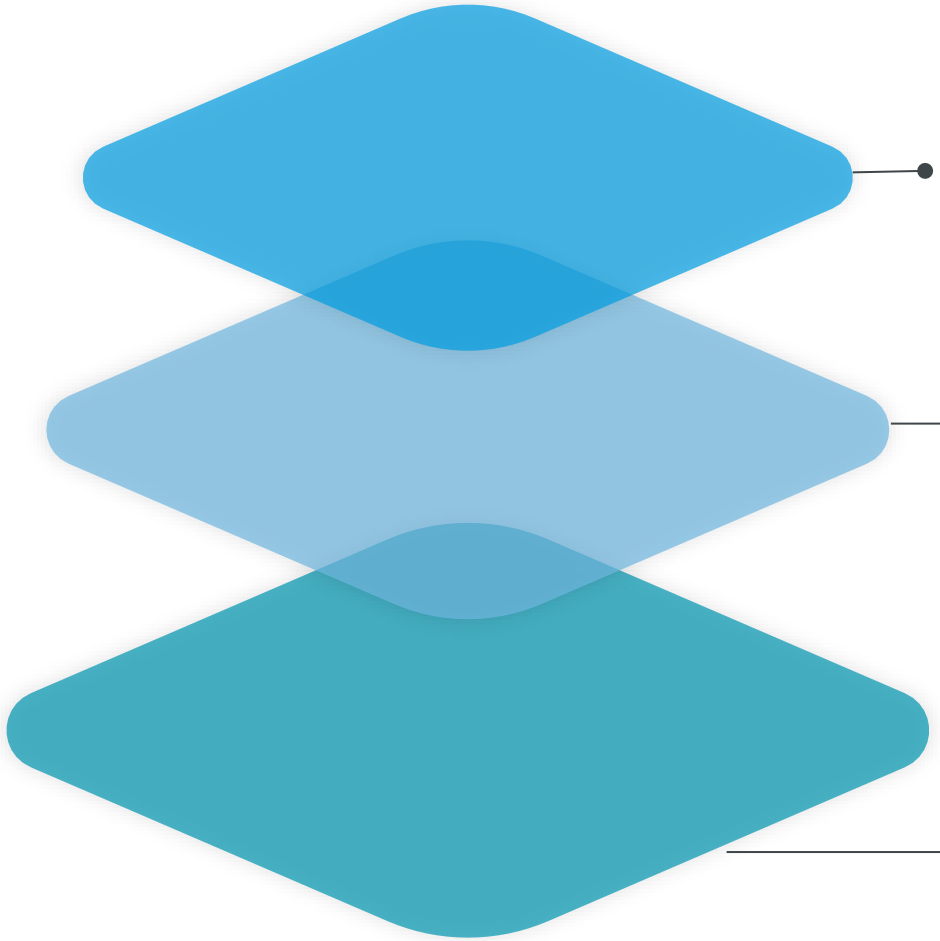
OVERLAP main framework : dual Top-Down & Bottom-Up approach

- Top-down approaches frequently used to assess the **impact of trends on regional labour markets**.
  - Effects of trends & shocks on labour market best derived through **assessing impact on industries**. More reliable data sources (input-output tables) at national level.
- Main trends and shocks (e.g., demographic, technological change, green transition, etc.) to be **first modelled at the national level** (Prognos DINOS Model) and then **regionalised to NUTS-3 level** for each industry.



- Novel & complementary regional micro-analytical framework: rich & **spatially detailed dynamic microsimulation model** projecting individual life course trajectories.
- A perspective that **builds up from the individual level** and allows to focus on any aggregate of interest, allowing us to analyse not only what happens to regions, but also ***what happens inside regions***.
- A tool for building **counterfactuals** to analyse different scenarios and asses the role of policies (leveraging the EU-wide tax-benefit model EUROMOD).

Modelling the triple transition



Green transition: Investments needed at country-industry level for the net-zero targets to be achieved by 2050. This figure is then fed into the DINOS model

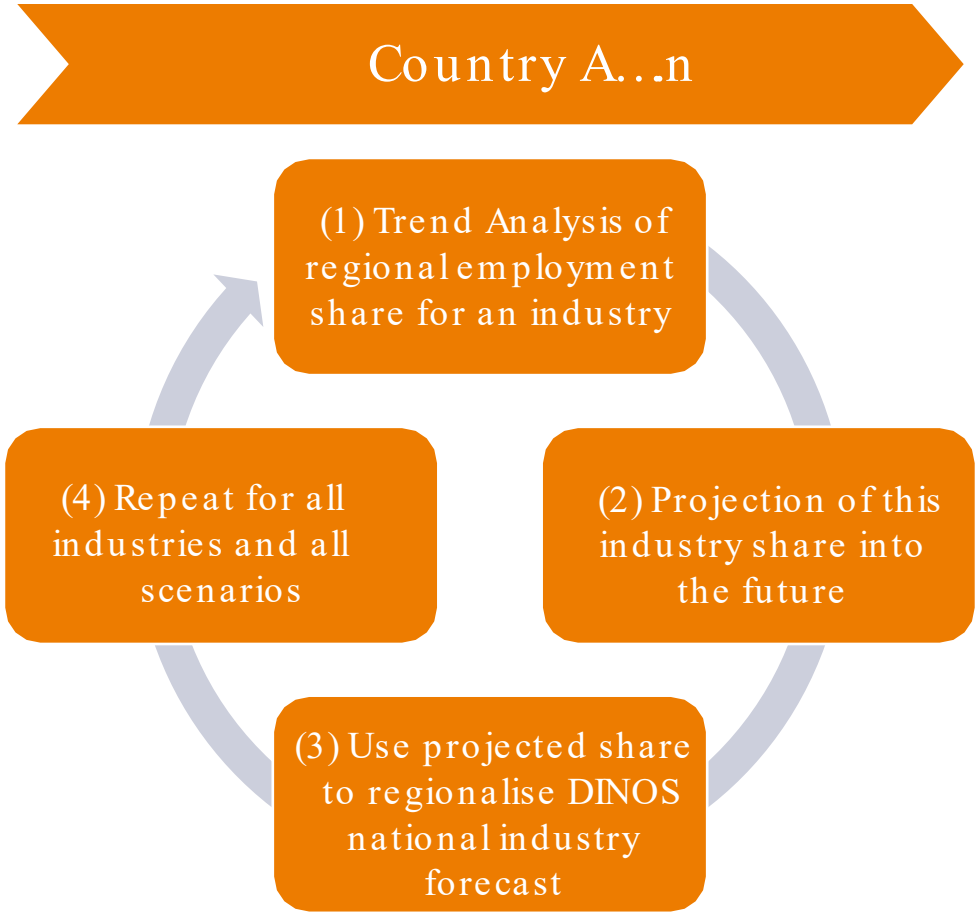
Digital Transition: Technological change proxied by productivity

- **Baseline:** Productivity increases by a base rate of 0.5% per year for the highest performing industry-country, with all others converging through higher growth.
- **High productivity:** Both the base growth rate and convergence factor are scaled up by 33%.
- **Low productivity:** Both the base growth rate and convergence factor are scaled down by 25%.

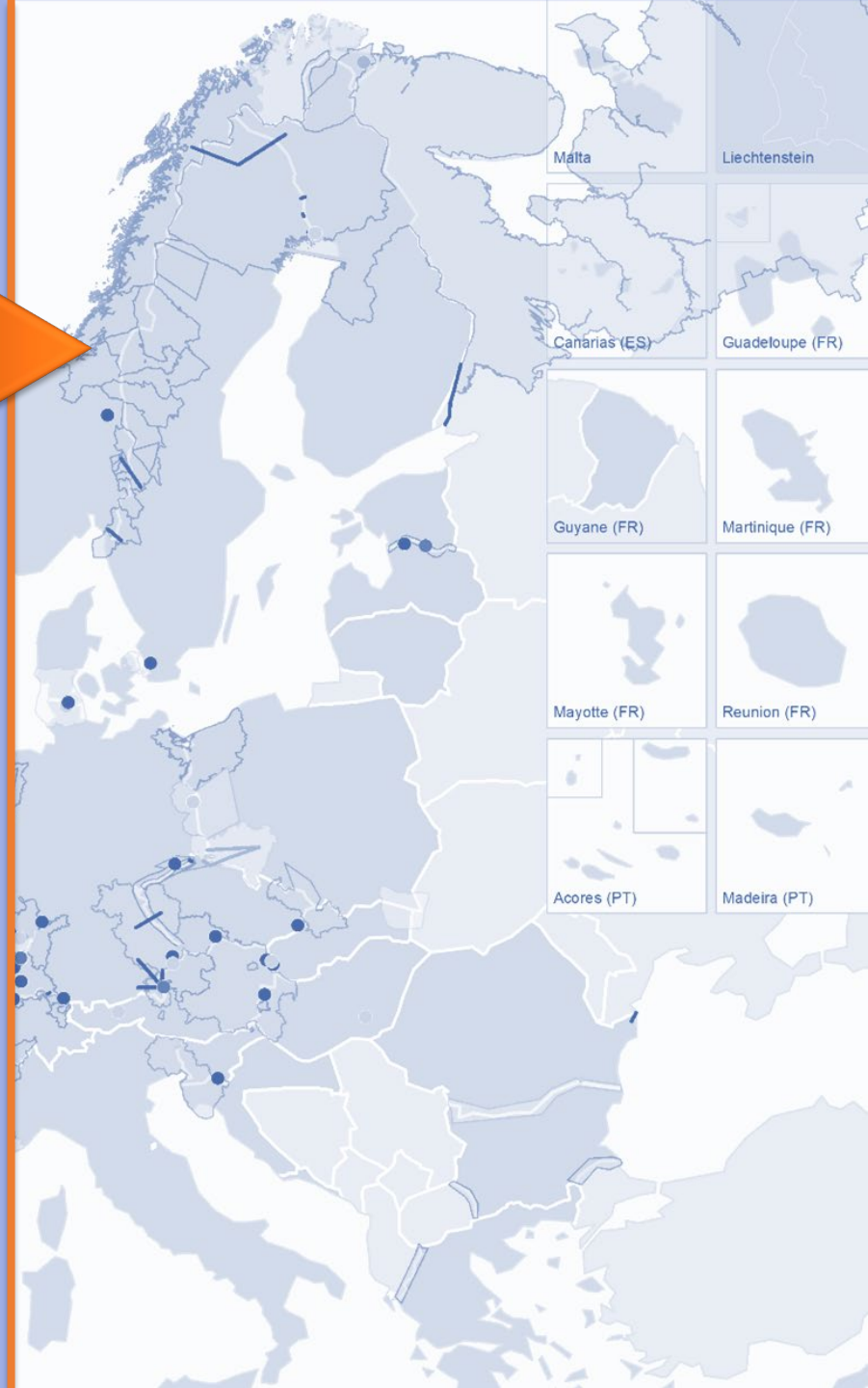
Demographic transition

- **Baseline scenario:** Fertility, mortality and migration patterns of the last decade are projected into the future.
- **High migration:** Net migration is increased by 33%.
- **Low migration:** Net migration is decreased by 33%.

Regionalisation process



Results of the scenario analyses



Preface: main selected scenarios for analysis

selected scenarios

	Population	Productivity	Green transition
Baseline population, base-line productivity (BAU / baseline).	baseline	baseline	no change
Baseline population, high productivity.	baseline	high	no change
Baseline population, green transition achieved.	baseline	baseline	achieved
Baseline population, high productivity, green transition achieved.	baseline	high	achieved
Low migration, baseline productivity, green transition achieved.	low migration	baseline	achieved
High migration, baseline productivity, green transition achieved.	high migration	baseline	achieved

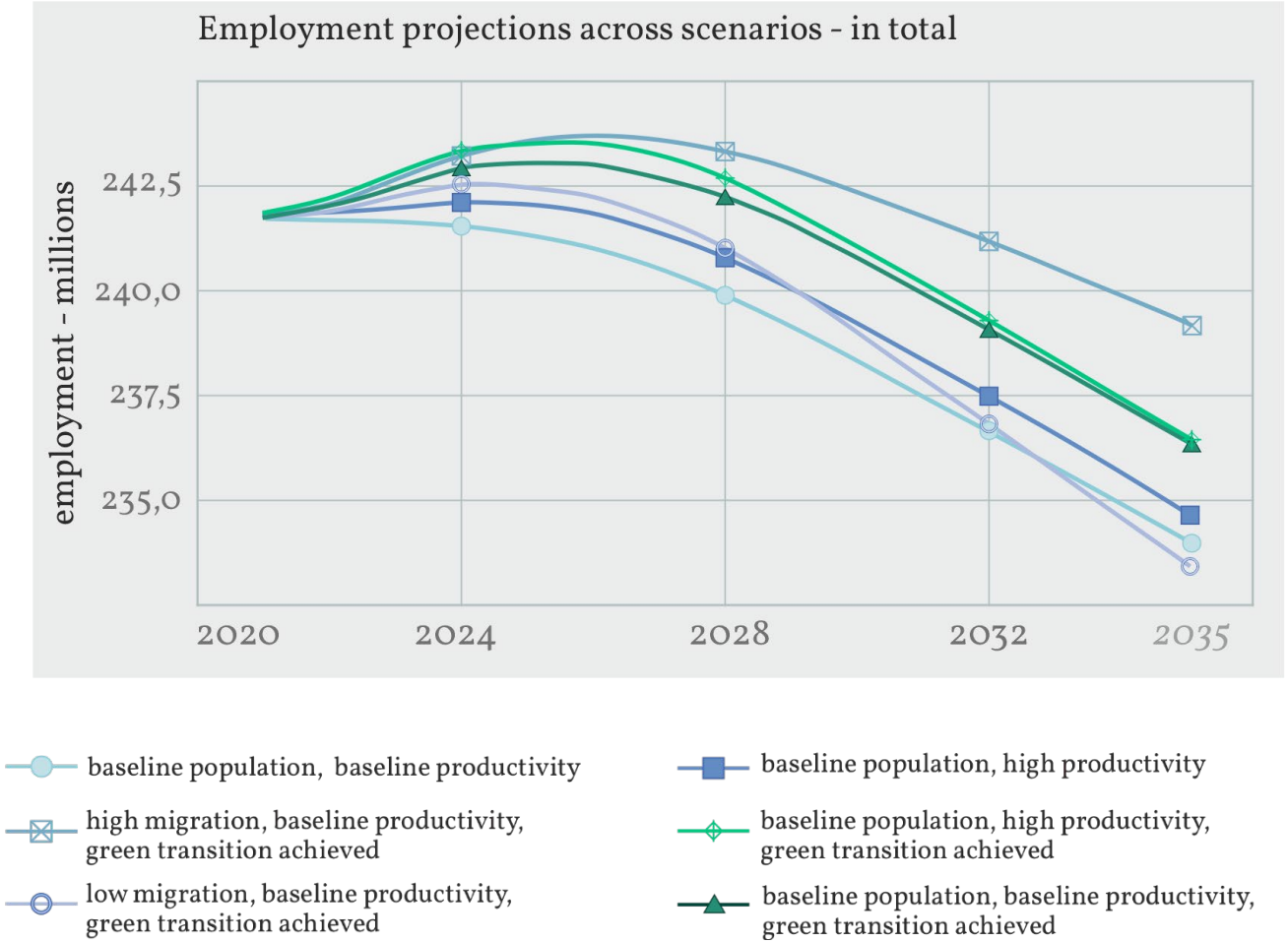
The Age of Labour Scarcity

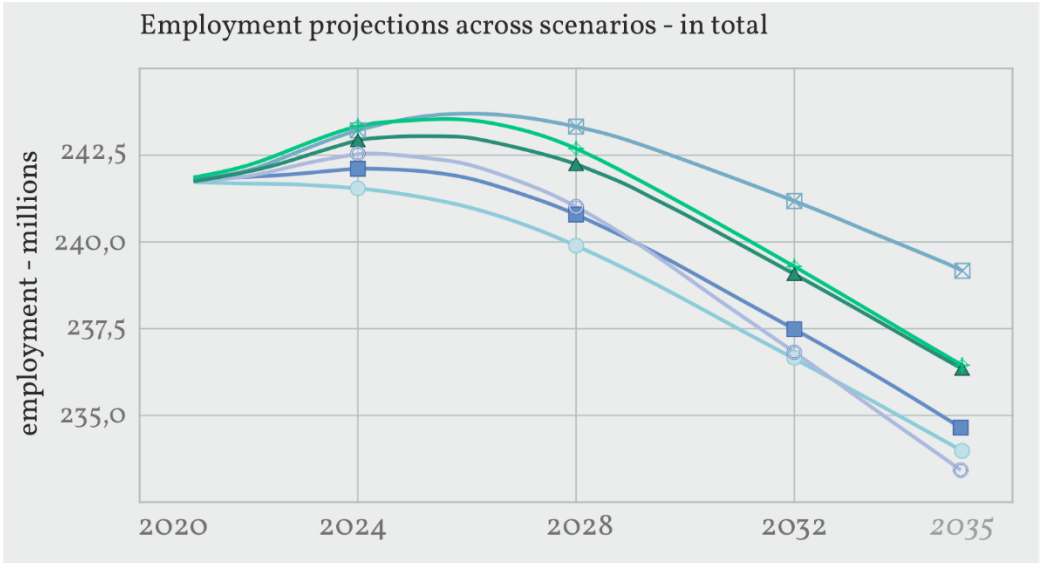
Regardless of the scenario, total employment in the ESPON area declines by several million by 2035 (comparable to "losing an entire medium-size country" in terms of workforce).

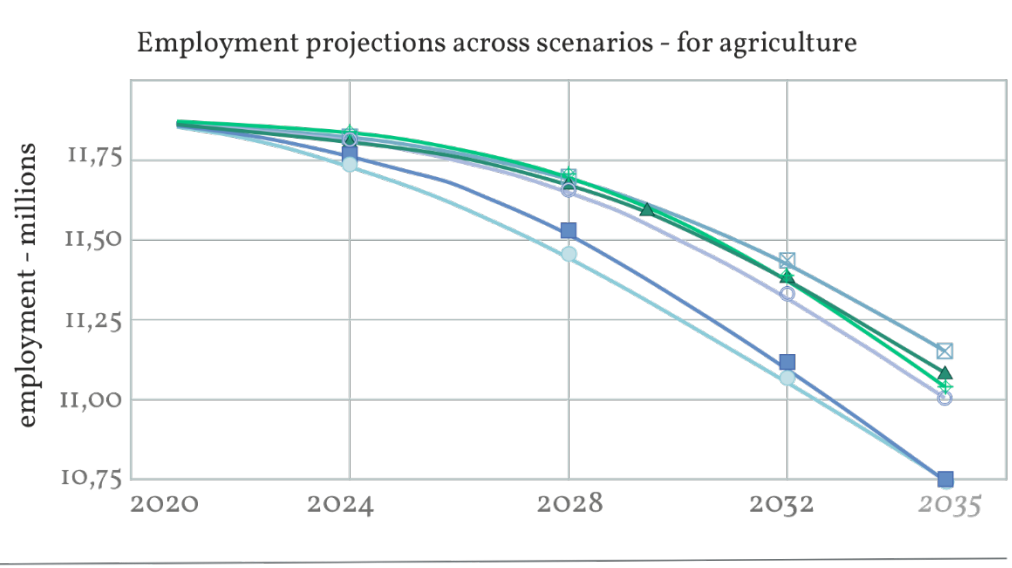
Demographic forces drive the trend (ageing population, low fertility, and net migration patterns).

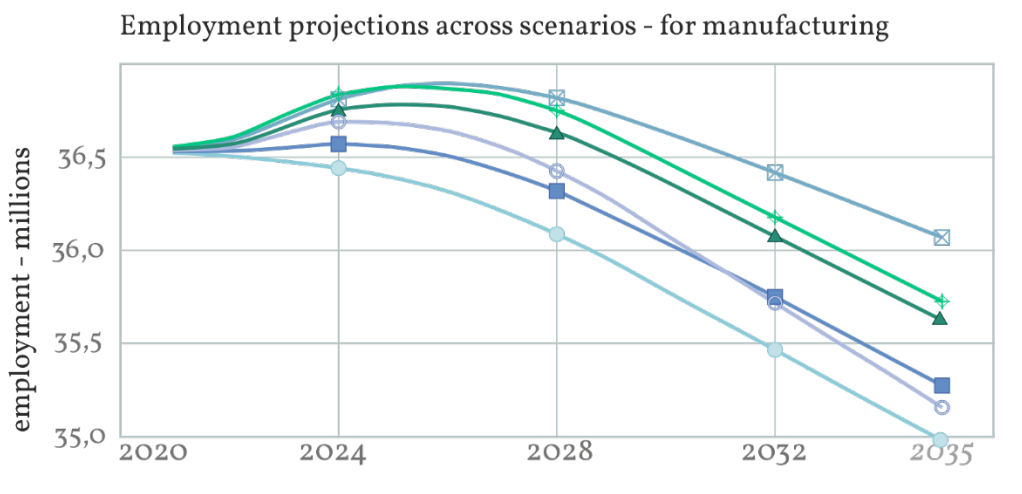
Even under more "optimistic" assumptions (higher productivity or green-transition investments), the labour force is not entirely "rescued" from demographic headwinds.

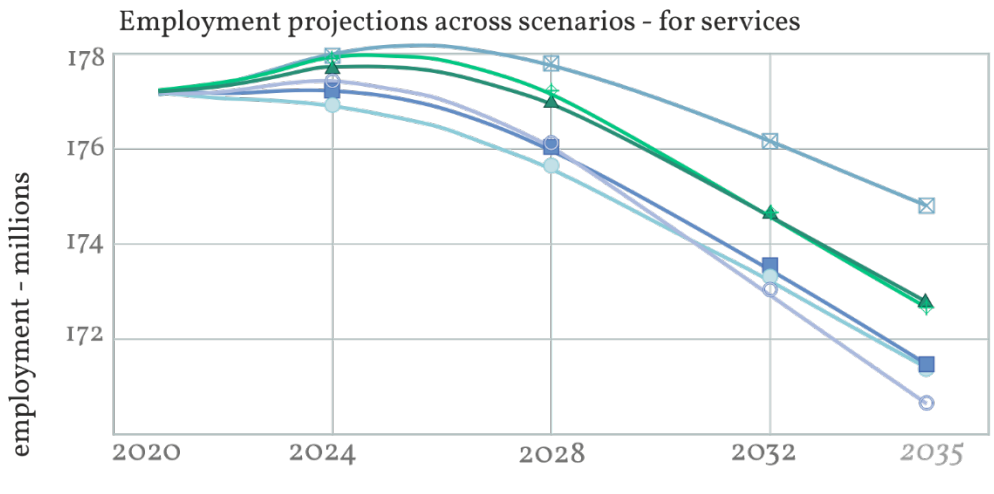
Still, a situation where the digital and the green transition are successfully carried out is the second-best scenario (light blue line).











baseline population, baseline productivity

high migration, baseline productivity, green transition achieved

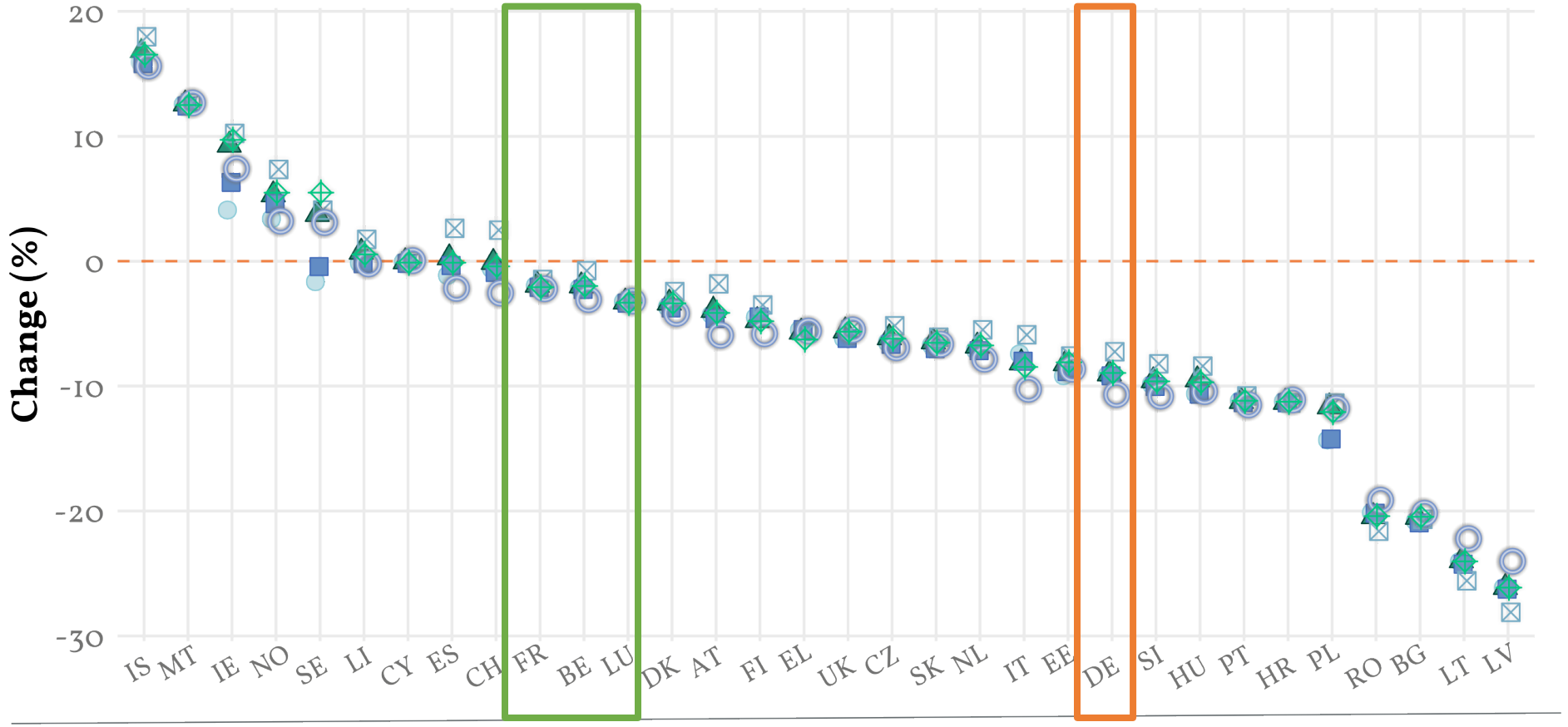
low migration, baseline productivity, green transition achieved

baseline population, high productivity

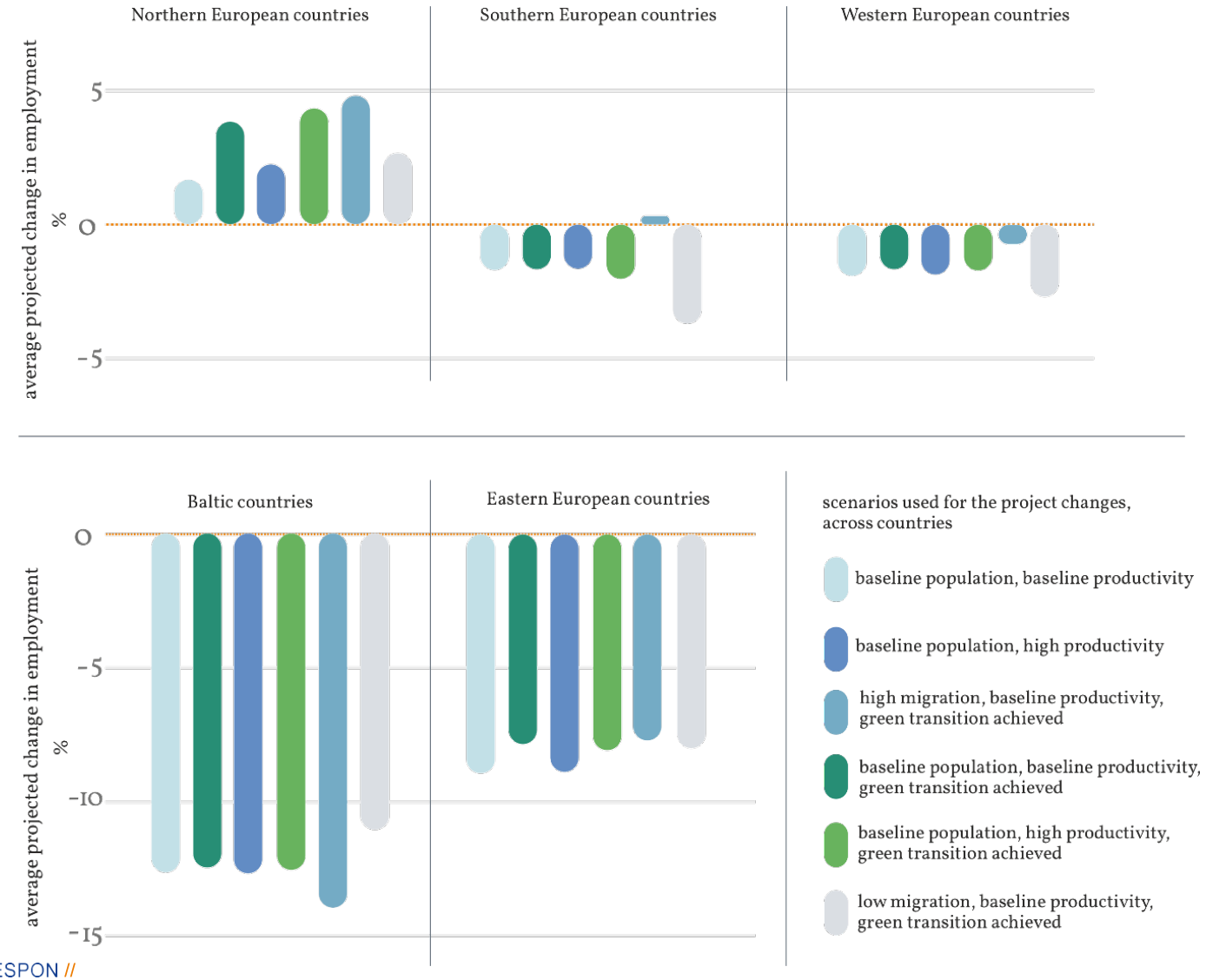
baseline population, high productivity, green transition achieved

baseline population, baseline productivity, green transition achieved

The Geography of Decline (1)



The Geography of Decline (2)



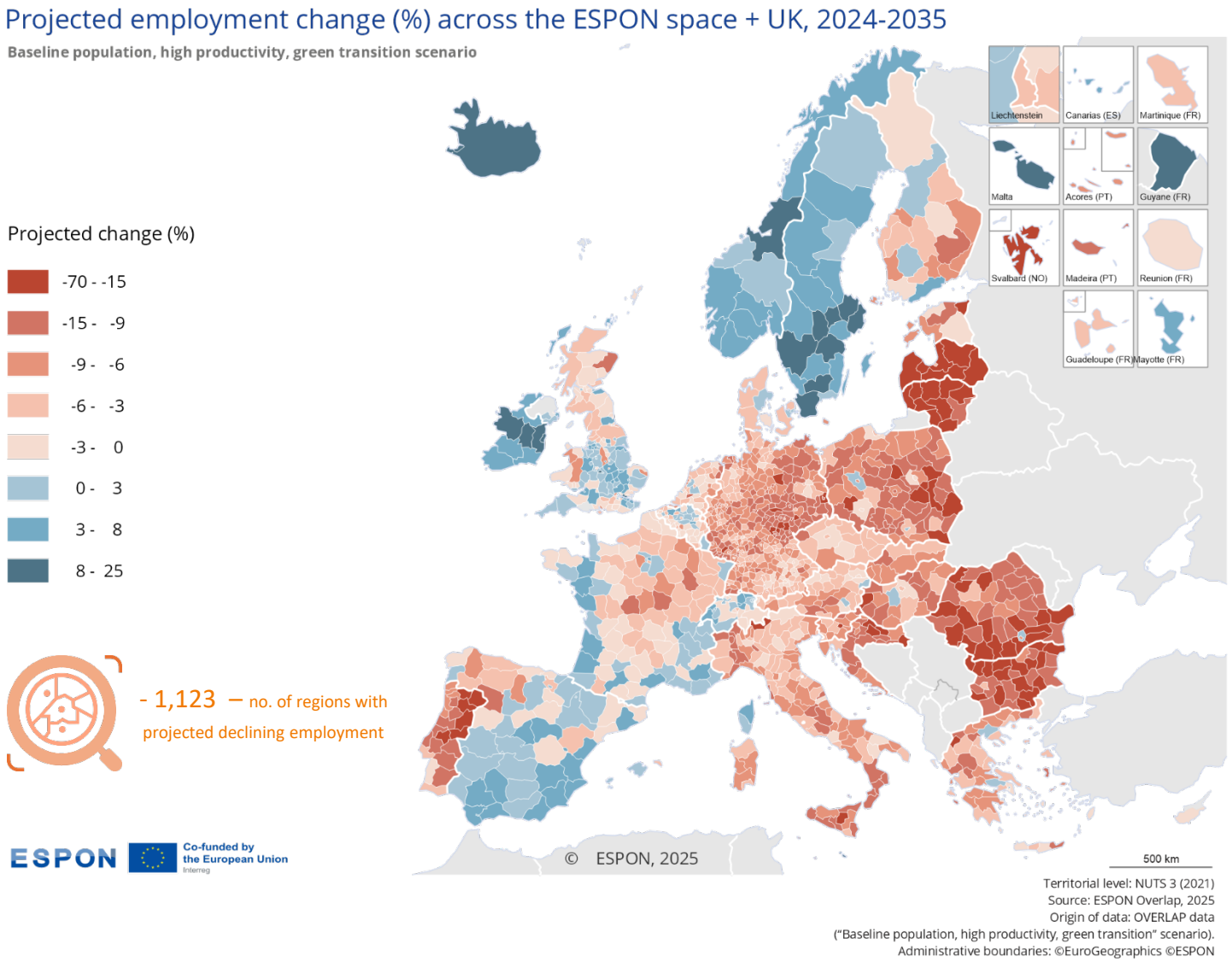
Eastern regions see sharp declines, largely tied to outmigration and ageing.

Northern European countries exhibit mild employment growth.

Southern and Western European regions will be particularly dependent on immigration to maintain their workforces – increasing attractiveness to international talent and better integrating migrants may offset the decline.

Regional Impacts: A Picture of Europe (1)

- A snapshot of Europe reveals hotspots of decline are mostly concentrated in the Baltics, Eastern and Southeastern Europe.
- Some regions – predominantly in the Nordics and Western Europe – will be able to maintain mild growth in employment.
- The distribution of results is rather consistent across scenarios.



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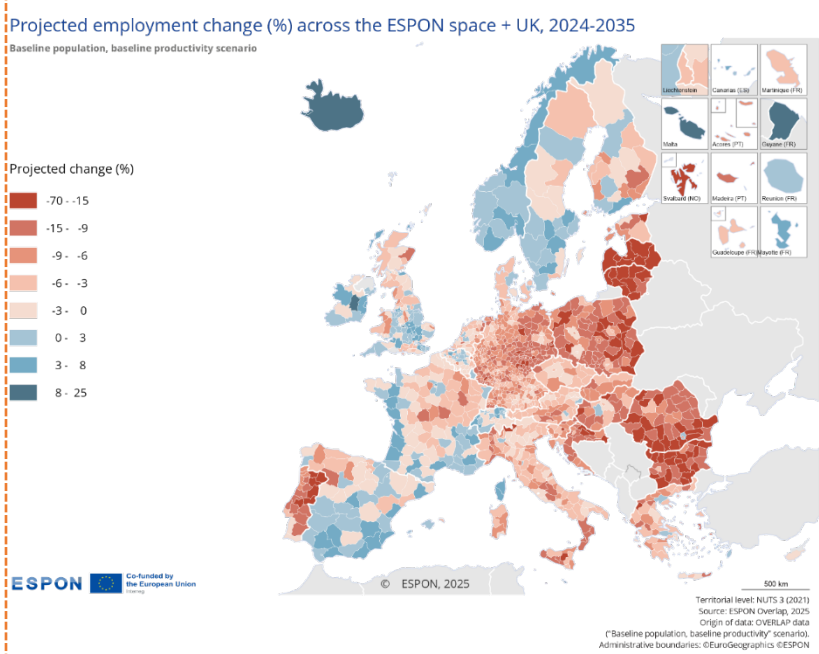
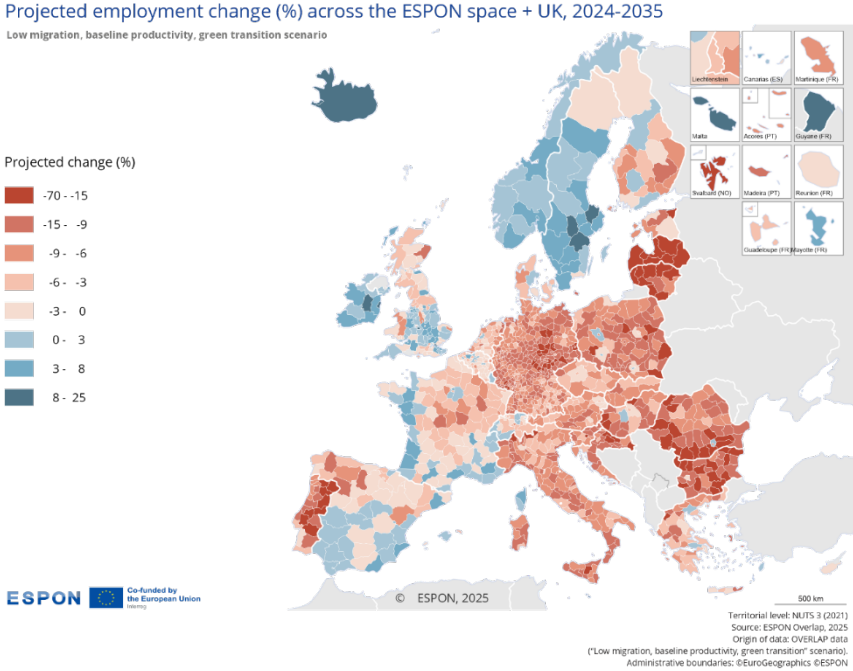
Regional Impacts: A Picture of Europe (2)

business-as-usual scenario



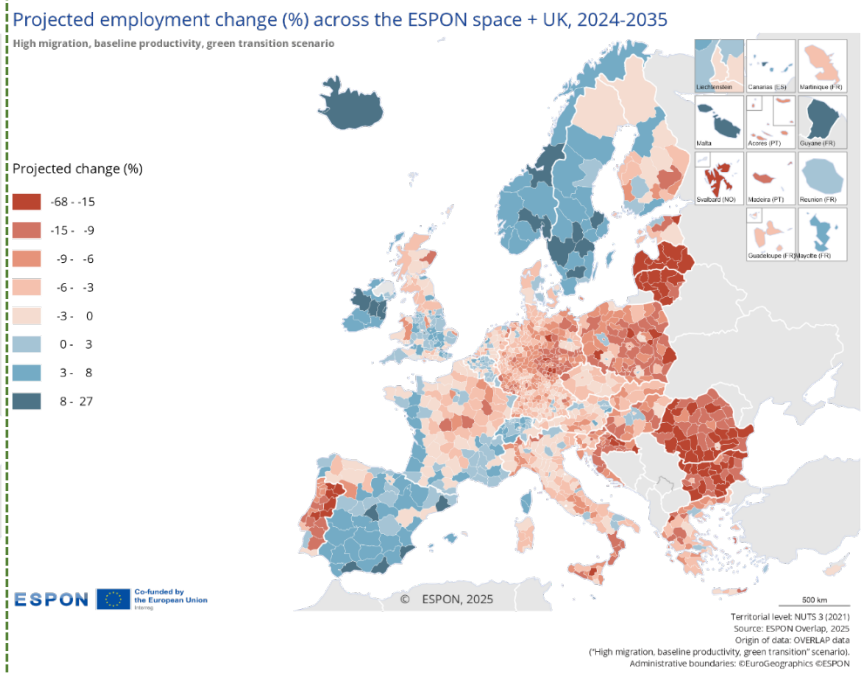
- 1,135 – no. of regions with projected declining employment

low migration, baseline productivity, green transition achieved scenario



- 1,156 – no. of regions with projected declining employment

high migration, baseline productivity, green transition achieved scenario

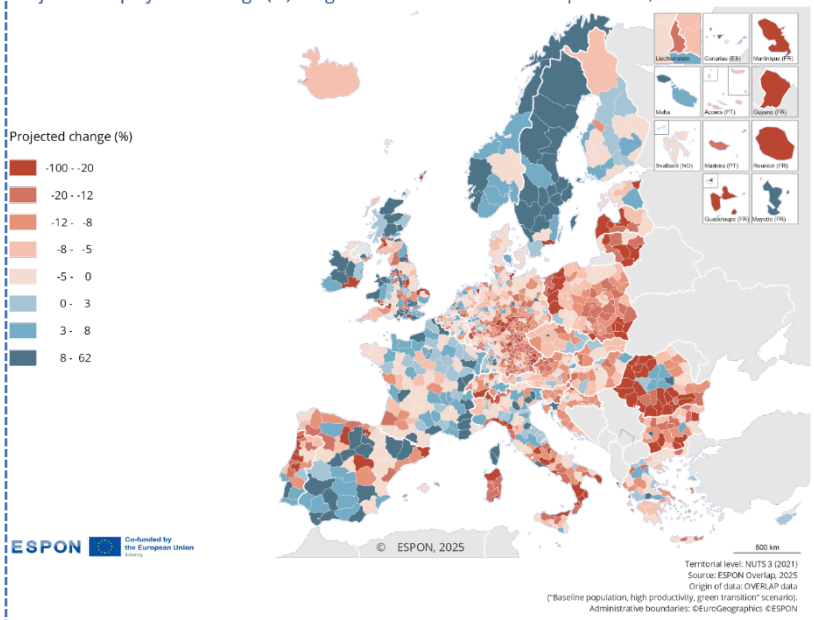


-1,062 – no. of regions with projected declining employment

Regional Impacts: A Picture of Europe (3)

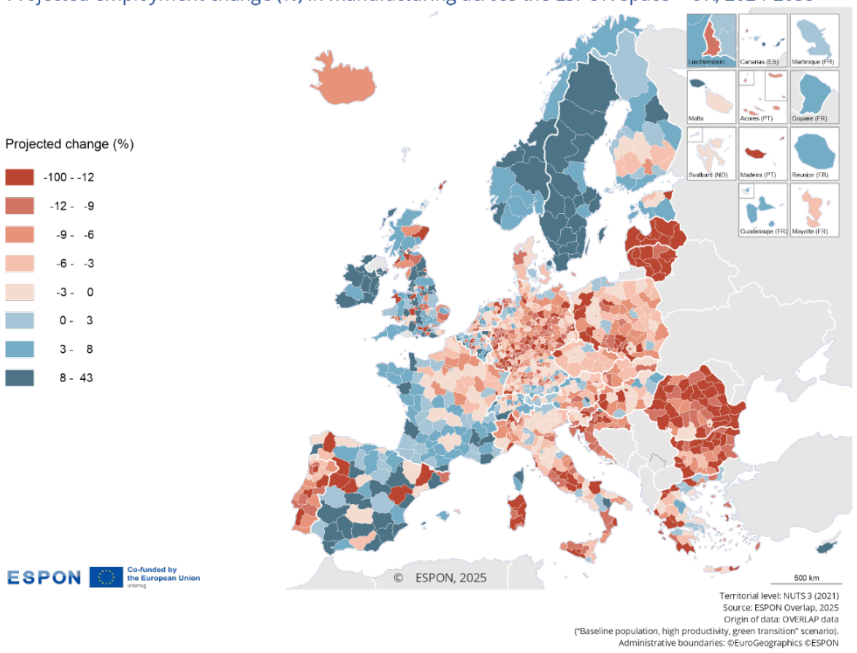
baseline population, high productivity, green transition scenario // agriculture

Projected employment change (%) in agriculture across the ESPON space + UK, 2024-2035



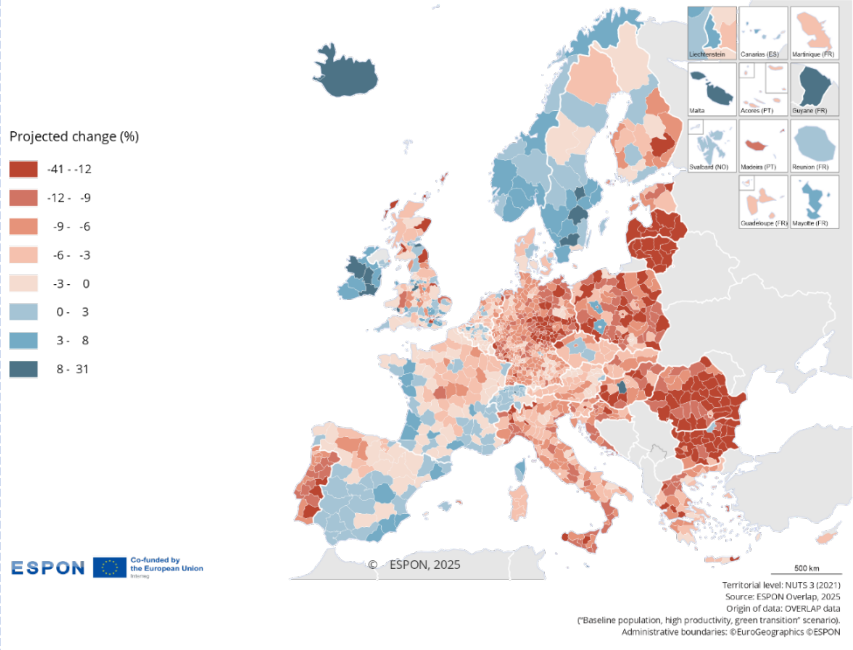
baseline population, high productivity, green transition scenario // manufacturing

Projected employment change (%) in manufacturing across the ESPON space + UK, 2024-2035



baseline population, high productivity, green transition scenario // services

Projected employment change (%) in services across the ESPON space +UK, 2024-2035



Regional impacts: focus on cross-border regions (I)

Across all 6 scenarios analysed, cross-border regions are projected to lose more employment between 2024 and 2035 than other regions.

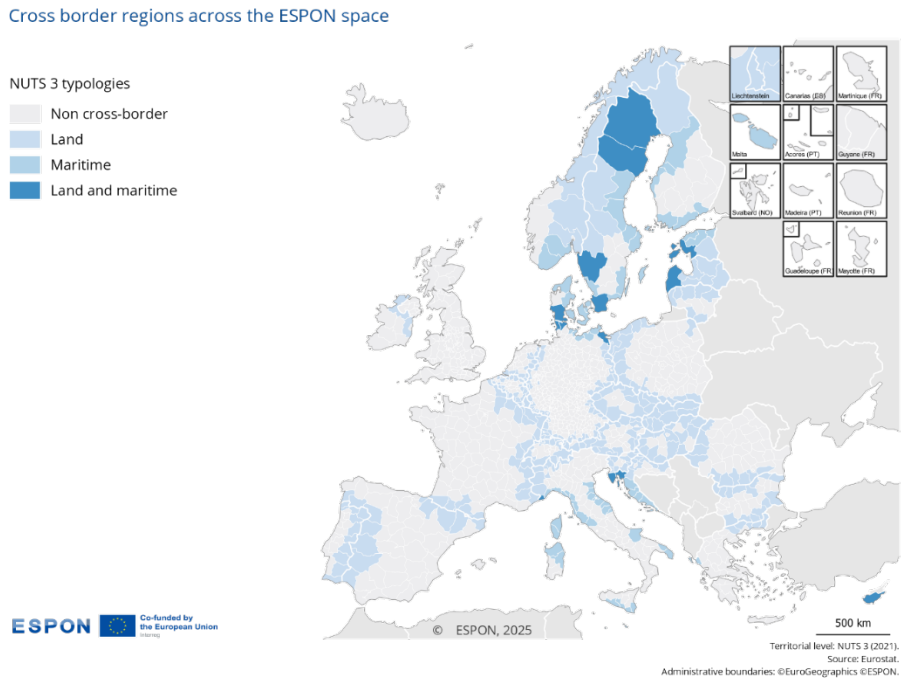
Why?

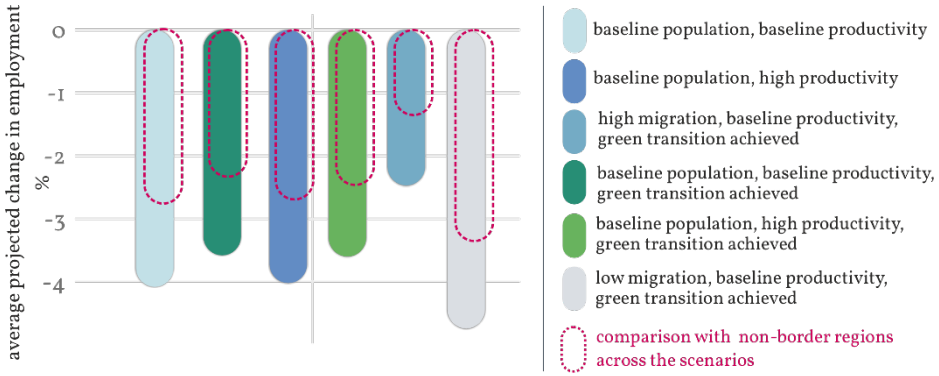
Border regions face stronger demographic pressures

Economic structure amplifies downturn risks

Institutional and language barriers persist

Higher cumulative vulnerability to shocks





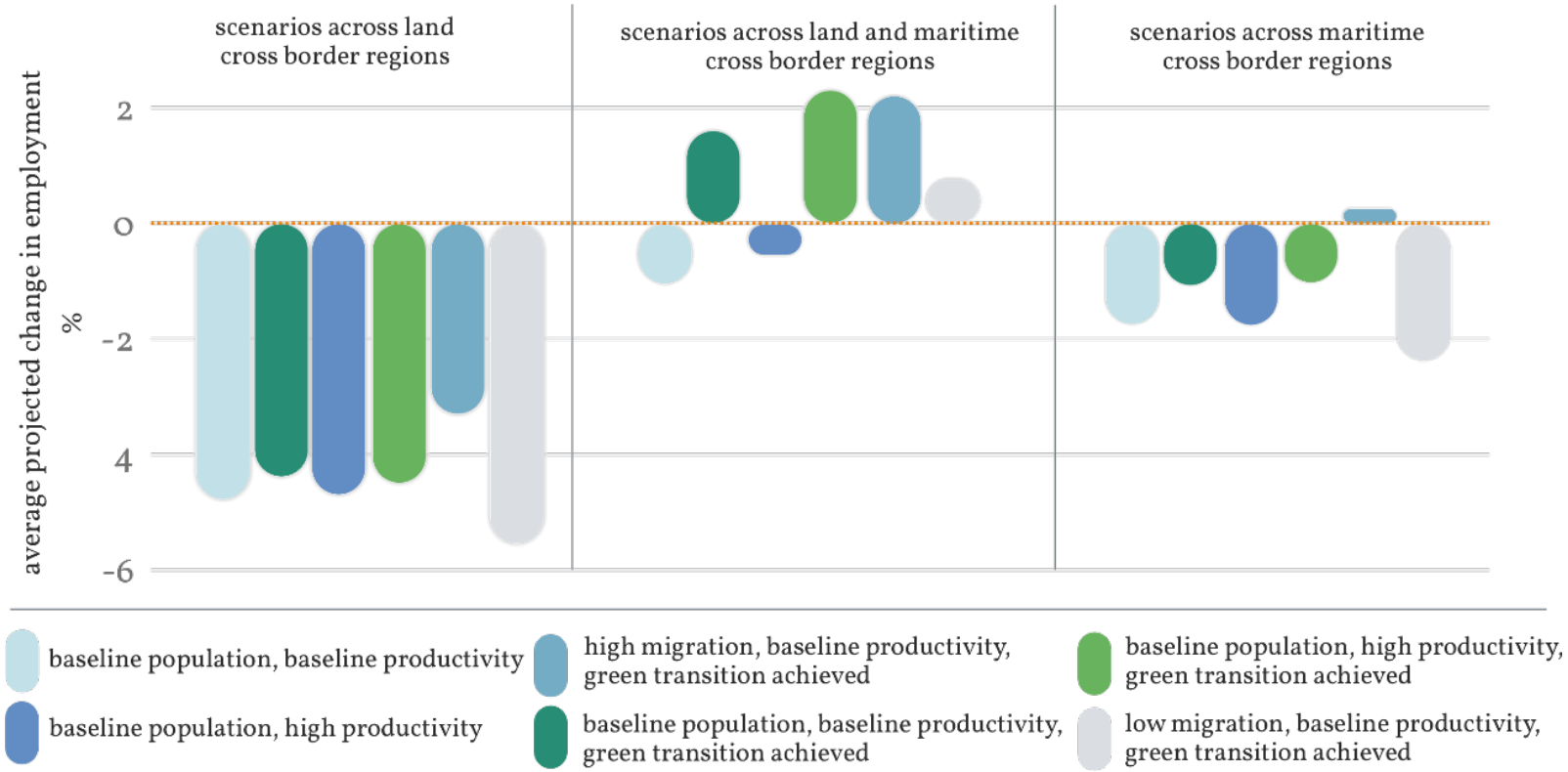
Regional impacts: focus on cross-border regions (II)

The type of cross-border region matters

Land-only cross-border regions consistently shoulder the heaviest job losses across all scenarios.

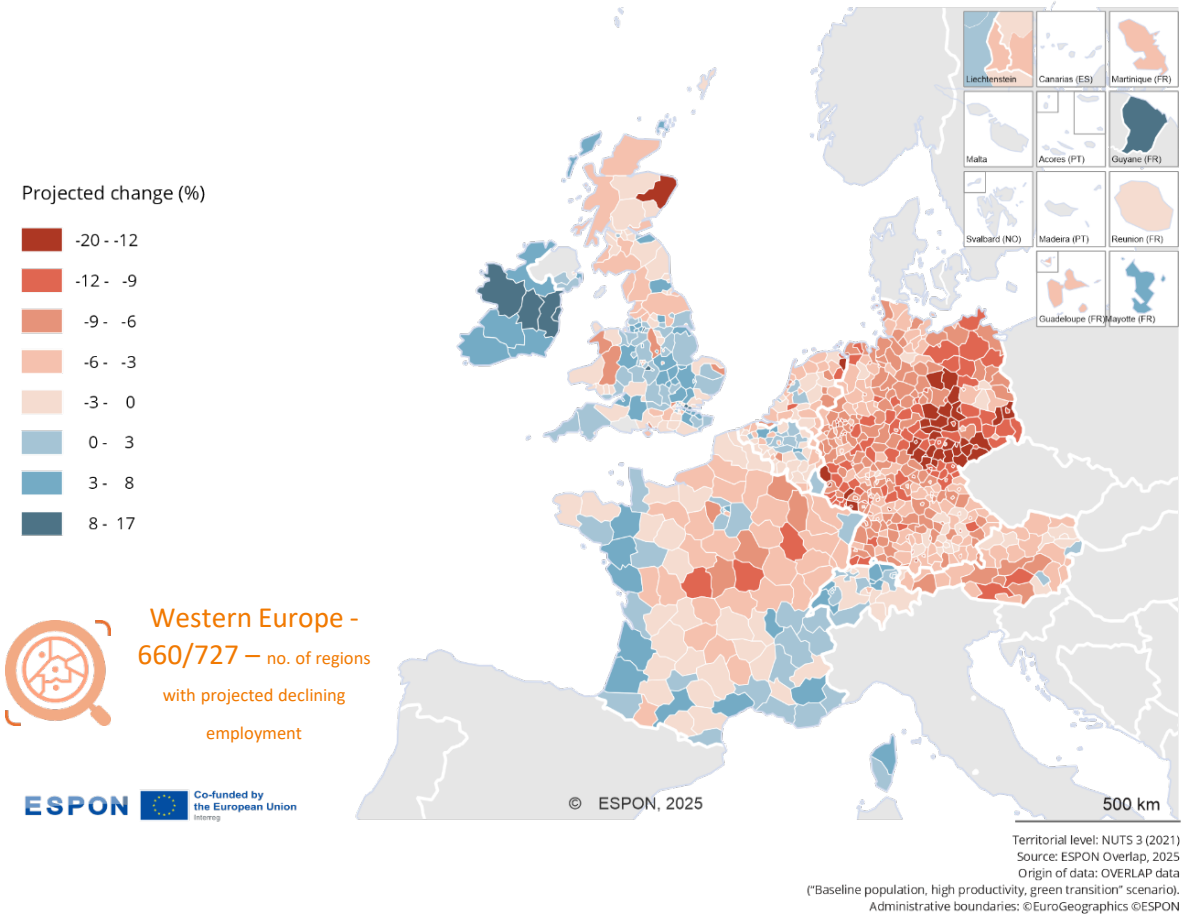
By contrast, regions with maritime borders fare slightly better

Most strikingly, regions that combine land and maritime frontiers are actually expected to register positive employment growth in nearly every scenario



Regional impacts: focus on Western European countries

Projected employment change (%) across Western European countries + UK, 2024-2035



Western Europe - 660/727 – no. of regions with projected declining employment

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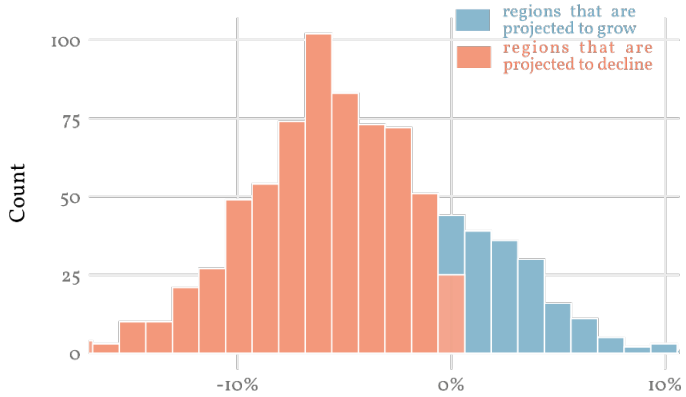
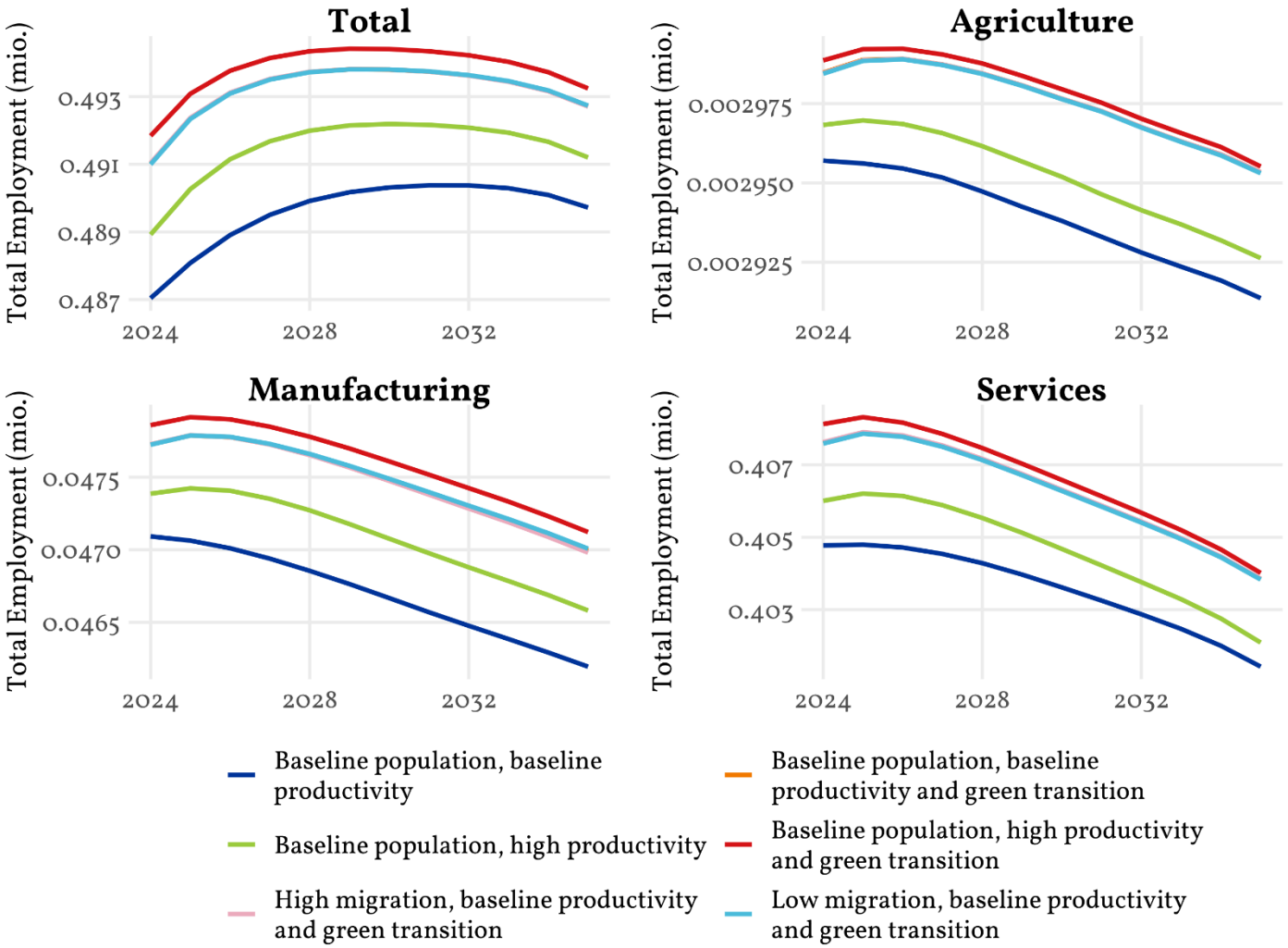
Territorial level: NUTS 3 (2021)
Source: ESPON Overlap, 2025
Origin of data: OVERLAP data
("Baseline population, high productivity, green transition" scenario).
Administrative boundaries: ©EuroGeographics ©ESPON

Summary statistics in Western European countries + UK



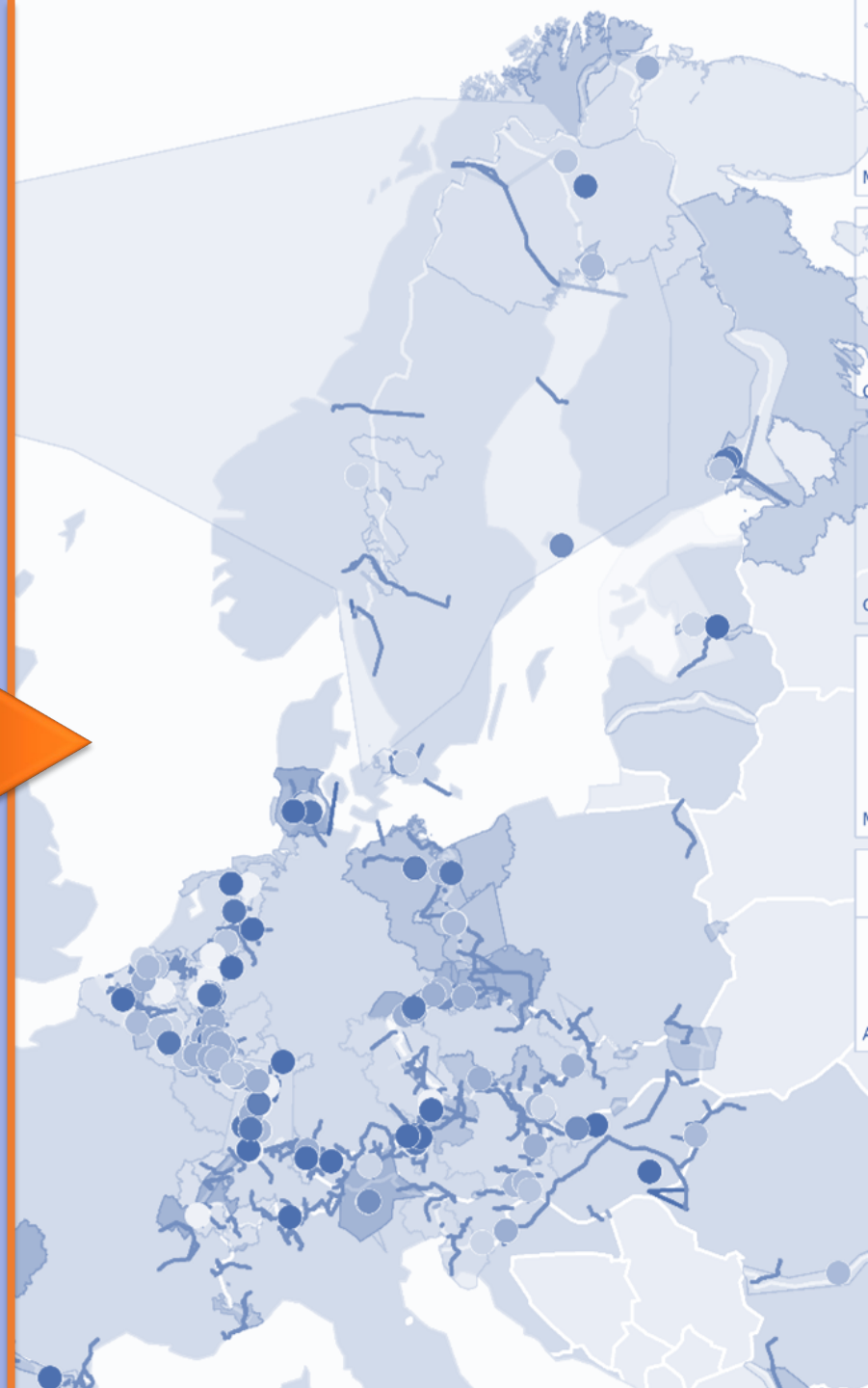
Area / Country	Average growth	Average growth for the bottom 1%	Average growth for the bottom 10%	Median growth rate	Average growth for the top 10%	Average growth for the top 1%
Western Europe	-4.2%	-15.7%	-10.4%	-4.8%	2.7%	9.4%
Austria	-4.3%	-9.8%	-7.0%	-4.4%	-0.8%	1.1%
Belgium	-1.2%	-5.7%	-3.6%	-1.2%	1.7%	4.2%
Switzerland	1.2%	-4.2%	-2.4%	1.8%	4.0%	7.0%
Germany	-7.9%	-17.1%	-12.1%	-7.4%	-4.1%	-1.2%
France	-1.4%	-10.1%	-5.8%	-1.6%	3.7%	7.3%
Ireland	8.6%	4.1%	4.7%	8.1%	13.1%	16.2%
Liechten-stein	-3.2%	-3.2%	-3.2%	-3.2%	-3.2%	-3.2%
Luxembourg	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
The Nether-lands	-4.3%	-12.0%	-7.9%	-4.2%	-0.6%	2.2%
United King-dom	0.5%	-6.8%	-4.7%	0.3%	5.5%	13.4%

The case of Luxembourg

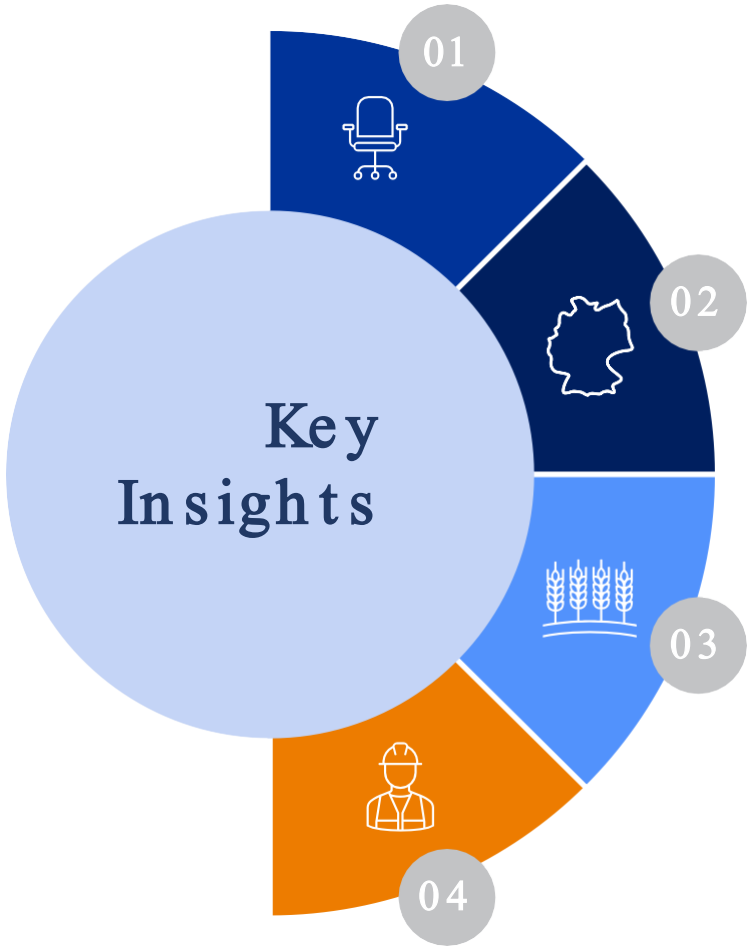


Projected changes in total employment in Luxembourg according to different scenarios, 2024-2035

Main take aways



Where employment is heading (2024-2035)



01

Labour scarcity intensifies

In the baseline, 1,135 of 1,377 regions (≈82.5%) shrink, with average –5.6% (median –5.4%); losses are skewed (bottom 10% ≈ –13.2%; top 10% ≈ +2%; growth concentrates in the top 1%).

02

Strong intra-country variation

Small/remote areas at risk: Deepest declines cluster in parts of RO, BG, PL, southern IT, inland PT and East DE, while only scattered areas edge to neutral/positive change. Pale-blue (small employment base) regions are most exposed to large relative swings and viability risks.

03

Urban/semi-urban outpace rural; cross-border fares worse

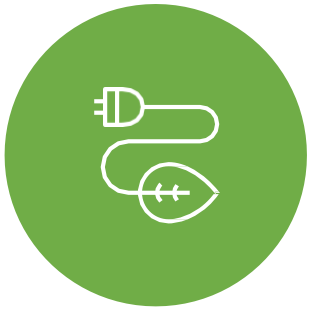
Rural NUTS-3 bear consistently larger drops than urban; proximity/remoteness nuances aside, the urban–intermediate–rural ranking is highly stable across scenarios. Cross-border regions lose more employment than non-border regions in all six scenarios, reflecting demographic, structural and institutional disadvantages.

04

Skill shortages tighten

Projections and stakeholder evidence converge on acute mismatches in green/digital roles amid shrinking workforces.

What cushions decline (and what does not)



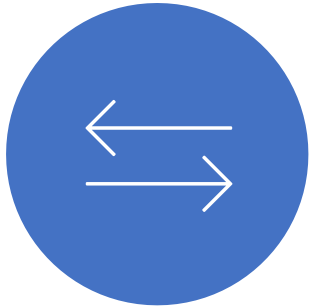
Twin transitions help, but do not overturn the drag

Adding the **green transition** reduces average decline only from **–5.6% to –5.3%** and reduces shrinking regions from **1,135 → 1,117**; gains remain concentrated in top urban hubs (top 1% ≈ **+9.4%**).

High productivity alone barely shifts outcomes (average ≈ **–5.6%**, top 1% ≈ **+8%**), reinforcing that productivity shocks lift already-productive places most.

Migration is the decisive buffer

High migration (+33%) improves the average to –4.3% and lowers shrinking regions to 1,062 (≈77%); **Low migration** (–33%) worsens to –6.4% with 1,156 (≈84%) regions declining. Effects vary where out-migration dominates (e.g., parts of RO).



Bottom line

Green and digital investments **add resilience** but **cannot fully offset an ageing continent**. Regions with **higher in-migration** record **better/less negative employment paths**, confirming the importance of **migration** alongside skills policy.

Policy implications

Close skill gaps & mobilise labour reserves

Modernise VET and lifelong learning (incl. micro-credentials) aligned with regional specialisations in green/digital sectors. e.g. strengthening vocational/technical tracks for emerging industries.

Activate underused labour: women, youth, seniors—pair active labour market policies with childcare expansion, flexible work and incentives for delayed retirement. e.g. female/youth employment as the most critical gaps.

Place-based enablers: services, connectivity, governance

Invest where decline concentrates: digital connectivity, transport, healthcare, education—break the out-migration cycle.
e.g. PES/training good practice, strong PESs; ageing rural areas need healthcare capacity to retain older workers.

Twin-transition readiness for all regions: targeted training for renewables, efficiency and digital services; support SMEs and older workers to adopt tech.
e.g. lifelong learning and alternatives to early retirement.

Balanced migration and retention

Migration helps but is not a silver bullet: even high-inflow scenarios only modestly ease shortages; effects are place-specific. ,
e.g. would "high migration" on the one hand mean higher *emigration* on the other hand, widening divides?

Two-pronged strategy: retain locals (quality jobs, graduate-return incentives) **and** attract skills with fast qualification recognition
e.g. language/upskilling, housing and social support.

Conclusion

Agir dans une nouvelle ère de pénurie

Montée en compétences

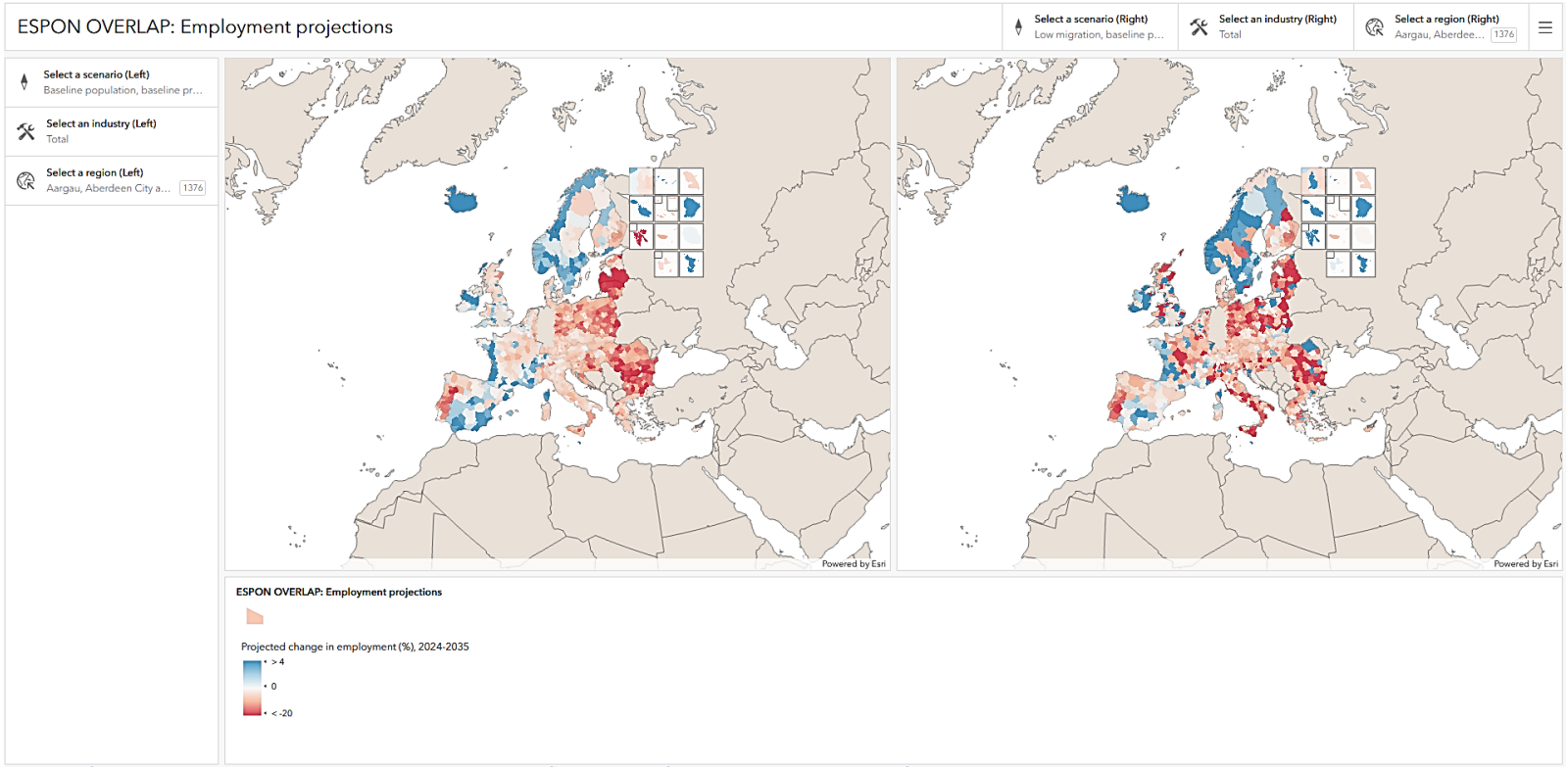
Mobilisation de toutes les réserves de main d'œuvre

Une politique d'attractivité et d'intégration des travailleurs

OVERLAP // interactive elements in the ESPON portal

The interactive dashboard allows a deeper dive into the projections and to explore results for different scenarios, different industries and individual regions.

This dashboard helps user to independently navigate the OVERLAP employment projections, and apply different filters to select the scenario, industry and region(s) of interest. Two maps are relayed side by side to allow for easier comparison across scenarios and industries.



https://www.espon.eu/projects/overlap-overlapping-crises-reshaping-future-regional-labour-markets

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Thank you!

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