

Supporting smart transition: indicators and toolkit

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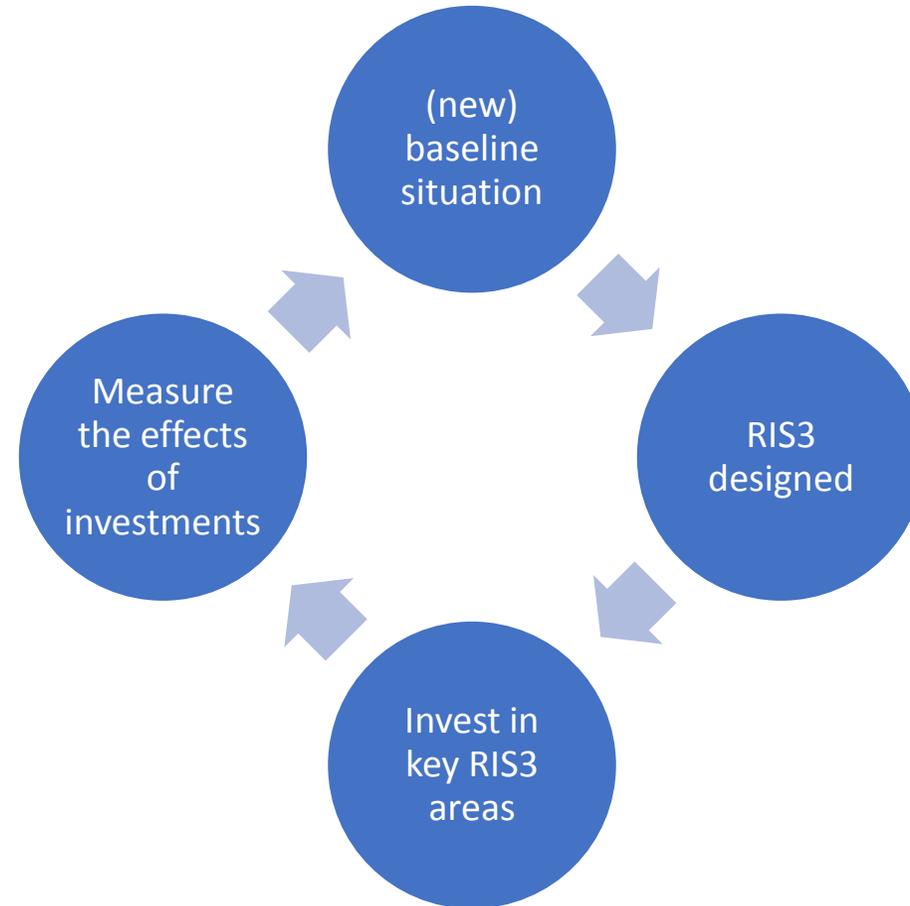
Contents

- Smart specialisation and tools to support it
- Indicators and sectors of analysis in a transition to a low-carbon economy
- Online S3 tools to support the RIS3 process
- Conclusion

Smart specialisation (RIS3)

- RIS3 represent an ex-ante conditionality for the use of European Regional Development Fund (ERDF), under thematic objective 1) - Strengthening research, technological development and innovation (Official Journal of the EU, 2013)
- RIS3 governance based on an entrepreneurial discovery process, which 'is about prioritising investment based on an inclusive and evidence-based process driven by stakeholders' engagement and attention to market dynamics' (Gianelle, Kyriakou, Cohen, & Przeor, 2016, p. 15).
- Although it was not designed specifically for transition to low-carbon economy, RIS3 can be adapted for the purpose, with the right indicators

Smart specialisation process



RIS3 can be supported by online tools

- Smart specialisation platform (<http://s3platform.jrc.ec.europa.eu/>) and the Online S3 tools (<http://www.s3platform.eu/toolbox/>) available to facilitate the RIS3 process
- 28 Online S3 tools are meant to cover the entirety of the RIS3 process in a comprehensive way, step by step, covering the following phases:
 1. governance,
 2. analysis of context,
 3. strategy formulation,
 4. priority setting,
 5. policy mix, and
 6. monitoring and evaluation

Guiding questions for identifying the right indicators in transition to low-carbon economy



- What is the historic and current situation in the region (economic, environmental, greening growth, etc.)?
- What authority (autonomy) does the region have in terms of policies that can influence changes in specific indicators?
- How to define what types of economic activities are low-carbon/resource efficient and how to define what is a green job?
- The data collection:
 - 1) what data is available at regional level?
 - 2) how easily accessible is the data?
 - 3) how up-to date is the data and how representative is it?

Several categories of indicators typically measured in the area of green growth/transition to low-carbon economy

- ‘i) the environmental and resource productivity of the economy; ii) the natural asset base; iii) the environmental dimension of quality of life; and iv) economic opportunities and policy responses’ (OECD, 2017: 15)
- OECD (2015) adds the socio-economic context and skills and training ecosystems to the above
- Territorial sphere, economic sphere, econosphere, environmental sphere, social sphere (Tapia et al., 2014)

Suggestion for indicator areas

Economic outlook: chiefly Eurostat indicators

Green economic outlook: GREECO indicators 'green products and services offered' and 'green patents' (+ GREECO sectoral indicators)

Natural assets and environmental quality: GREECO indicators 'environmental and natural assets (EEA)', 'exposure to air pollution' and 'emission of air pollutants' (+ GREECO sectoral indicators)

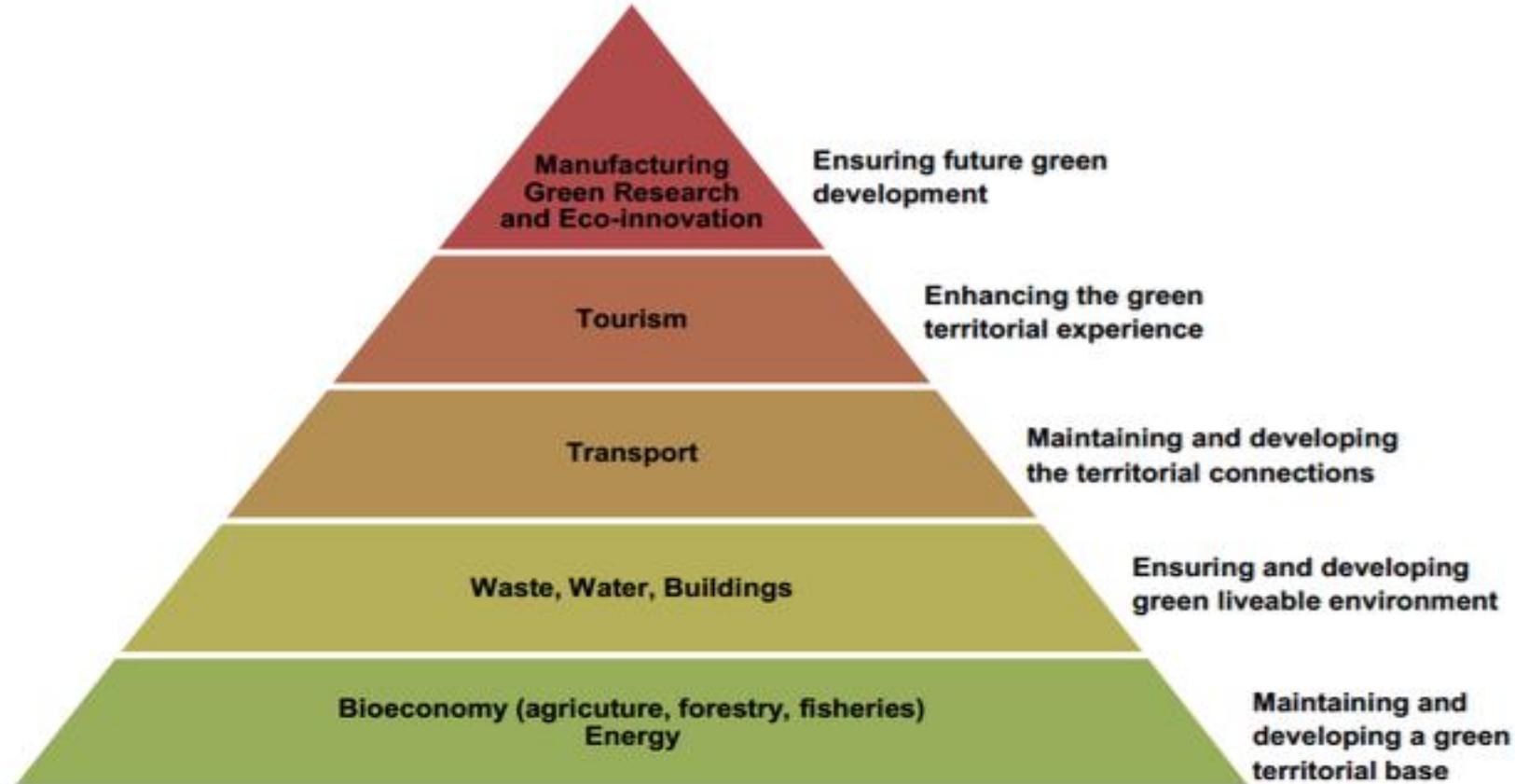
Energy issues: GREECO indicators 'GVA per energy unit', 'GDP per CO2 unit', 'renewable energy production', and 'land take per GDP unit' (+ GREECO sectoral indicators)

Policy & regulatory issues: indicators could be proxied from the national level and extracted from secondary sources (+ GREECO sectoral indicators)

Environmental quality of life and psychological preconditions for a transition: experts' assessments from primary or secondary sources. (+ GREECO sectoral indicators)

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1. tier: indicators widely available
 2. tier: additional indicators

Sectors to observe – a hierarchical and territorially-embedded view



Source: Tapia et al. (2014: 18)

Online S3 tools already help support the RIS3 process (I)

1. Regional assets mapping (comprehensive information on a regional level for a variety of domains):
 - *Add indicators on youth unemployment, green jobs, gross value added from different sectors and on competitiveness. In addition: data for NUTS 3 regions*
 - *Also add indicators on green economic outlook, natural assets and their use, the energy sector as well as on the environmental quality should be added*
2. Benchmarking (comparison of different regions' performance) by using the Regional assets mapping tool
3. Specialisation indexes (comparison of different regions' technological specialisation, scientific and economic specialisation), modify:
 - *Need to better indicate specialisation in green technologies and sectors of science or economy that contribute to transition to low-carbon economy*

Online S3 tools already help support the EFIS RIS3 process (II)



4. Related variety analysis (calculation of a sectoral, technological specialisation as well as analysis of correlated sectors), modify:
 - *Need to adopt a different classification of sectors*
5. Research infrastructure mapping (info on various RIs)
 - Need to update the database on RIs with information on RI environmental monitoring networks
6. Clusters, incubators & innovation ecosystem mapping (3 background tools)
7. Extroversion analysis (two background tools)
8. Budgeting (the only existing S3 budgeting tool)
 - Include NUTS 3 regions
9. Innovation maps (helps visualize and manage data on a regional level)
10. Regional scientific production profile (compare scientific production)

Example (I): Regional assets mapping tool



Year:

All 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Choose regions to include in your search:

PL41 – Wielkopolskie

Filter by variable:

Economically active population – Pop_EcAct × Gross Domestic Product (GDP) – GDP × Gross value added – GVA ×
Unemployment (20-64) – Unempl_20-64 ×

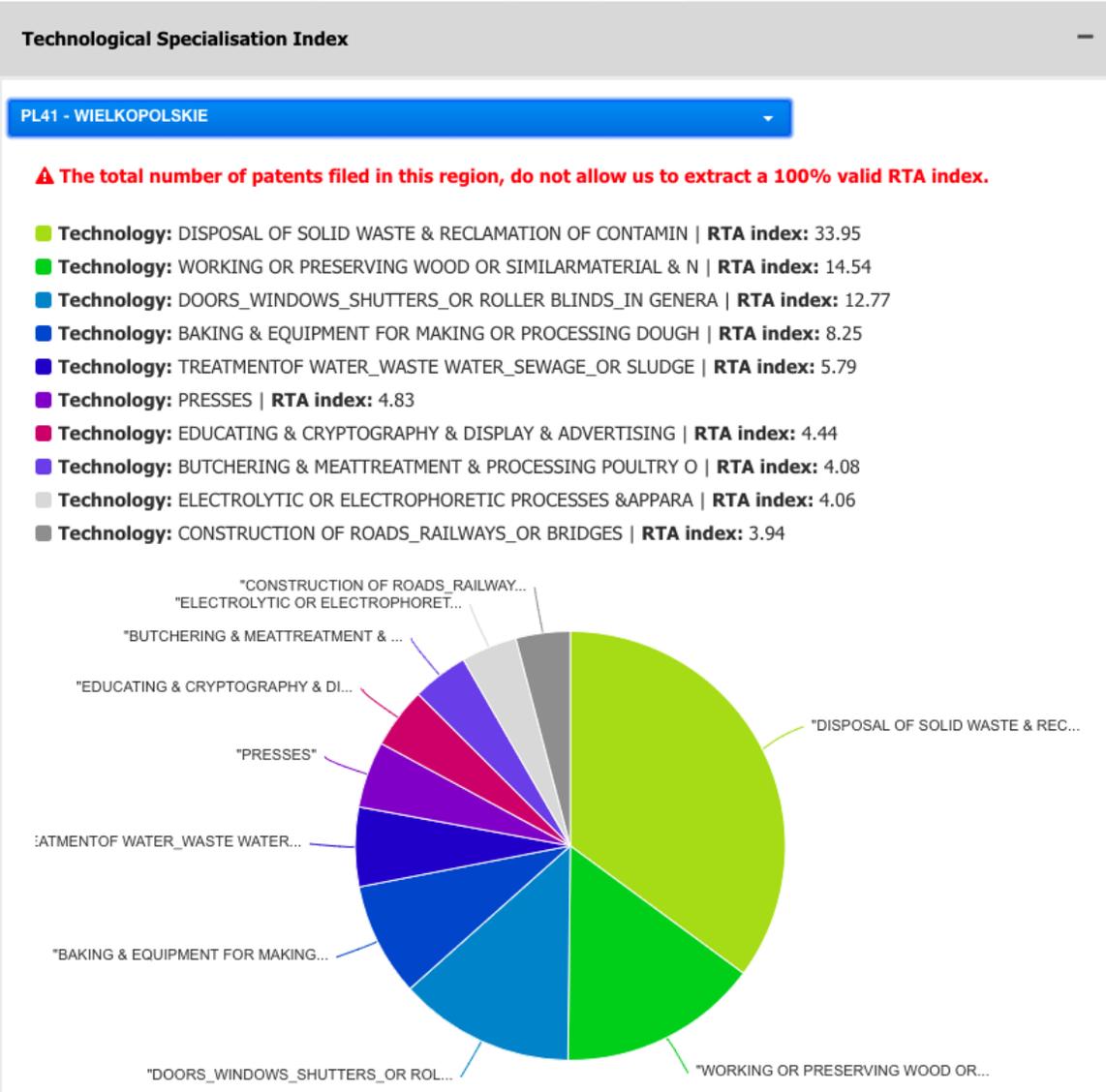
Group by: Variable Region

PL41 – Wielkopolskie

Variable	Code	Unit	2015
Economically active population	Pop_EcAct	Thousand	1366.90
Gross Domestic Product (GDP)	GDP	Million euro	42236.00
Gross value added	GVA	--	37467.50
Unemployment (20-64)	Unempl_20-64	Thousand	77.60

* Data source: Eurostat

Example (II): Specialisation indexes



Conclusion

- RIS3 is a complex process that can be supported by online tools, notably through the Online S3 toolbox
- To adapt the RIS3 process to specificities of the transition to a low-carbon economy, there is a need for additional indicators
- Online S3 tools can support the process in an ordered way, step by step, but they need modifications: specific indicators for a transition to a low-carbon economy and for subregions – NUTS 3 level)

Issues for discussion

- Overall, how useful is the developed indicator framework and the online apps that we presented?
- Do you use other methods or online tools to undertake specialisation analysis?
- Your thoughts, ideas?

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