



**Citation:** F. Krasna, G. Borruso, G. Mauro, G.P. Zaccomer (2019) Green Economy as a New Pathway to Development (and Cohesion)? Place Evidence Analysis in the North-Eastern Italy: First Findings of an Ongoing Research Project. *Bollettino della Società Geografica Italiana* serie 14, 2 Special Issue: 143-153. doi: 10.13128/bsgi.v2i3.820

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**Data Availability Statement:** All relevant data are within the paper and its Supporting Information files.

**Competing Interests:** The Author(s) declare(s) no conflict of interest.

**For Italian evaluation purposes:** F. Krasna takes responsibility for section 2; G. Borruso for section 3; G. Mauro for section 5; G.P. Zaccomer for section 4; all authors for sections 1, 6. G. Mauro elaborated all maps.

## Green Economy as a New Pathway to Development (and Cohesion)? Place Evidence Analysis in the North-Eastern Italy: First Findings of an Ongoing Research Project

**La Green Economy come un nuovo percorso di sviluppo (e coesione)? Primi risultati di un progetto di ricerca ancora in corso basato sulla place evidence analysis nel Nord-Est italiano**

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**Abstract.** This paper shows the first findings of an ongoing research project on “Territorial Impact Assessment of the Italian regions territorial cohesion. Place based evidence model for the policy evaluation towards the development of green economy in inner and metropolitan peripheries”, coordinated by Maria Prezioso (Tor Vergata University, Rome) as Principal Investigator. We hereby present the results of the first two years of investigation carried out by the Research Unit number 8, located in Trieste.

**Keywords:** green economy, North-Eastern Italy, European Union, territorial impact, cohesion policy.

**Riassunto.** Questo saggio illustra i primi risultati di un progetto di ricerca ancora in corso dal titolo “Territorial Impact Assessment della coesione territoriale delle regioni italiane. Modello, su base *place evidence*, per la valutazione di policy rivolte allo sviluppo della *green economy* in aree interne e periferie metropolitane”, coordinato da Maria Prezioso (Università degli Studi di Tor Vergata, Roma). Più precisamente, qui sono illustrati i risultati dei primi due anni di ricerca svolti dall’unità 8, con sede a Trieste.

**Parole chiave:** *green economy*, Italia nord-orientale, Unione Europea, impatto territoriale, politica di coesione.

## 1. Introduction: introducing the general Research Project

This paper shows the first results of an ongoing research project concerning the role and impact, both effective and potential, of green economy, both in the ex-ante and ex-post scenarios, in North-Eastern Italy – i.e. Friuli-Venezia Giulia (FVG), Veneto and Trentino-Alto Adige (TAA) – with a special focus on FVG. This research is part of a larger and ambitious National Project (PRIN [Research Project of Relevant National Interest]) selected after a long and complex process among many different projects and financed by the Italian Ministry of the University and Research. The main Project is on “Territorial Impact Assessment of the Italian regions territorial cohesion. Place based evidence model for the policy evaluation towards the development of green economy in inner and metropolitan peripheries”, with Maria Prezioso from University of Tor Vergata, Rome as Principal Investigator (PI)

The PI coordinates 10 Research Units, everyone located in a different Italian region. The main aim of the whole project consists on identifying a scientific method to be used by policy makers to select effective territorial measures in the frame of the EU general strategy for improving territorial - and social - cohesion by means of the green economy. Every Unit provides its contribution to the research and has an articulated task that implies to follow several progressive steps.

The units had to investigate a specific topic - connected to the issue of cohesion, mainly as perceived by European Union - in an international, national and especially regional perspective. These thematic issues represented the conceptual basis of the research or better the effort to choose and to define a common scientific glossary and theoretic frame to be used for the development of the general model. In order to obtain this result, it was necessary to analyze data, issues, documents, etc. and to proceed to a continuous debate to convey towards a unitary and shared theory.

Every topic, in fact, could be considered from many different points of view, both in the national and international literature and debate. This aspect made the work harder but also more interesting. The topics taken into account are: cohesion, competitiveness, here especially referring to territorial competitiveness, sustainability, diversity, inclusion, equity, territorial impact assessment, social inclusion - stressing here the ‘social’ aspect - territorial cohesion, inner areas, territorial capital, green economy and productivity. One can already appreciate the fact that these concepts are apparently very intuitive, but they are instead complex and rich of

shades that can profoundly change their meaning just putting or not a peculiar adjective next to each one - e.g. social, territorial, etc. Moreover, we must underline that these concepts are strictly interrelated.

The Research Unit 8 (RU8) had to analyze the concept mentioned above (green economy in North-Eastern Italy). RU8 is located in Trieste and is composed by the scientific responsible, F. Krasna and G. Borruso, G. Mauro from the University of Trieste and J.P. Zaccomer from the University of Udine. The research team members are all geographers, but with different backgrounds - Krasna, Borruso and Zaccomer are economic and political geographers, the last one with a statistical specialization, while Mauro is a human geographer with a previous background in ecology.

The reset of the paper is organized as follows. In paragraph 2 the first steps of the research are presented. In paragraph 3 the concept of green economy is presented, with particular reference to its interpretation in the framework of the present project. Paragraph 4 deals with the indicators used in the national research project and applied to the local cases tackled by the local research unit 8. In paragraph 5 the study area under exam is presented, with particular reference to the policies applied referred to green economy. First, partial conclusions are resumed in paragraph 6.

## 2. The first steps of the Research

As previously mentioned, RU8 started its work by investigating the assigned thematic issue of Green Economy, basically by means of these tools, like the other units:

1. A deep review of the existing scientific literature, both at a national and international level;
2. A deep review also of official institutional documents and legislation in this case at a European, national and regional level;
3. A careful and selective administration of thematic questionnaires;
4. A continuous and constructive debate inside the unit team and with the other researchers involved in the project.

1. With regard to point 1, we started from the idea that green economy (GE) represents the arrival point - and obviously the re-starting point - of a long lasting scientific and political reflection on the dominant economic, social, cultural and political organization and system - i.e. modern capitalism. Central in this reflection is the interpretation of the relationship between

environment and society in co-evolution, both from a historical point of view and especially with regard to a globalized world. Globalization has intensified and accelerated the territorial interdependencies. Territories are open interrelated systems characterized by mobility flows such as migrations, tourism, flows of capitals, ideas, goods and services. As a direct consequence of this global transformation, territories have become effective players of the game, also involved in a very challenging competition to retain and/or attract strategical flows of resources - selected migration, labour force, tourism, capital, etc. From this perspective GE results strictly linked to territorial competitiveness and therefore to the business world, but not only. In a globalized reality, network is the winning form of organization. This means that firms have to connect with institutions and other territorial stakeholders to optimize their efficiency and strategic actions. GE also derives from the wider idea of sustainable development, introduced for the first time at the end of the Eighties in the WECED Report (1987). For this reason, it is then connected to the previous theories underlying the structural nature of social, economic and territorial inequalities worldwide (Perroux 1968, Hirschman 1968, Myrdal 1959 and then Meadows et al. 1972), and subsequently to the concerns related to Oil shock (Rosenberg 1973, Solow 1974). The contribution of the environmental economy is also to be considered (Pearce, Markandya, Barbier 1989, Pearce 1991, Turner, Pearce, Bateman 1993) - especially for its attention to the negative externalities of production - that opened the way to new economic models and epistemology (*ecological economy* and *ecological epistemology*) (Tinacci Mossello 1990, Bresso 1993). We could recall some further important theories such as the image of Earth as a spaceship - where everything and especially the resources management has to be carefully dimensioned and planned (Boulding 1966). Also fundamental was the MIT report on the "Limits to Growth" (Meadows et al., 1972) that gave birth to a long lasting dichotomy of thought. On one side, there are the pessimists, who think that only radical changes can solve the environmental issue and on the other one we find the optimists, who are confident in progress and market-laws. Then we can consider the idea of the Bioeconomy, based on a deep ecological view (Georgescu-Roegen 1976, 1982, 2003) or the "steady state" and the "uneconomic growth theory" (Daly 1974, 1999, 2008) or yet the "happy degrowth theory" (Latouche 2004, 2007, 2019) and the "Circular Economy" (Stahel, Reday-Mulvey 1981, Stahel 2019), etc. Not to mention some key events and documents such as Rio de Janeiro and the Agenda 21, The Millennium Goals and the new Sustainable Develop-

ment Goals, etc. As a final reflection, we can say that the environmental issue, in its double nature (resources limits and global pollution), has always been seriously treated, when important political and economic questions have been involved only. Climate change, international migrations, wars, economic crises, demographic growth, terrorism, etc. are strictly interwoven and entwined emergencies that governments all around the world have to face today, politically and most of all economically. Green and circular economy has to be seen in this specific perspective. It is not by chance that GE officially appeared in 2008 in the USA, as a sort of New Deal, advanced by Obama as a strategic tool for recovering the American economy affected by the severe last crisis (*The American Recovery and Reinvestment Act*, 17 February 2009; see Barrow, Hobbie 2013). Europe followed the USA example and the UN focused the Rio 2012 10-year environmental summit on GE (UNEP 2011, UN 2012). Later, when already under the Obama administration, USA became less sensitive to environmental issues, UE decided to emphasize the GE potential as a main tool for fighting the social and political effects of the deep economic crisis.

2. As a second point, reconciling economic development with environmental sustainability in EU, where soil itself is a scarce and therefore conflictual resource with regard to its designated use, is not easy. Geographical gaps, linguistic and cultural fragmentation complicate the situation. It is not by chance that one of the main EU political target has been cohesion, territorial and social, together with sustainability (Gotheburg 2001) and competitiveness (Lisbona 2000). Many programs and structural funds - see 2007-2013, 2014-2020 economic programs - the Europe Strategy 2020 - but also 2030 and 2050 - and many other documents confirm this EU address. In this general frame, GE and widely circular and even blue economy become strategic drivers towards a Smart, Sustainable and Inclusive growth. In the EU perspective, GE is helpful not only to face environmental emergencies, but also social inequalities and to enhance inclusion and cohesion, promoting economic growth by creating new green jobs and eco-innovations. Renewable energies, agriculture, water and waste management, mobility and tourism have been proved to be the most reactive sectors to these opportunities. More precisely, in 2014, within the ESPON GREECO Project, five productive sectors were classified as strictly strategic for GE: bio-economy - farming, breeding, fishing and forestry -, manufacturing industry, renewable energies, tourism and transportation. Beside these privileged ones, there are secondary ones, but for the previous sectors, data related to green performance, development

potential, type and level of interdependency with territories are already available. In 2012, UNEP identified nine principles characterizing GE: sustainability, equity, wellness - quality of life -, respect of nature's limits, inclusion and empowerment, responsibility, resilience, efficiency, subsidiarity (Prezioso et al. 2016). The EU concern for GE is well represented in several documents, acts and programs at a European, national and local level. These ones are not always explicitly dedicated to GE, but anyway inspired by the same approach. We can mention for example ESPON, URBACT, Alpine Space, Rete Natura 2000, etc. These tools are often recurrent in the regional and local planning. Of different nature, but also important are the *Green Paper on Territorial Cohesion 2008*, the *Territorial Agenda 2020*, the *Blue Growth Study Scenarios and Drivers for Sustainable Growth from the Ocean, Seas and Coast* (European Commission, 2012) and more recently the Italian legislative disposition on Green Economy (Law 28 December, n. 221, 2015) and the SEN - *Strategia Energetica Nazionale* (National Energy Strategy; MISE 2017).

3. With regard to point 3, we have to underline that every research unit had the task to manage as many copies of the questionnaire as possible in its specific territorial contest - in this case three regions. The PI RU elaborated the content of this one in common agreement with the other RUs. It aimed at investigating the level of knowledge and the kind of perception the research members and other stakeholders such as politicians, experts, other researchers, etc. had of every specific focus topic took into account in the project. Interviewed people were not always very helpful to cooperate, but generally well aware of the topics they were interviewed on. Even so, we registered many different definitions, not wrong ones, but emphasizing different shades of the concepts we meant to analyze.

4. With regard to point 4, throughout the whole duration of the project, there have been several meetings, both with the PI and representatives from the other Units and among the different members of RU8. During these meetings, we have passionately discussed documents, theories and points of view, not only about our specific tasks, but also on every issue of the research project, included the organizational aspects. Therefore, we can surely state that the results are the product of a systematically shared work.

### **3. Green economy: a shared vision for a multiple conception...**

Studying and discussing in order to reach a common idea of green economy, RU8 has always paid atten-

tion also to the interrelationships existing with the key issues investigated by the other research units and finally arrived to a shared definition of "green economy."

In a narrow meaning, GE represents the point of arrival of a process aiming at transforming economy and its social organization into a system with low environmental impact, often applied in terms of carbon dioxide emission.

In our perspective, GE is something wider and deeper. It represents an innovative model of economic development considering not only strictly economic - or quantitative - benefits such as the Gross Domestic Product (GDP) increment, but also social, environmental and cultural improvements also based on the preservation and promotion of territorial capital.

Among its goals, we can mention reduction of poverty and social inequalities, environmental protection, reduction of unemployment, especially by the creation of new and innovative green jobs, etc.

It is quite evident that the full implementation of GE implies a radical change in the contemporary economic system at a global level. So far it substantially remains a target.

In a different perspective more related to the present research project, GE can be seen as a tool for the EU cohesion policy in the sense that it can be very useful to preserve the potential territorial capital and to reduce the geographical gaps as well. According to this point of view, its development appears as a very demanding challenge for the EU community, a kind of symphony of ideas and actions (policies, but not only), involving many stakeholders:

- EU, OECD, UN, UNEP, WB, etc.
- National governments
- Local institutions
- Universities, Research Institutes
- Business World
- Citizens

We can state that GE holds synthetically two main aspects or dimensions: a top/down one and a bottom-up one. The political structures in EU and in every single EU State can show the pathway, producing laws and financial programs, the educational system - schools, universities, etc. - can provide the correct information, but firms and citizens must get the message and change their mind in every aspect of their life. Once that the legislative and infrastructural frame is designed, incentives and obligations can start the process. It is a long and challenging process that needs to be monitored and adjusted, modifiable and adaptable to changing circumstances (technological progress, political, economic and social evolution, etc.). To do that suitable indicators have to be identified and applied.

#### 4. Selecting indicators

In order to evaluate the present situation of green economy in Italy (and especially in the case study regions) as in theory at every geographical level, it is necessary to individuate quantitative and qualitative indicators to be applied everywhere. Indicators are very important, because they permit to measure the investigated phenomenon and to compare data in a temporal view to identify changes and evolution trends as in a geographical perspective to appreciate differences among territories. This kind of information is very helpful, because, analyzed together with other territorial aspects (such as cultural, socio-economic and political contest), can suggest how to improve the situations in the less performing territories, obviously via more suitable and efficient policies.

Indicators are then very important, but their selection is not very easy. Every indicator has pros and cons and researchers must be very aware and careful applying them. Moreover, green economy can be meant in different ways or shades, even if referring to a clear common definition. If we want to investigate this phenomenon and try to describe it precisely and exhaustively, we need to consider different aspects and therefore different indicators.

If GE can be thought as a new pathway to development, capable of ensuring a long-term balance between society and environment, indicators targeted at measuring it should not consider only strictly environmental aspects, but also those ones connected to social welfare and to environmental justice.

The previous scientific literature review can help us showing what other researchers have used for the same purpose. Also referring to previous scientific literature (but not only) and always taking into account the real availability of data, we have initially collected a very large number of indicators, gathering them in three main groups:

1. Indicators related to firms
2. Indicators related to environmental protection
3. Indicators related to social progress.

Delimiting each group was not an easy matter, because some indicators could belong to more than one group, especially considering the third group, since social progress is a very wide and ambiguous concept. Here you find some examples for each group (Prezioso et al. 2016):

1. Indicators related to firms
  - a. Eco-innovation index (with a distinction between go green and core green firms, the former characterized by a green product, the latter

by a completely green oriented productive process)

- b. Number of environmental certifications (Ecolabel, Emas, etc.)
  - c. Investment in research and development (percentage of GDP, number of employees in R&D, etc.)
  - d. Number of patents
  - e. Export capacity in sectors with a very elastic demand
  - f. Green trends and attitudes in Tourism sector
  - g. Green trends in the organic sector (revenue, number of employees)
  - h. Digital Divide (from the perspective of firms: broadband, ultra-wide band, etc.)
2. Indicators related to environmental protection
    - a. Diffusion of renewable energies
    - b. Differentiated waste collection
    - c. Indicators of pollution (CO<sub>2</sub> emissions)
    - d. Prevention of environmental hazard (seismic risk, hydrogeological risk, etc.)
    - e. Environmental footprint
    - f. Green mobility (electric car, car-sharing, bike lanes, etc.)
    - g. Clean-up of polluted sites
    - h. Diffusion of environmental agreements (Hendler 1994)
  3. Indicators related to social progress
    - a. Per capita GDP
    - b. HDI – Human Development Index
    - c. Digital Divide (considered for institutions as school or for houses; broadband, etc.)
    - d. Investment in R&D
    - e. Higher Education (graduation rate, PhD, etc.)
    - f. Trans-regional and cross-border cooperation
    - g. Cultural facilities
    - h. Presence of foreigners and level of integration
    - i. Poverty Index
    - j. Fertility rate
    - k. Number of hospital beds per 1000 inhabitants
    - l. Incidence rate of some diseases (cancer)
    - m. Life expectancy
    - n. Unemployment rate (youth u.r.), etc.

Beside these (and other) indicators, we have also considered aggregated indexes such as, for example, the “Global Green Economy Index” (see Dual Citizen LLC 2017, FondazioneImpresa 2014, and Ronchi 2017). This indicator takes into account four different “dimensions” characterizing GE that is viewed especially in terms of CO<sub>2</sub> reduction. The four dimensions are:

- Leadership and climate change: it try to detect the presence and level of engagement of a national leadership involved in enhancing GE

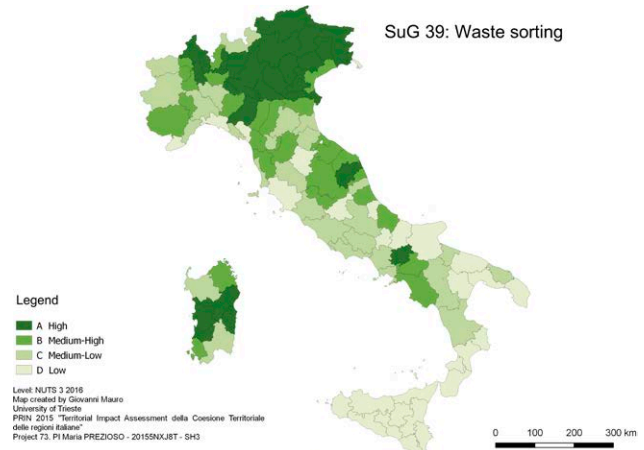
- Efficiency in the productive sectors: it takes into account effective improvements in Transportation, Energy, Constructions, etc.
- Market and Investments: it measures the volume of green investments, of green innovation and generally of green-oriented behavior of national firms.
- Environment: it detects reductions in environmental damage, ecological footprint, etc.

Every indicator proposed by every Research Unit with regard to its specific subject has been then deeply discussed with the other participants in the global project. We have analyzed their theoretical frame and real empirical effectiveness and especially the data availability and comparability.

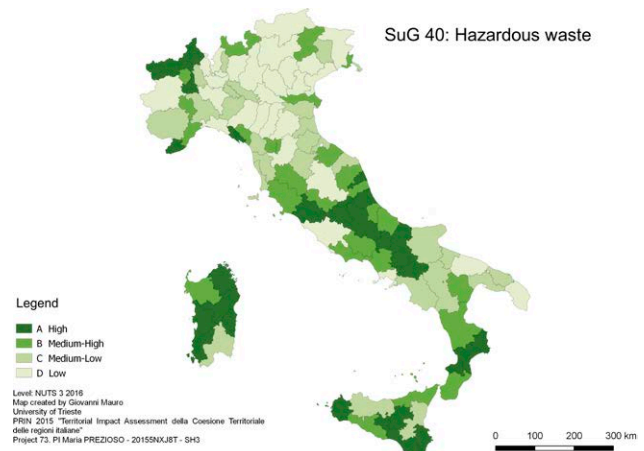
Here, as an example, we present the elaborations of just some of the considered indicators with their relative maps:

1. Differentiated waste collection (data of the year 2016, available at a provincial level in the ISPRA register online <http://www.catasto-rifiuti.isprambiente.it/index.php?pg=provincia>) RaccD (fig. 1 SUG 39)
2. Dangerous waste in tons (data of the year 2016, available at a regional level in the ISPRA register online <http://www.catasto-rifiuti.isprambiente.it/index.php?pg=gestrsregionale>) RifP (fig. 2 SUG 40)
3. Municipal waste in tons (data of the year 2016, available at a provincial level in the ISPRA register online <http://www.catasto-rifiuti.isprambiente.it/index.php?pg=provincia>) (RifU) (fig. 3 SUG 41)
4. General Environmental Agreement (index on the presence of protected areas such as SCIs Sites of Community Interest e ZCS ZPS Zones of special protection, data from ESPON Project LinkPAs 2017) AAG (fig. 4 SUG 45)
5. Specific Environmental Standards or requirements (SEA – Strategic Environmental Assessment e EIA – Environmental Impact Assessment) (*Rapporto sull'attuazione della VAS in Italia del Ministero dell'Ambiente e della Tutela del Territorio e del Mare, 2017 / Report on the level of implementation of SEA and EIA in Italy*, Ministry for the Environment and the protection of land and marine resources); regional level SNA (fig. 5 SUG 46).

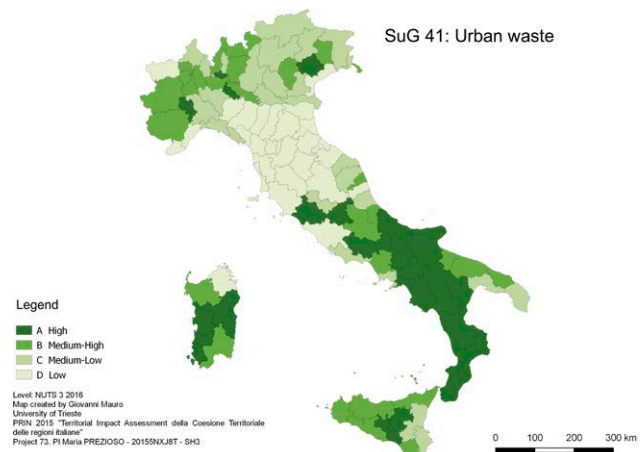
We also created two maps concerning life expectancy (fig. 6 IG 9) and hospitalization rate (fig. 7 IG 11). The mentioned above indicators have been elaborated from the original data and have been represented in maps. It is important to underline that these maps are only a first exercise in the perspective of further more accurate and sophisticated elaborations. More precisely, we want to work on standardized maps, that means that we won't



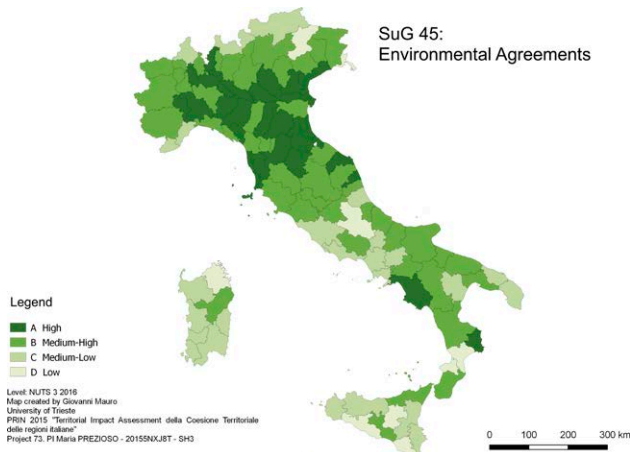
**Figure 1.** Differentiated waste collection (NUTS 3). Source: authors' elaboration.



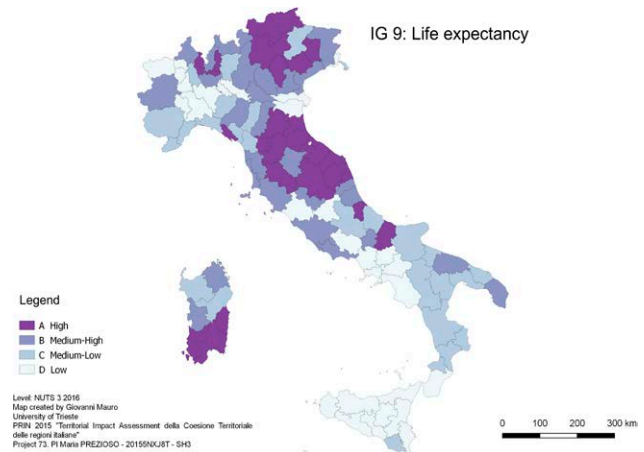
**Figure 2.** Dangerous waste in tons (NUTS 3). Source: authors' elaboration.



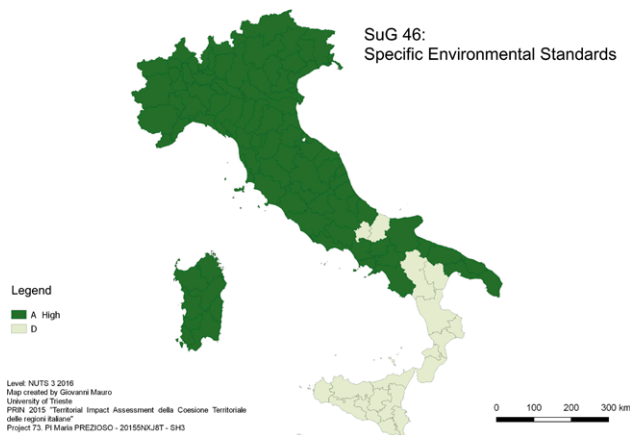
**Figure 3.** Municipal waste in tons (NUTS 3). Source: authors' elaboration.



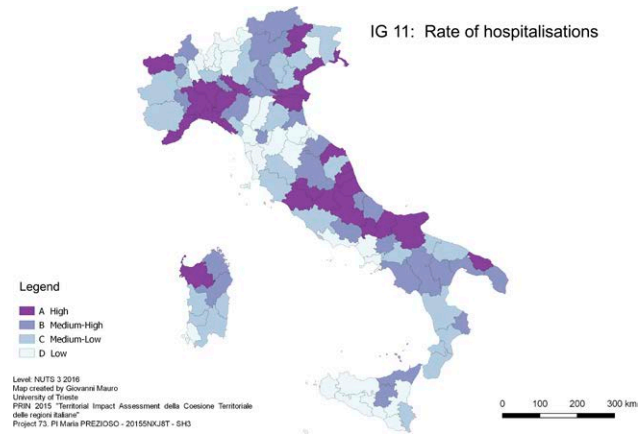
**Figure 4.** General environmental agreement (NUTS 3). Source: authors' elaboration.



**Figure 6.** Life expectancy (NUTS 3). Source: authors' elaboration.



**Figure 5.** Specific environmental standards or requirements (NUTS 3). Source: authors' elaboration.



**Figure 7.** Hospitalization rate (NUTS 3). Source: authors' elaboration.

consider absolute values, but report them at least to the demographic dimension. The value of the present maps substantially consists in trying to define a common cartographic standard for all the final maps of the project.

### 5. The territorial perspective: a first overview of the three North-Eastern Italian regions

Another important step in the research regarded the analysis of the main economic, social and territorial plans and strategies decided and applied by the Public Sector in the three regions in the past and so far. In order to do this analysis, RU8 mainly investigated the ROP – Regional Operative Programs documents for each region. The team could also appreciate that kind of documents

because everyone had already had the opportunity to study several aspects of these regions with a special focus on their economy and their demographic, social and cultural structure and yet on their environmental situation and policies. We also have been involved in research connected to sustainability and circular and green economy under different points of view. It is to underline that FVG and TAA have a special administrative status. They are Autonomous Regions, because of their peculiar geographical localization - border regions - and history, reflected in the presence of many different ethnic and linguistic minorities, showing problems of integration and of different development rate.

In the case of TAA, even the Provinces of Bolzano and Trento, the two main cities, and not only the Regional Administration have an autonomous status.



The first evidence in this case is that they have elaborated not one, but even two ROP, one for each Province. As a matter of fact, the two Autonomous Provinces can be considered as two separate regions.

ROP are very complex and thick documents produced in the general frame of the European Union Strategy. They illustrate the weaknesses and the strengths of each region and in addition, they individuate strategies and effective targets of economic and social development.

We have tried to summarize these aspects and the main findings for each document and region. We can also affirm that since the regions share some common features, even their strategic documents show similar choices and path to development. In our analysis, we have tried to evidence both these elements of convergence and differentiation. Here you can appreciate some short summaries, a kind of overview for each region.

#### *5.1 Region 1 Friuli-Venezia Giulia: main regional political targets in the frame of EU Strategy*

The FVG main strategical political documents show that the most important targets mainly concern policies to support and increase competitiveness of the regional economic system by increasing:

- General Employment
- General Innovation propensity
- Networking capacity among firms, research centers and universities
- Energetic efficiency in the public sector

The principal structural weaknesses emphasized by the general economic crisis regard:

- A low level of competitiveness meant as affecting the whole territorial system but also especially referred to the business world. More precisely the region evidences lacks in its network capacity among entrepreneurs, institutions, research and other stakeholders.
- Excessive concentration of productive base: both at a geographical level and in terms of sectors.
- General difficulty in accessing to finance: this last feature also affects the other two regions and can be partially explained because of the general Italian credit crisis and restructuration, but it depends also on the average dimension of firms, often too little and family-run.

The POR-FESR-FSE FVG 14-20 is in tune with the general EU goal of Smart, Sustainable and Inclusive Growth and generally aims at promoting economic, social and territorial cohesion.

A special focus is given to the development of internal areas and mountain areas (in line with the National Strategy and referring to some specific areas in Carnia, Friulan Dolomits and Canal del Ferro-Valcanale)

The regional growth is meant to be driven by strengthening manufacturing industry and three Priority axes (+ 2) are delineated:

- Enhancing research, technological development and innovation
- Fostering competitiveness of SMEs
- Supporting the whole system's transition towards a low carbon economy.

The other two privileged drivers are:

- Urban development (with an approach to integrated territorial development)
- Technical Support (to improve the Public Sector efficiency).

As part of EUSAIR (Regione Adriatico-ionica/Adriatic-Ionic Region) like Veneto and EUSALP (EU Strategy for Alpine Region, including also the other two Regions) FVG also participates to these two specific EU financial programs.

What can we affirm about green economy in FVG? The POR document substantially focuses on the effort of recovering the regional system from the global economic crisis that deepened the previous structural weaknesses. The general strategy follows a green-oriented direction, but we cannot see a revolutionary approach for a structural radical change in the regional economic system.

#### *5.2 Region 2 Trentino-Alto Adige: main regional political targets in the frame of EU Strategy*

Trentino-Alto Adige and especially Alto Adige represents a national excellence with regard to green economy and environmental protection at a national and international level. Its main territorial brand (country of origin) is well-known and it also works as a territorial marketing drive not only with regard to its main products, but for the whole regional economy (tourism, etc.).

The territory is mainly mountainous with a strong vocation for agriculture (organic farming) and agri-food industry, forestry and tourism. Main products are apples, wine, honey and meat.

The Priority axes of investment identified by the local administration are innovation, environment and climate. The main policies regard:

- Transfer of knowledge and innovation
- Competitiveness and profitability of farms and risk management
- Environmental Protection



- Efficiency and shift to a low carbon economy
- Social inclusion, poverty reduction and rural development

The main weaknesses concern aspects of social inclusion and cohesion and an economy still too dependent on the traditional sectors.

### 5.3 Region 3 Veneto: main regional political targets in the frame of EU Strategy

With regard to the three main dimensions of EU Strategy 2020 (*Smart, Sustainable and Inclusive Growth*), the Veneto Regional Administration has identified three correspondent main elements of advantage and disadvantage in terms of territorial competitiveness.

With regard to the first aspect, Smart Growth, Veneto shows investments in R&D over the Italian average, but at the same time a relatively low level of graduates (in the range 30-40 years). With regard to Sustainable growth, Veneto is positioned under the Italian regional average for energetic efficiency and renewable energies and transition to low carbon economy, but is characterized by an exponential growth in the PV (photovoltaic) sector mostly due to public incentives. With regard to Inclusive growth, Veneto distinguishes for a low unemployment rate, but there are other social issues connected to inclusion that have to be improved, especially those related to foreign people. The Veneto POR highlights these following strengths:

- High density of manufactory industry
  - High specialization and vocation for industrial clustering
  - Skilled workforce vs brain drain
  - Widespread entrepreneurship
  - Huge environmental resources and cultural heritage connected to vocation for tourism
- On the other side, there are these weaknesses
- Firms dimension (too small and often too labor intensive)
  - Lack of a structural innovation system
  - Low level of networking capacity
  - Access to finance
  - Transport costs
- Priority axes of investments are:
- Research, technological development and innovation
  - Digital Agenda
  - Competitiveness of the productive system
  - Sustainable energy and environmental protection
  - Seismic and hydraulic hazard
  - Sustainable Urban development

## 6. Conclusions

As mentioned several times above, this paper represents just an interim mostly methodological result of a wider national research project that was presented during an international Conference in Rome in 2019. More precisely, it shows the work carried out in about two years by RU8 in Trieste. This consists in a deep investigation about the concept of GE and the wide scientific literature on it. It also regards the study of the general geographic, economic, political and social situation of three regions in North-Eastern Italy, here very shortly summarized. This study, together with the investigation on GE, will be helpful in a further stage of the project, to evaluate the effectiveness of the public policies chosen in the three regions in order to pursue their strategic targets - in the EU general frame of 3S Strategy and European cohesion- with a special focus also on GE. In order to implement this task, we will have to apply how to use the STeMA Territorial Impact Assessment Methodology, implemented by the PI Unit. Further results are then expected and published in the future.

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