



**PLANNING AND ENGAGEMENT ARENAS FOR RENEWABLE  
ENERGY LANDSCAPES**

**PEARLS**

Marie Skłodowska -Curie Actions (MSCA)  
Research and Innovation Staff Exchange (RISE)  
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**KEY TERMS GLOSSARY**

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## **ENERGY BEHAVIOUR**

### **Definition**

The range of actions and reactions to external stimuli and the functioning of an organism or system in relation to services provided by energy. It is often referred to people: in this case, it denotes all human actions that affect the way that fuels are used to achieve desired services including the acquisition or disposal of energy-related technologies and materials, the ways in which these are used, and the mental processes that relate to these actions. Energy behaviour is influenced by personal factors like knowledge, attitudes, values, intentions and expectations and external factors like societal norms, advertising, energy prices, government policies, incentives and advisory services.

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### **Source**

- International Energy Agency Demand-Side Management Technology Collaboration Program – task 24 – subtask 1: Definitions

## **ENVIRONMENTAL IMPACT ASSESMENT**

### **Definition**

Environmental Impact Assessment (EIA) is a procedure that identify, describe and assess the direct and indirect effects of a major development proposal on the following factors:

- Human beings, fauna and flora;
- Soil, water, air, climate and the landscape;
- Material assets and cultural heritage;
- The interaction between the aforementioned factors.
- It is applied to plans, programmes and projects likely to have significant effects on the environment with the main aim to help guide local planning authorities in the process of authorizing.

Within the European Union, the Directives 2011/92/EU and 2001/42/EC regulated the EIA respectively for single projects (such as dams, motorways and factories) and for public plans or programmes.

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### **Sources**

- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment Text with EEA relevance.
- Friends of the Earth – Environmental impact assessment (EIA): a campaigner's guide
- Journal of Landscape Ecology: 66-67 (2018 - Special issue 2).



## **POLICY**

### **Definition**

Politics is the science that deals with government and the organization of human societies, especially in the context of individual States. At the same time, it is the activity carried out by those who govern or aspire to govern matters that affect the whole of society or a country. It is expressed as a set of actions established on the basis of one particular ideological orientation selected from a range of different alternatives in order to guide and determine present and future decisions.

According to Hood, these actions encompass initial information, the objectives to be achieved, regulations and regulatory instruments, the exercise of authority and the availability of financial resources (Hood, 1983). To these have been added the means of improving governance and guaranteeing economic efficiency, mainly by regulating the participation of social actors themselves. However, at the present time, questions are still being asked about the real impact that the new political instruments have in terms of effectiveness and democratic legitimacy.

The use of the term gained popularity in the 5th century BC, when Aristotle developed his work entitled 'Politics'. The term comes from the Greek word polis, whose meaning alludes to the Greek cities that formed the States where the government was partially democratic.

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### **Sources**

- Hood C. (1983). *The Tools of Government*. Macmillan.
- Pérez-Porto J. & Gardey A. (2018). *Definitions of policy*. Collins Dictionary. Available at <https://definicion.de/politica/>.
- Zito A.R. (2017). *Policy, Administration, and Bureaucracy*. Oxford Research Encyclopedia. Available at <https://oxfordre.com/politics/>

## REGIONAL DIFFERENCES

### Definition

What is understood by regional differences is the set of social, economic, cultural and geographical characteristics that are normally taken into account in territorial analysis. Regional differences are important because they acknowledge that diversity is an advantage. In practical terms, this means approaching an analysis of problems based on the recognition that a territory's uniqueness and specific features are assets for addressing and resolving them. Regional politics in the European Union has lately been the cause of a clash between North-South and West-East differences across the regions as outstanding challenges to territorial cohesion (cit.). Notwithstanding, Classic Economic Geography questions this approach based on analyses of economic convergence because they do not take the historical aspects of economic cycles sufficiently into account (Krugman, 1996).

It is essential for the PEARLS project to take interregional differences into account for two fundamental reasons. The first reason is that the project's territorial coverage is the motive that compels the choice and analysis of case studies or other examples. The second but no less important reason is that the transition to a Low Carbon Economy will change reasoning on the international/global scale with a shift to a greater emphasis on citizens as the prime actors tasked with dealing with this challenge.

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### Sources

- European Commission – EU Regional and urban Development  
[https://ec.europa.eu/regional\\_policy/index.cfm/en/](https://ec.europa.eu/regional_policy/index.cfm/en/)
- ESPON – European Spatial Planning Observation Network  
<https://www.espon.eu/search/node/regional%20differences>
- Krugman P. (1996). "Geographical Economics and Its Implications for Regional Development Theory: A Critical Assessment". *Economic Geography* Vol. 72, No. 3 (Jul., 1996), pp. 259-292.
- Planning and Engagement Arenas for Renewable Energy Landscapes (2017). *Project Grant Agreement*. H2020-MSCA-RISE-2017. EU-Research Executive Agency.



## **RENEWABLE ENERGY LANDSCAPES**

### **Definition**

Renewable energy landscapes are landscapes that emerge from the territorial roll out of clean energies. According to the Cost RelyQ Action, an energy landscape is characterised by one or more elements of the energy chain (e.g., energy extraction, assimilation, conversion, storage, transport or transmission of energy) (Marot & Krusse). So, a Renewable Energy Landscape is an energy landscape that uses renewable energy sources to generate energy. The outcome is a multi-layer energy landscape comprising combinations of technical and natural energy sources that disrupt a pre-existing landscape.

Despite the fact that renewable energy landscapes are today seen as a novelty and an oddity, the truth is that they have a long track record of presence in territories that contributes to the creation of a strong landscape identity (e.g., windmills and watermills in rural areas). However, the productive liaison between the population and renewable energy landscapes is based on the great variety of current implementation scenarios. For the objectives of the PEARLS project, renewable energy landscapes represent an opportunity to give thought to the consequences for the landscape of the transition to a low carbon economy underpinned by the regional differences inherent in their implementation in Southern Europe and Israel.

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### **Sources**

- Marot N. & Krusse A. (2018). "Towards common terminology on energy landscapes". In *Journal of Landscape Ecology* Special Issue 2.
- Planning and Engagement Arenas for Renewable Energy Landscapes (2017). *Project Grant Agreement*. H2020-MSCA-RISE-2017. EU-Research Executive Agency.

## **RENEWABLE ENERGY SOURCES**

### **Definition**

Renewable Energy Sources, also called renewables, are energy sources that replenish (or renew) themselves naturally. Typical examples are solar energy, wind and biomass. Renewable energy sources include the following:

- Non-combustible renewables
  - Hydropower: the electricity generated from the potential and kinetic energy of water in hydroelectric plants (the electricity generated in pumped storage plants is not included);
  - Tide, wave, ocean energy: mechanical energy derived from tidal movement, wave motion or ocean current and exploited for electricity generation
  - Geothermal energy: the energy available as heat from within the earth's crust, usually in the form of hot water or steam;
  - Wind energy: the kinetic energy of wind converted into electricity in wind turbines;
  - Solar energy: solar thermal energy (radiation exploited for solar heat) and solar photo-voltaic for electricity production.
  - Ambient heat (heat pumps): heat pumps that are driven by electricity or other supplementary energy, to extract (stored) energy from the air, the ground or the water and converts/transfers this into energy to be used elsewhere (e.g. to heat space via underfloor heating systems and/or water in domestic buildings). Heat pumps can be used by individual households as well as at larger scale in industry and in commercial and public services. Energy flows related to heat pumps used for cooling are excluded, only heat pumps used for heating (hot water) are included. For more details on methodology and related calculation principles, please see Commission Decision 2013/114/EU (notified under document C (2013) 1082).
- Combustible renewables
  - Biofuels: fuels from biomass
  - Renewable municipal waste

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### **Source**

- [https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Renewable\\_energy\\_sources](https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Renewable_energy_sources)



## **SOCIAL DIVERSITY**

### **Definition**

“The distribution of units of analysis (e.g., people, students, families) in a specific social environment (e.g., workplace, classroom, state) along a dimension (e.g., race, social status, political orientation). When measured empirically through one or more of a variety of indexes (such as the index of diversity), the highest levels of diversity occur when the units of analysis (e.g., people) are distributed evenly across the social dimension (e.g., racial categories).”

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### **Source**

Stevens, G. and Down, H., 2007, “Diversity”, *The Blackwell Encyclopaedia of Sociology*.



## **SOCIAL IMPACT ASSESMENT**

### **Definition**

A process of analysing, monitoring and managing the intended and unintended social consequences (either positive or negative) of planned interventions (policies, programmes, plans, projects) and/or any social change processes invoked by those interventions. It's primary purpose is to create a more sustainable and equitable biophysical and human environment.

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### **Source**

Martinat, S. (2018): "Social Impact Assesment (SIA)". In A. Kruse *et al.*, "Glossary on renewable energy and landscape quality – The glossary", *Journal of Landscape Ecology*, Special Issue 2: 84.

## **SOCIAL INNOVATION**

### **Definition**

"Social innovation refers broadly to innovation in meeting social needs of, or delivering social benefits to, communities – the creation of new products, services, organizational structures or activities that are 'better' or 'more effective' than traditional public sector, philanthropic or market-reliant approaches in responding to social exclusion. (...) it means innovation in social relations. As such, we see the term as referring not just to particular actions, but also to the mobilization-participation processes and to the outcome of actions which lead to improvements in social relations, structures of governance, greater collective empowerment, and so on. (...) three [are] generic and interrelated features of social innovation: satisfaction of needs, reconfigured social relations and empowerment or political mobilization."

*Ana Delicado,  
Instituto de Ciências Sociais, University of Lisbon*

### **Source**

- Moulaert, F., MacCallum, D., Mehmood, A. and Hamdouch, A. 2013." General introduction: the return of social innovation as a scientific concept and a social practice", in Moulaert, F. et al. (eds), *The international handbook on social innovation: Collective action, social learning and transdisciplinary research*. Elgar Original Reference, Edward Elgar Publishing.



## **SOCIAL PERCEPTION**

### **Definition**

Social perception is the collectively shared organization, identification, and interpretation of sensory information in order to represent and understand the presented information or the environment. It comprises the attribution of meaning to objects/phenomena, which is culturally established. Social perceptions are shaped by interpretative schemes that are internalised during socialisation, becoming natural ways of viewing the world.

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### **Source**

- Contribution of the author

## **SPATIAL PLANNING**

### **Definition**

Spatial planning refers to the methods used largely by the public sector to influence the future distribution of activities in space. It is undertaken with the aims of creating a more rational territorial organization of land uses and the linkages between them, to balance demands for development with the need to protect the environment and to achieve social and economic development objectives. Spatial planning embraces measures to co-ordinate the spatial impacts of other sectoral policies to achieve a more even distribution of economic development between regions than would otherwise be created by market forces, and to regulate the conversion of land and property uses.

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### **Source**

- European Commission (1997). *Compendium of European planning systems. Regional Development Studies Report 28*. Office for Official Publications of the European Communities, Luxembourg.  
(<https://publications.europa.eu/en/publication-detail/-/publication/059fcdf-d453-4d0d-af36-6f7126698556>)



## **STRATEGY**

### **Definition**

Strategy is a perspective, a position, a plan, and a pattern. Strategy is the bridge between policy or high-order goals on the one hand and tactics or concrete actions on the other. Strategy and tactics together straddle the gap between ends and means. In short, strategy is a term that refers to a complex web of thoughts, ideas, insights, experiences, goals, expertise, memories, perceptions, and expectations that provides general guidance for specific actions in pursuit of particular ends.

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### **Source**

- Fred Nickols, 2016. "Strategy: Definitions and Meanings". Available at: [https://www.nickols.us/strategy\\_definitions.pdf](https://www.nickols.us/strategy_definitions.pdf).

## **TERRITORIAL IMPACT ASSESMENT**

### **Definition**

Following Medeiros, Territorial Impact Assessment (TIA) can be understood as the estimation of the potential impact of any given project, programme or policy on the main dimensions of territorial development. This includes: (i) economic competitiveness; (ii) social cohesion; (iii) environmental sustainability; (iv) territorial governance; and (v) spatial planning. TIA is a procedure which follows a set of compulsory logical steps to prepare evidence on which to base the estimation of a project's potential impacts before and after its implementation (Medeiros, 2014). Although TIA is a non-mandatory procedure in the EU, ESPON has recently developed the ESPON TIA (Territorial Impact Assessment) web tool as an interactive web application to support policy makers and practitioners. The tool combines expert knowledge and judgements as to a project's potential impacts with a set of statistical data and maps showing the potential territorial impact of EU policy on the NUTS 3 level. These maps can serve as a starting point for any further discussion of the different impacts of a specific EU policy on different regions. The tool is available at: <https://www.espon.eu/tools-maps/espon-tia-tool>.

In the PEARLS Project, TIA aims to inform policy makers of the impacts of (EU) policies to promote the use of energy from renewable sources on different case studies (i.e., renewable energy installations) associated with renewable energy landscapes in Southern European countries and Israel. For this purpose, the TIA must be flexible enough to assess territorial impacts on different geographical scales and adaptable enough to analyse policies and programmes with a clear territorial dimension. Spatial planning is another key factor for TIA to assess public participation, improve installations and evaluate satisfaction with renewable energy landscapes.

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### **Source**

- Medeiros E. (2014). *Territorial Impact Assessment (TIA). The Process, Methods, Techniques*. CEG Centro Estudos Geograficos, Lisbon.
- Marot N. & Krusse A. (2018). "Towards common terminology on energy landscapes". In *Journal of Landscape Ecology* Special Issue 2.
- ESPON EATIA. (2012). *ESPON and territorial impact assessment* (Targeted analysis 2013/2/9, final report, version 29/06/2012). Luxembourg: European Observation Network for Territorial Development and Cohesion (ESPON).





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