

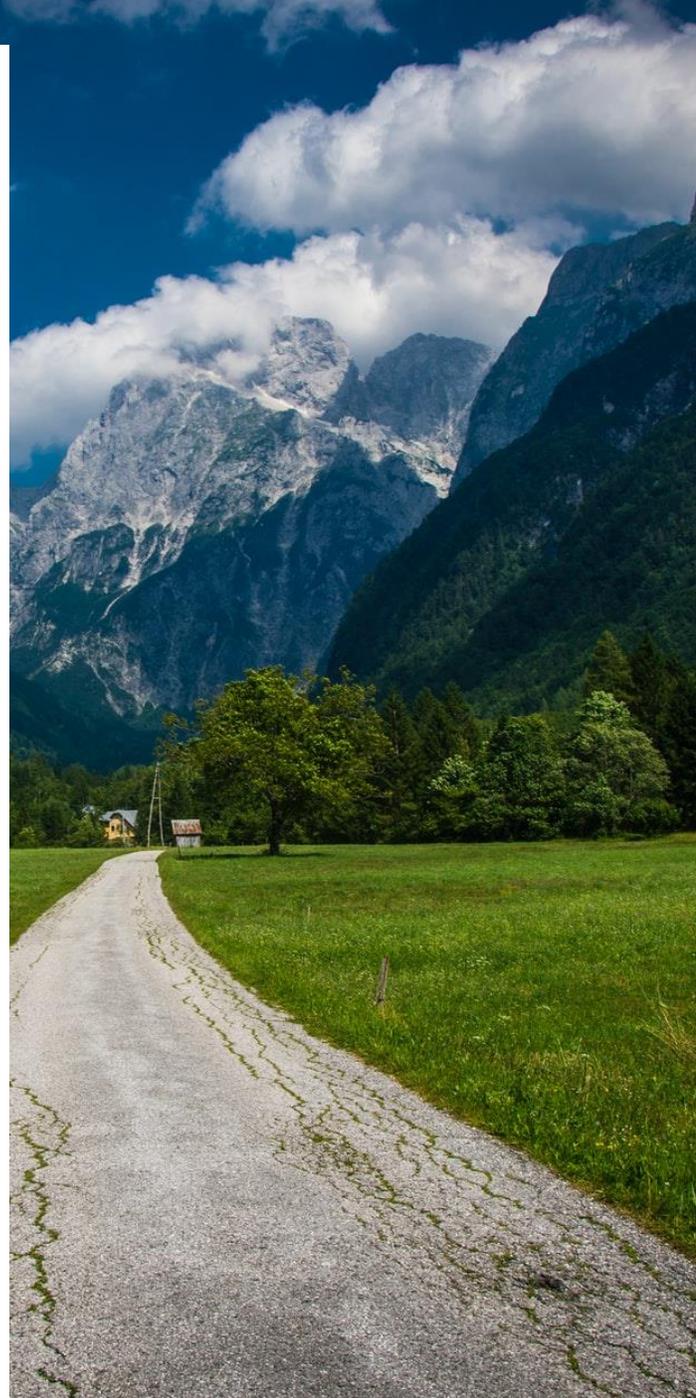
Transnational Learning Document #4

LCA in public
procurement
and
materials

May 2021

Improved Environmental and
Resource Efficiency through use of
Life Cycle Instruments for
implementation of regional policies
of the European Union

LCA4Regions
Interreg Europe



There are many ways of planning for **regional development**.

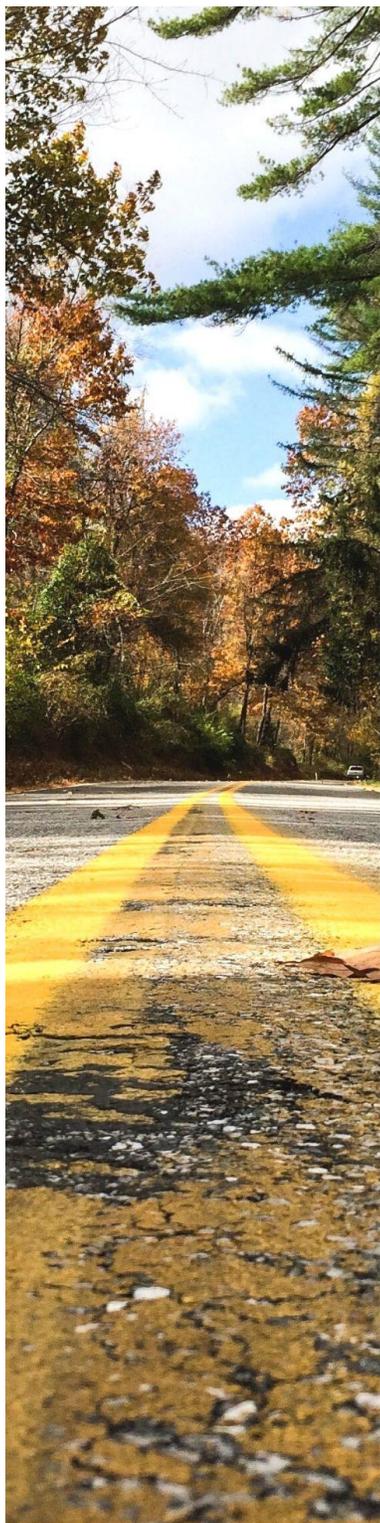
Traditional methods of 'one issue at a time' have produced some useful immediate results but have also sometimes had unfortunate side effects, as for example when infrastructure is planned without an 'end of life' component built in.



Life Cycle process

A more systematic way of thinking, taking into account the **entire life cycle of projects and products leads to more effective programmes**, and fewer unwanted secondary impacts. Citizens as well as organisations are increasingly interested in the « **world behind the product** », something that life cycle methodologies based on key SDGs can reveal. Life cycle thinking is also the basis for the LCA4Regions project where learning life cycle methods from each other improves everyone's development policies and action plans.

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Purpose of the document

The document belongs to the series of TLJ Learning Documents which aim to provide an overview of the activities carried out during the Transnational Learning Journeys. It summarizes the practices discovered during the TLJ, the discussions held, the lessons learnt, and elaborates some inputs to be further explored by the project. It proposes some elements to be considered for improving the quality and effectiveness of the next TLJ.

The present document is focused on the fourth Transnational Learning Journey that took place in May 2021 online (although originally planned to take place in Slovenia).

What is a Transnational Learning Journey?

Transnational Learning Journeys (TLJ) represent the core of LCA4Regions, an opportunity for dialogue on a key aspect of the project.

Organised every six months by a different partner region, TLJs include thematic workshops, site visits and peer reviews and focus on one of the project's thematic pillars. **They bring together partners and stakeholders to share challenges, opportunities and good practices** to improve their regional policy instruments.

Seven TLJs will be organised during the first phase of the project, the "Interregional Learning":

- TLJ #1: Life cycle methodologies in environmental and resource efficiency policies and tools to apply LC into practice | Kaunas (LT), January 2020
- TLJ#2: Life cycle methods for resource-efficiency | Navarre (ES), June 2020
- TLJ3#: LCA for waste management and material flows | Satakunta (FI), October 2020

The following meetings will be in Lodzkie Region (PL) Lombardy (IT), and Baixo Alentejo (PT).

Transnational Learning Journey #4

25-27 May, online/Slovenia

OVERVIEW

The 4th TLJ took place online organised by the Slovenian National Institute of Chemistry. This three-day event on spreading life cycle thinking included three different sessions:

- **LCA4Regions - LCA in public procurement:** this session started with a chronology of the activities undertaken in Slovenia to adopt the legislation in the field of green public procurement and the use of life cycle methodologies in particular life cycle costing.
- **LCA good practices on public procurement:** presentation of good practices from partners' regions: Navarre (SP), Kaunas (LT), Satakunta (FI), Baixo Alentejo (PT), Western Slovenia (SI), Lombardy (IT) and Lodzkie (PL).
- **Case studies & Peer review:** presentation of the KEINO platform and some general views about public procurement in Finland, followed by a peer-review session that gathered ideas for developing the future action plan in Slovenia.

The whole TLJ has been recorded and can be watched [here](#).

AGENDA

DAY 1 – LCA4Regions – LCA for sustainable regional development

25 May 2021 | 10:00 – 12:35

- 10:00 – Welcome remarks by NIC
- 10:10 – Guidelines for using the interactive discussion platform
- 10:15 – Regulation of green procurement in Slovenia | Public Procurement Directorate, Ministry of Public Administration
- 10:45 – Q&A
- 10:55 – Life cycle methodologies in Slovenian GPP | Ministry of the Environment and Spatial Planning of Republic of Slovenia
- 11:25 – Q&A
- 11:35 – The Green Clause | CD2E, Eco Transition Deployment Center, France
- 12:05 – Q&A
- 12:15 – Wrap-up session

DAY 2 – LCA good practices on public procurement

26 May 2021 | 10:00 – 12:40

- 10:00 – Summary of Day 1 and guidelines for using the interactive discussion platform
- 10:10 – LCA good practices on public procurement (Part 1)
- 10:50 – Q&A
- 11:00 – LCA good practices on public procurement (Part 2)
- 11:30 – Q&A
- 11:40 – Challenges of public procurement in practice | Bonorum Ltd., Slovenia
- 12:10 – Q&A
- 12:20 – Wrap-up session

DAY 3 – Case studies and peer review

27 May 2021 | 10:00 – 12:40

- 10:00 – Summary of Day 2 and guidelines for using the interactive discussion platform
- 10:10 – Current status and good examples of Sustainable and Innovative Public Procurement in Finland | Finnish Environment Institute
- 10:30 – Q&A
- 10:40 – LCA in EU policies and in Regional GPP | Dr. Fritz Balkau
- 11:10 – Q&A
- 11:20 – Slovenian policy context
- 11:40 – Peer-review and open discussion
- 12:25 – Wrap-up session and farewell

SLOVENIA

During the 1st day of the TLJ presentations and discussions focused on the Slovenian context and recent policy developments.



Population: 2,064,840 inhabitants (2020)

Context - Environmental performance of Slovenia

According to the 2020 Environmental Performance Index (EPI), Slovenia ranks among the top 10 % of the countries around the world (18/180). The report is based on a data-driven summary of the state of sustainability around the world, using 32 performance indicators across 11 issue categories, and it ranks 180 countries on environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. The EPI also offers a powerful policy tool in support of efforts to meet the targets of the UN Sustainable Development Goals and to move society toward a sustainable future (provide clean drinking water and sanitation, reduce ambient air pollution, control hazardous waste, and respond to public health crises).

Slovenia is especially proud to be ranked on the 5th place among the 180 countries in the area of ecosystem vitality, which includes biodiversity, ecosystem services, climate change, pollution emissions, agriculture and water resources, and measures how well countries are preserving, protecting, and enhancing ecosystems and the services they provide.

Policy framework

The government of Slovenia has made great strides in improving its regulatory policy. Regulatory impact assessment and stakeholder engagement are required for line ministries while developing laws and regulations. However, challenges remain in ensuring that line ministries implement these regulatory policy tools effectively. Strengthening governance and oversight of the regulation process and evaluation in Slovenia would support good law making.

The Slovenian legal and policy framework creates conditions for efficient stakeholder engagement in regulatory policy, especially with regard to developing new regulations and their amendments. However, there is a substantial need to strengthen the enforcement of this framework. Although a few ministries do engage with stakeholders early on in the regulation-making process, most of stakeholder engagement takes place at its final stage.

Slovenia's development strategy 2030

Slovenia's primary objective is high quality of life for all and focus is given on five strategic orientations to achieve it:

- Inclusive, healthy, safe and responsible society;
- Highly productive economy creates added value for all;
- Learning for and through life;
- High level of cooperation, competence and governance efficiency;
- Well-preserved natural environment

They will be implemented through operations in various interconnected and interdependent areas, which are reflected in the Strategy's 12 development goals. Each goal is

also linked to the sustainable development goals set out in the 2030 Agenda. Key areas, which will have to be worked on in order to achieve a high quality of life for all, are defined for each development goal. The goals constitute a basis for designing the priority tasks and measures to be implemented by the Slovenian government, regional development stakeholders, local communities and other stakeholders.

The Strategic Research and Innovation Partnership – Networks for the transition into circular economy

The Strategic Research and Innovation Partnership – Networks for the transition into circular economy groups together Slovenian business subjects, educational and research institutions (RDI), non-governmental organizations and other interested parties, in collaboration with the state, aiming to establish new value chains according to the economic principles of closed material flows.

Roadmap towards the circular economy in Slovenia

Circular economy, one of Slovenia's strategic development priorities, is included in key national documents such as *A Vision for Slovenia in 2050* and *Slovenian Development Strategy 2030* as well as in *Slovenia's Smart Specialisation Strategy*. The strategy's main goal is improved quality of life for everyone. It also aims to:

- a. Outline the potentials that establish Slovenia as the leader of the transition into the Circular Economy in Central and Eastern Europe;
- b. Involve stakeholders to identify and connect circular practices;
- c. Create recommendations for the Government of the Republic of Slovenia to facilitate a more efficient transition;
- d. Identify circular opportunities for the strengthening of international economic competitiveness and quality of life for all.

The approach is based on the so-called “Circular Triangle”: Circular Economy (business models), Circular Change (government policies) and Circular Culture (citizens). Circular

Culture is the aspect that seems to hide the greatest transformative capital for Slovenia.

Smart Specialisation Strategy of the Republic of Slovenia

Smart Specialisation is a strategy for strengthening the competitiveness of economy, innovation capacity and the diversification of the existing industry as well as the growth of new and booming industries and companies, respectively.

In its Smart Specialisation Strategy, Slovenia wishes to build on its natural assets, focus on its specifics and support the achieved broader public consensus with regard to the vision of the green Slovenia, which should be:

- Clean and healthy and as such attractive for life and work;
- Circular, since it will base its development on the principles of circular economy;
- Serene because Slovenia is serene/calm, whereas with a shift to the innovative society it is also becoming serene/bright, making Slovenia inspiring and open, open to new ideas, talents and for experimentation, which is enabled and encouraged by our tolerance and safe environment.

Green Public Procurement

Categories of green public procurement in Slovenia – since 1 January 2018, the Decree on green public procurement (Official Gazette of the Republic of Slovenia, Nos 51/17 and 64/19) applies to 20 product groups of procurement.

The Ministry of the Environment and Spatial Planning and the Ministry of Public Administration, in participation with line ministries, drew up examples of environmental requirements and criteria that a contracting authority may include in the public procurement procedure in order to attain the goals laid down by the Decree for each category of the public contract. The examples of environmental requirements and criteria are updated at least every two years according to the technological development, market situation, and the

legislation and guidelines of the European Union and the Republic of Slovenia.

National Institute of Chemistry



The National Institute of Chemistry has 374 employees (31. 12. 2020), of which around 331 carry out research work in 9 departments and two infrastructure centers; 163 of these have doctorates of science degrees.

The institute works on basic and applied research oriented towards fields which are of long-term importance to both Slovenia and the world: materials research, life sciences, biotechnology, chemical engineering, structural and theoretical chemistry, analytical chemistry and environmental protection; through which the institute is in line with the needs of the domestic and foreign pharmaceutical, chemical, automotive and nanobiotechnological industries. The work of the Institute is also in line with the priority thematic areas of the EU Research and Innovation programme Horizon 2020, which places an emphasis on nanotechnology, genomics and biotechnology for health, climate change, energy, sustainable development and global change and quality and safety of food.

<https://www.ki.si/en>

The team behind the National Institute of Chemistry

Albin Pintar is a researcher in the development of modern technologies for environmental protection, which, among others, include catalytic processes for wastewater treatment and the conversion of greenhouse carbon dioxide into fuels and compounds with high added value. He is also involved in the process intensification and valorization of solid waste materials.

Gregor Žerjav is engaged in research in the field of removal of organic pollutants from wastewater, and developing modern materials used as heterogeneous catalysts in photocatalytic and thermal advanced oxidation processes. His research also includes the recovery of useful substances from waste production streams.

GOOD PRACTICES ON PUBLIC PROCUREMENT

During the 2nd day of the TLJ each territory presented a good practice on life cycle methodologies for public procurement.

LCC calculators on the website of the national Public Procurement Office | Lodzkie Region (Poland)

January 2020 – Ongoing

The Polish Public Procurement Office provides life cycle cost calculators (LCC) on its website. Calculators are designed for 3 product groups: computers and monitors, external lighting and traffic signals, interior lighting. It is an initiative to take into account the life cycle and its costs in public procurement. The calculators are a practical tool to facilitate the application of the life cycle criterion (as a criterion for the evaluation of bids) in public procurement, in accordance with the possibilities offered by the national Public Procurement Law. They were developed in the form of simple MS Excel tools and practical user guides. These tools make it possible to include purchase and installation costs, operating costs, service costs and optional environmental costs in the calculations.

The application of the life-cycle costs in a public procurement procedure allows not only to assess the economic efficiency of the purchase but also to make an environmentally friendly purchase and reduce the negative impact on the environment. The calculators were developed on behalf of the European Commission (documents in English are available on the website of the European Commission's Directorate-General for Environment). Versions of calculators in Polish have been developed by the Polish Public Procurement Office. The main stakeholders and beneficiaries are public bodies which, as contracting authorities, deal with procurement procedures.

The number of views and probable downloads of the LCC calculators from the PPO website (from March 2020 to March 2021) amounted to approximately 300 (based on web analytics). Since 2021, the PPO has been promoting calculators as part of a nationwide training course in public procurement (129 people trained in February).

Manuals of the Public Procurement Office for the dissemination of green procurement and life cycle | Lodzkie Region (Poland)

January 2009 - ongoing

The publishing activity of the Public Procurement Office is important for shaping the public and private sector awareness as well as identifying opportunities and encouraging the use of environmental aspects and life cycle methodology in public procurement. The office issued several instructions, including:

- Green Public Procurement Volume 1 - describes the importance and possibilities of using Life Cycle Assessment (LCA) and Life Cycle Costs (LCC) in green public procurement, methodology, legal regulations in the light of EU and national law, designations awarded products, services and environmental management systems and the conditions to be met for this purpose. The manual aims to encourage institutions to include environmental criteria in their tendering procedures;
- Green Public Procurement vol. 2 - discusses the government regulation on the obligation to use the energy and environmental impact factor when purchasing motor vehicles. Presents methods for calculating the cost of environmental impact (pollutant emission);
- Good practices in the field of sustainable public procurement (2 parts) - a collection of good practices describing the local activities and policies of regions and public entities in Poland. Selected examples of provisions in the tender documentation concerning sustainable public procurement were also presented. It addresses the aspects of green public procurement, emissions and recycling. The manuals are intended for contractors and contracting authorities.

Life cycle approach in public tenders of the Marshal's Office of the Lodzkie region | Lodzkie Region (Poland)

June 2019 – Ongoing

In order to protect the environment and efficient resource management, the Marshal's Office of the Lodzkie region has made a written recommendation to include pro-ecological aspects in public proceedings at particular stages of the product life cycle. Such possibilities are provided by the Public Procurement Law in Poland. According to it, environmental issues can be taken into account at all stages of public procurement. E.g.: in the description of the subject of the contract (requirement for environmental labels, specific product performance or compliance with specific standards), the qualification of contractors (e.g. exclusion of contractors operating against the environment), criteria for the evaluation of offers (application of the life cycle principle, in particular in the construction industry, environmental costs, energy efficiency, the volume of emissions exhaust by vehicles). However, the application of these criteria is not mandatory for public institutions but their implementation is recommended. Lodzkie region implemented recommendations for 19 assortment groups in which above mentioned criteria should be taken into account during the public procurement process at the Marshal's Office. These include, among

others: supplies of promotional materials, paper, furniture, food, office, textiles, cleaning products, household appliances / electronics, water, computers, lighting, paints and catering services, printing, organization of meetings, cleaning, transport.

In the years 2019-2020, 17 green public contracts have been awarded that take into account the ecological aspects at individual stages of the life cycle of products and services.

Execution of energy planning for building procurement | Pyhäjärvi Institute (Finland)

2019 – 2020

New constructions require planning and modelling for energy use, which often meet strict environmental criteria. Procuring process must meet these expectations, and here the planning was based on simulations and multi-objective optimization process for the whole life cycle of an energy-intensive building, a public swimming pool. The process gave valuable support for the procurement process. Both energy consumption and LCC were evaluated for the swimming pool. The optimization work helped city of Rauma to select low-energy consumption options. Beneficiaries are city of Rauma and all tax-paying Rauma inhabitants.

Several options for potential energy savings with economic savings were found through optimization process. LCA and LCC were utilised in evaluations. By selected options, 40% energy savings were obtained (214t CO₂/year). By Investing into energy efficiency, 25 years' time frame, city saves over 1,7 m€.

Management of sustainable procurements at municipal level | Pyhäjärvi Institute (Finland)

2018 – Ongoing

City of Pori has developed its public procurement practises long-term, although policy agenda has omitted practical functionalisation. Policy agenda, divided into different procurement categories, was formulated via cross-organisational working group. Management system involves operative expertise unit, which analyses and observes the effect of procurements, total amount of 350m€. KEINO-academy facilitated development of improved impact assessments, e.g. for environmental responsibility and resource efficiency. Real-time tendering calendar and a procurement tool with LCA and LCC involvement is being developed.

Municipal policy for sustainable public procurement is a multi-faceted process, and Pori has successfully been able to organise the system by identifying weak points, establishing single operating unit with knowledge to monitor and functionalise sustainable procurements. Societal impact assessment is evaluated by LCA and LCC tools. Nomination of category-special personnel and centralization of procuring is helping to reach goals.

Public procurement for innovation | CIMBAL (Portugal)

June 2019- March 2020

The Public Procurement of Innovation (PPI) aimed at stimulating the adoption of innovative services and product in the context of the refurbishing of two buildings. The fact that those buildings are inserted in historic areas, one of them to be classified as UNESCO heritage, gave the all process specificities that couldn't be addressed under a regular procurement procedure, where price would be the main focus. The building are used as services building, having one of them also a museum in the basement. So, the need to the quality of the indoor environment was an issue. Last, energy consumption and CO2 produced were on of the main criteria.

Therefore, PPI was the type of procurement procedure that was selected to solve all those issues.

Overall, the aim was to improve the quality of public services activating market demand within very specific requirements and under desired quality/price ratio within a specific time.

During the procedure, companies were supported in order to improve their procurement process taking into consideration the award criteria above described. Even being not yet widely disseminated, public procurement for innovation is one solution for smaller municipalities to meet the challenge of climate change through the procurement of products, services and works with an high environmental performance and specifically taking into consideration LCA criteria as well as other like greenhouse gas reduction (like described in this specific procurement procedure).

The main objective was to learn and to make possible to implement a new procurement procedure in the context of small dimension municipalities and therefore enable other municipalities to do it.

The procedure was based upon innovative award criteria and considered the bidder's information provided, the innovation of the proposal and the innovative solutions. Among the relevant criteria, greenhouse gas reduction, in the context of the municipal buildings refurbishment was very relevant. The market engagement was successful and so the work as delivered successfully. The procurement procedure was based on technical criteria and price was valued only in 10%. Typically, these procurement procedures are fully based on price. The procurement platform used to undertake all the procedure was adapted due to the existence of this specific procedure and is now ready and available to such procurement procedures.

Purchase of operational leasing and other associated services for electric and hybrid cars through cimbal´s central purchasing system | CIMBAL (Portugal)

September 2020-Ongoing

It is a well-known fact that mobility and therefore transportation are responsible for a very significant part of CO2 emissions. This is particularly relevant in low-density areas, where mobility relies mainly upon individual transportation.

Municipalities and other public entities play a significant role in what regards changing this paradigm, not only by adopting in their own fleets more efficient and non-pollutant vehicles but also by creating the necessary infrastructures – for instance electric cars chargers installation. Using more environmental friendly vehicles sets the example for the overall population and so a spillover effect can be expected.

Through this specific procedure CIMBAL´s Central purchasing system opens the possibility to the municipalities and other adherents to not only gain access to smart mobility solutions - electric and hybrid cars- but also substitutes the purchasing of the vehicle by the purchase of the mobility solution - operational leasing and other associated services- using circular economy principles.

CIMBAL´s Central purchasing system is a centralised negotiation system available for local authorities and its main objectives are:

- Award tenders for the execution of public works contracts, the supply of movable goods and the provision of services on the behalf of the contracting authorities;
- hire or purchase movable property or services for contracting authorities;
- conclude framework agreements, known as public supply contracts, which object is to award public works contracts or the rental or purchase of movable property or the purchase of services;
- set up dynamic purchasing systems for the use of the contracting authorities;
- set up electronic catalogues for the contracting authorities;
- award public contracts for the provision of purchasing activities, consisting in the support of purchasing activities.

The Central purchasing system currently covers 13 municipalities, but it may also cover other entities working in the framework of Public Contracts rules and legislation, namely municipal services, local business sectors, private associations and others.

This system also enables procurement processes that integrate new award criteria such as innovation or Life Cycle assessment. The procedure enables acquisition of mobility solutions that are environment friendly.

Green public procurement in Slovenia | National Institute Of Chemistry - NIC (Slovenia)

2011 - ongoing

On 8 December 2011, the Government of the Republic of Slovenia adopted a Decree on Green Public Procurement, which would aid all contracting entities when launching a contract award procedure. The Decree stipulated that for 11 products (as of 2011) and service groups, public buyers would have to consider minimum and extra environmental requirements, as well as award criteria. It identified a number of statements or declarations, which can serve as proof of these requirements.

The relevant area of green public procurement in Slovenia has undergone further development. Today's regulation on green public procurement covers 20 public procurement subjects, for which environmental considerations are mandatory. These are:

1. electricity
2. food and catering services
3. textile products
4. stationery and hygiene paper products
5. electronic office equipment
6. TVs
7. refrigerators, freezers and combinations thereof, washing machines, dishwashers, tumble driers, vacuum cleaners and air-conditioners
8. furniture
9. water heaters, room heaters and combinations thereof and hot water storage tanks
10. sanitary fittings
11. flushing toilet fittings and urinal fittings
12. wall panels
13. designing or executing the construction of buildings
14. designing or executing road construction
15. road vehicles
16. tires
17. electric lamps and lamps and indoor lighting
18. road lighting and traffic signaling
19. cleaners, cleaning services and laundry services

20. gardening services, agricultural and other products and gardening equipment and machinery

The Green Public Procurement Regulation sets targets for individual items in each contract award that contracting authorities must complete when awarding a single green contract. Environmental requirements may be incorporated by contracting authorities in a number of ways, as technical specifications, as a reason for exclusion, as a condition of participation, as a criterion for the award of a contract or as a specific contractual provision. Contracting entities may include environmental requirements in one or more of the ways specified for each contract.

The relevant green public procurement regulation also allows the use of life cycle methodologies (e.g. life cycle costing - LCC) in tenders.

In 2018, subscribers awarded 16,865 contracts worth 2,918,594,609 euros. At least one environmental aspect was included in 5771 contracts, representing 34.22 % of all contracts awarded this year. The value of these orders is 559,393,716 euros, which represents a 19.17 % share.

Of these, 4539 contracts were awarded, for which environmental requirements are laid down in the Green Public Procurement Regulation. The share of these amounts to 26.91 % in number of all contracts awarded in 2018. In the remaining 1232 contracts, the contracting authorities implemented the environmental aspect voluntarily, which is 7.31 % of all contracts awarded.

Green public procurement and LCC in practice – green vehicles | National Institute Of Chemistry - NIC (Slovenia)

2011

Slovenia's National Action Plan on green public procurement (GPP) covered the period 2009-2012. It set a target for 50% of all procurement by central government authorities in eight product groups to include GPP criteria by 2012. The strategy also included training on GPP, pilot projects and assisting public authorities in attaining third-party certified environmental management systems.

The Public Procurement Agency in Slovenia was established in 2010 and went into operation in January 2011. It was responsible for carrying out the strategy and joint procurements for Slovenian public authorities for a number of product and service groups. As part of its mandate, the Agency implemented GPP criteria in its procurement of electricity, paper, office IT equipment and vehicles. This build upon the work done by the Ministry of Public Administration to introduce GPP as part of central purchasing in Slovenia. In the period 2011-2012, the Agency purchased on behalf of about 130 authorities across the public sector.

In this particular practice, subject matter of the contract was road vehicles. All vehicles (all lots except cargo vans) must meet the EURO 5 emissions standard or equivalent. Maximum CO2

emissions range from 115 g/km for small cars to 180 g/km for mini-buses. The received tenders were evaluated in terms of the following award criteria:

- operational lifetime costs,
- service network,
- safety and environmental equipment,
- gear shift indicator,
- warranty period,
- delivery time, and
- tyre pressure monitor.

Operational lifetime costs were calculated applying the following formula:

[Expected lifetime mileage (=200 000 km) x [(Energy needed per km in MJ) x price of Energy per MJ) + (emissions of CO₂ kg/km x 0.03 EUR/kg) + (emissions of NO₂ g/km x 0.0044 EUR/g) + (particulate matter g/km x 0.087 g/km)]

As of 2011, road transport vehicles are responsible for 26% of EU final energy consumption and 24% of CO₂ emissions. Urban areas in particular suffer from the resulting local air and noise pollution. It is imperative to further the development and deployment of new and better environmental technologies for public vehicles as part of the solution to these issues. The Clean Vehicles Directive provides a common methodology for taking greenhouse gas emissions and energy consumption into account in the procurement of road transport vehicles.

Applying operational life-cycle costing (LCC; <https://ec.europa.eu/environment/gpp/lcc.htm>) as a part of award criteria on one hand, and setting requirements for maximum levels of CO₂ released on the other, has led contractors to submit offers for vehicles with lower CO₂ emissions. The outcome of taking CO₂ emissions and other pollutants into consideration can be seen by comparing the emissions of the vehicles tendered the previous year. The decrease in emissions varied from 3 g/km to 45 g/km per vehicle, depending on the Lot. In this particular case, the most economically advantageous tender achieved the following score in terms of award criteria:

- operational lifetime costs - 81 points,
- service network – 5 points,
- safety and environmental equipment: 4 points,
- gear shift indicator: 1 point,
- warranty period: 4 points,
- delivery time: 3 points, and
- tyre pressure monitor: 2 points.

Healthy and sustainable menus in municipal schools of Pamplona | Government of Navarre & AIN (Spain)

February 2019 - ongoing

Pamplona carried out a pilot for healthier diet on municipal nurseries taking into account sustainable criteria. It involved the nursery schools, families, agricultural sector and nutritionists. The pilot was successful, therefore, they implemented this initiative in 10 nurseries that have their own kitchen with cooks who are public workers.

In 2019, it launched a 2-year service tender requesting the supply and logistics of fresh, organic, seasonal and local food, as well as the reception, storage and transport to the nursery canteens. The tender was divided in 12 lots of food (veal, chicken, eggs, fish, yogurt, vegetables, cereals & legumes, pasta, bread, oil, tomato preserves, various food) and a logistic management lot.

The sustainable award criteria included are:

- Products of differentiated quality: organic, Protected Denomination of Origin, Protected Geographical Indication, autochthonous breeds, traditional varieties, artisanal production and sustainable fishing or aquaculture;
- Distribution and proximity channel: non or one intermediary and place of production, slaughter and transformation up to 200 km to the hiring centre;
- Kind and format of packaging: exclusive and reusable or not reusable, but recyclable, compostable and ecological; and big formats;
- Actions for knowledge transfer, awareness raising and education in food, environment and social justice;
- For the logistic lot: distribution routes, vehicle environmental label (0, Eco or C) and up to 50 km to the contracting body.

The results were:

- 10 nursery schools with healthier menus, 1,100 menus/day (0-3 years old; mid-morning snack and lunch), 1,000 families aware on sustainable and healthy eating, kitchen and canteen staff trained in sustainable and nutritional menus;
- 100% of fresh food, 90% organic, 80% local, 75% direct channel. From this percentage of direct channel: 100% (meat, oil, yogurt, eggs and bread), 85% vegetables, 65% legumes, 63% cereals and 8.5% fruits;
- EUR 171,600 return value to the organic sector (annual).

Environmental clauses in the contract for Pamplona street cleaning services | Government of Navarre & AIN (Spain)

April 2016 - ongoing

Green procurement is a big challenge for the acquisition of products, services or works by public institutions. This practice shows an approach to deal with this challenge, considering the use of life cycle approach.

In April 2016, Pamplona Town Hall launched the tender for the public service for streets cleaning of the municipality, consisting of three lots:

1. Basic urban cleaning scheduled and other related works
2. Vertical cleaning, litter bin cleaning, canine container maintenance and grids
3. Comprehensive maintenance of ornamental fountains

As part of the technical award criteria, several environmental measures were included, such as having a water use plan, water savings measures, energy efficiency measures, CF calculation, and LCA.

In the case of lot 1 and 2, LCA and CF calculation was specifically considered, according to the following scheme. During the six first months of the service, the winning company had to present a study including an LCA, a CF calculation, the water footprint, and other environmental issues related to the services. Then, quarterly, an update of data included in the study, and a comparative analysis was required, with the objective of identifying improvement measures, and monitoring the changes included in the service.

Additionally, the option of improvements with costs was considered in the tender for lot 1. This option allowed bidding companies to propose and acquire more efficient machinery for the service, such as electric machinery.

From the beginning of the service period (5 years with extent possibility), several improvement measures have been accomplished, resulting in a more efficient service, both from an organizational and an environmental point of view. Places in which machinery is stored have been set up closer to the cleaning sites. Tanker trucks move empty, and they are loaded with water close to cleaning sites. Work shifts have been adapted, enlarging them, and so, avoiding displacements.

In addition to the improvement measures mentioned before, electric facilities have been incorporated to the service:

- 5 electric vehicles (4 of them from the beginning of the service period);
- 1 electric sweeper;
- 4 electric tricycles (instead of motorcycle car) for manual cleaning when long distances are covered;

- 4 inspection vans.

That way, 14 of 65 vehicles are electric.

On the other hand, one of the most relevant positive aspect of the tender is that it offers enough flexibility to adapt the means to provide the service, according to the real needs of the service. For instance, during COVID pandemic the service was adapted to the real needs of the town cleaning. Also, in winter months, the mechanical sweeps are reduced. This results in a more efficient service, which leads to a reduction in the environmental impact generated, and in greenhouse gases emission, reducing the carbon footprint.

The expo we learned – the legacy of a mega event in a circular economy perspective | Lombardy Region (Italy)

2013 - 2017

Strategy for sustainability of mega events, starting from a case study on Expo Milano 2015 but becoming a reference for future mega events

The temporary nature and the size of mega events in terms of investments, areas and persons involved can lead to significant environmental impacts, if sustainability practices are not applied in the whole life-cycle of the event. Expo Milano 2015, focused on “feeding the planet, energy for life”, implemented actions towards sustainability goals, in line with national and European policies, guided by the principles of prevention, planning and management, stakeholders’ involvement, monitoring and reporting.

Expo Milano 2015 sustainability practices, applied in the whole life-cycle of the event, from the planning/design to the operation/management and the closure/dismantling, were articulated into 4 main pillars:

1. “buildings: temporary yet efficient”: energy and resource efficiency of temporary buildings constructed;
2. “purchase of goods and services: green is better”: adoption of Green Procurement criteria for goods and services;
3. “waste: no more waste but new resources”: strategic selection of materials aimed at reducing waste production and on the complex management of wastes produced;
4. “cross-cutting initiatives for a more sustainable event”: adoption of environment-related certification schemes, the communication related to sustainability topics, etc.

The main stakeholders were Bureau International des Expositions, Expo 2015 S.p.A., Milano Municipality, and Italian Ministry for Environment, Land and Sea.

The main cooperation bodies were Università Bocconi and Politecnico di Milano.

Some of the results were:

- vegetation covered 20% of exhibition site;
- 50% of green pavilion roofing, 50% recycled construction materials;
- 50% savings in water consumption;
- 90 GWh of primary energy and 21,000 tCO₂ savings;
- 100% of the residual electricity demand produced from renewable sources;
- 67% of waste generated subjected of separate collection;
- ecological value lost with the urbanization, compensated with a balanced ecological reconstruction program in North-West Milano.

Call for tender “environmental footprint | Lombardy Region (Italy)

January 2017 – December 2018

Measurement, calculation and communication of the environmental footprint of company's product, calculated through Product Environmental Footprint approach (UE)

The tenders can answer to the lack of knowledge by consumers and companies of the environmental impact of the product purchased/sold, increasing the focus on eco-sustainability in the context of a global market.

The public tenders included the following support actions for the companies:

- definition of intervention's objectives and scope;
- data collection regarding materials, energy, water, emissions and waste flows through a check-list document; if necessary, support in defining calculation procedures and allocation of data to the required level of detail;
- impact assessment of the environmental footprint;
- definition of Environmental Product Declarations (ISO type III)
- definition of Product Category Rules (PCRs) in compliance with the requirements of the "Made Green in Italy" Scheme and the relative implementing regulation published in draft by the Ministry of the Environment, for each of the product categories considered.

The main stakeholders and beneficiaries of the practice are:

- Companies: 2017 public tender was addressed to wood-furniture sector companies, while the 2018 one to companies based in the province of Como and received mainly feedback from food, textile and agriculture sectors; the same methodology could be applied to every company all companies whose products/services are derived from the use of raw materials and energy/water consumption;
- Clients and investors: purchase/investment decisions focused on eco-sustainability.



The activities followed the Product Environmental Footprint approach, the EU recommended Life Cycle Assessment (LCA) based methods to quantify the environmental impacts of products (goods or services), which considers the impacts of a product throughout its life cycle, from extraction or cultivation of raw materials, through processing, transportation and use, to disposal or recycling. The calculation was carried out by Green Bocconi.

The tenders allowed 10 small companies to achieve a deeper understanding of their environmental impact, to identify actions for reducing impacts/related costs and to access to additional market opportunities. The 2017 first tender, it was replicated by the same entity in 2018.

In general, the production of raw materials is the most impactful phase (around 50%), while the contributions of production phase account for around 30% of the total impact (major due to electricity consumption).

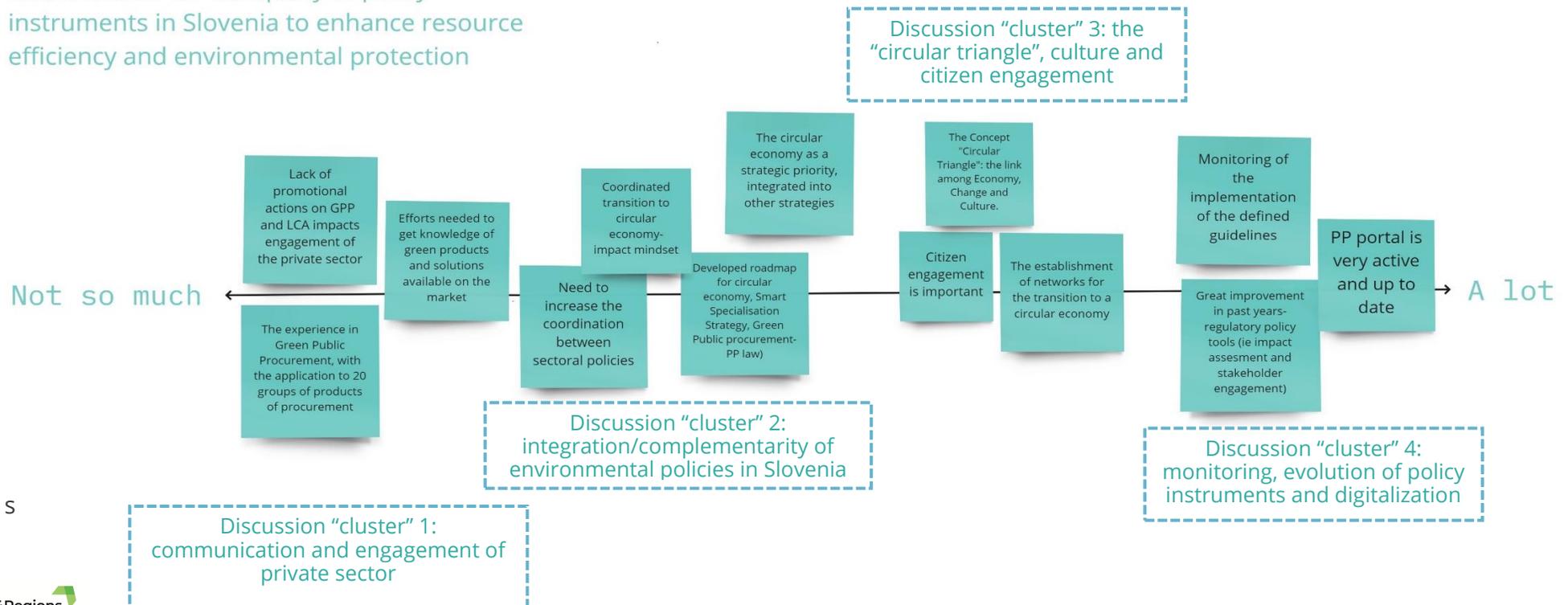
PEER REVIEW

The peer review is an essential part of the exchange of experience process. Each Transnational Learning Journey foresees a peer review session focused on the local policy instruments. During the third day of the TLJ, participants were split into three breakout rooms, each with a local expert facilitating the peer review process. The participants were asked to provide their opinions on the Slovenian context following three observations: 1. - adequacy of policy instruments in Slovenia to enhance resource efficiency and environmental protection; 2. - extent and sufficiency of life cycle methods in applying policy instruments; 3. - one experience that could usefully be replicated in your region.

In the following graphics, we present the key elements that emerged from the peer review sessions for each of the three considerations.

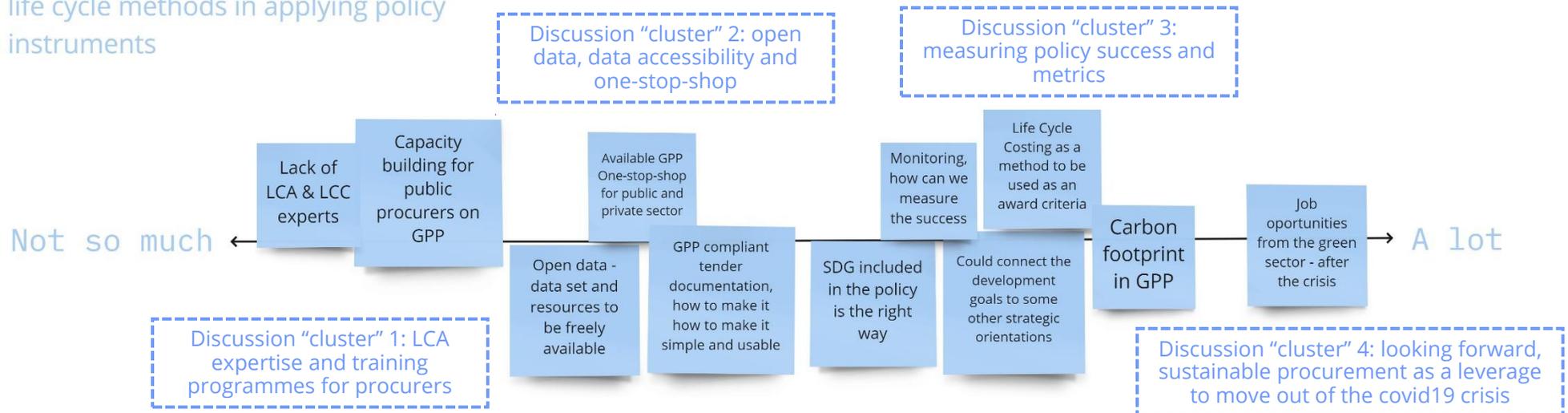
To be noted: following graphics includes only key finding of peer review processes. Full discussion boards are published [here](#)

Observation 1. – adequacy of policy instruments in Slovenia to enhance resource efficiency and environmental protection

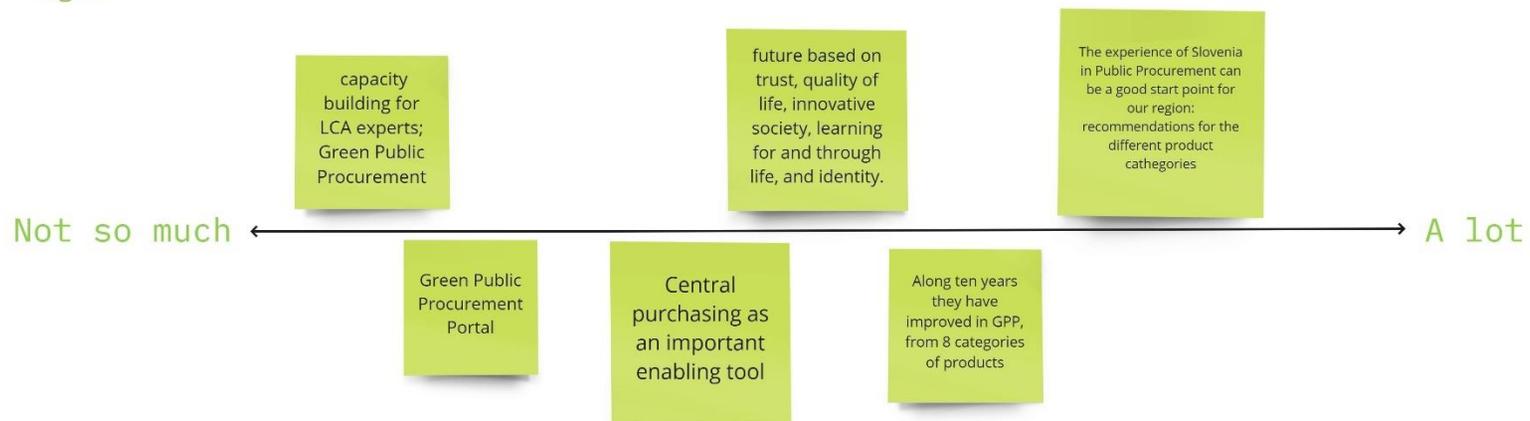


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Observation 2. – extent and sufficiency of life cycle methods in applying policy instruments



Observation 3. – one experience that could usefully be replicated in your region



CASE STUDIES

During this TLJ partners also had the opportunity to hear and comment about three case studies which enriched the discussion and allowed to analyse different angles of the application of LCA principles to public procurement.

La Clause Verte (FR)

La Clause Verte – or Green Clause - is a collaborative initiative to write 'green' clauses and tender directives that could be included in public contracts. Developed by the CD2E, an association based in the Hauts-de-France region in France, it was launched in 2020. In order to lift barriers to sustainable public procurement, the «green clause» aims to help public purchasers to define their needs taking into account the environmental aspect; include «ready-to-use» environmental clauses in the technical specification; save time looking for the «good» clause. It covers a wide range of public purchases: new construction, rehabilitation, highways, supplies and services. Currently, more than 13,000 users (out of 130,000 French public purchasers) have access to a toolbox with 140 clauses.

More: <https://laclauseverte.fr/> and the presentation on the [LCA4Regions website](#).

Keino Platform and public procurement in Finland (FI)

Keino is a network-based (with 8 members) Competence Centre for Sustainable and Innovative Public Procurement in Finland that was launched in 2018 and funded by the Ministry of Economic Affairs and Employment for 2018-2021. KEINO seeks to increase contracting entities' awareness of strategic procurement management and impact thinking. It assists contracting entities in management tool development and measurement and sets up powerful and efficient buyer groups for procurement in the fields of social welfare and health services, construction and energy use, mobility and logistics, and bio-and circular economy. The development of procurement competence is supported through advisory services, events and areal KEINO-agent activities. Among the lessons learnt during the three years is the fact that ministries must reach for the same direction and that public procurement is a strategic tool to meet different goals. In addition, general views about public procurements in Finland were shared together with 8 examples of sustainable and innovative public procurement.

More in the presentation on the [LCA4Regions website](#).

Slovenian portal for public procurement (SI)

Bonorum, a Slovenian law firm specializing in the field of public procurement, presented the main features of the digitalisation of public procurement in Slovenia. The country has an electronic system for publishing public procurement procedures – [Portal of Public Procurement](#). Contracting authorities and tenderers must communicate only through this portal. Tenders are submitted exclusively in electronic form using the electronic system called e-JN (<https://ejn.gov.si/>). The transparency of spending public money is enabled by the portal ERAR, where almost all transactions of public bodies are listed (<https://erar.si/>).

The presentation continued with an overview of the situation regarding green public procurement in Slovenia, including its challenges, illustrated by several practical examples.

More in the presentation on the [LCA4Regions website](#).

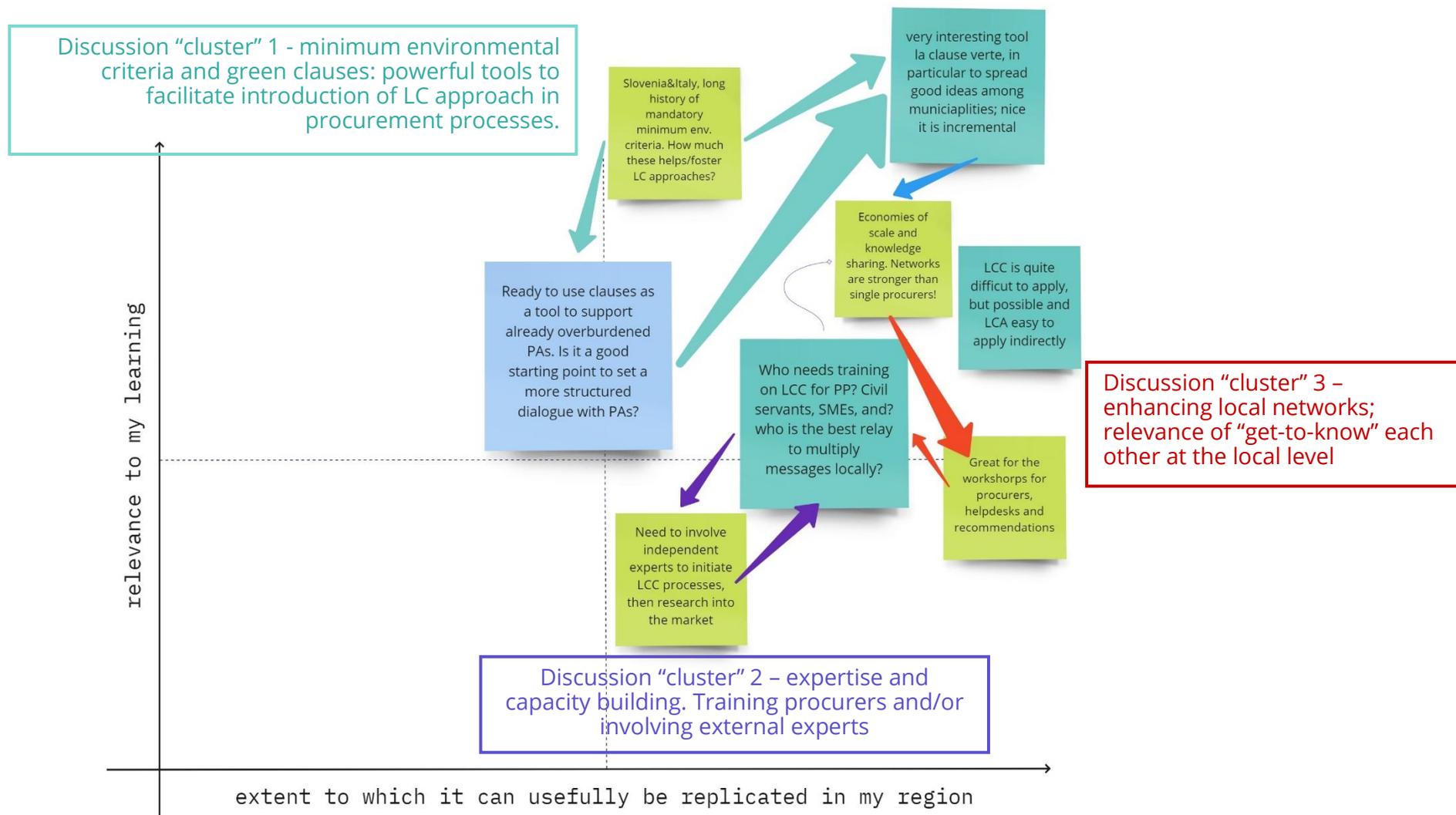
TLJ #4 Lessons learnt

After more than a year of international mobility restrictions, we have learned how the structure of online meetings, especially those with many participants, can limit the opportunities for interaction in Q&A or wrap-up sessions (risk of overlapping, closed microphones, etc.). To stimulate more interactions during the 4th TLJ, partners decided to experiment with live discussion boards, which will accompany and (potentially) enrich the discussions during the 3 days of the TLJ.

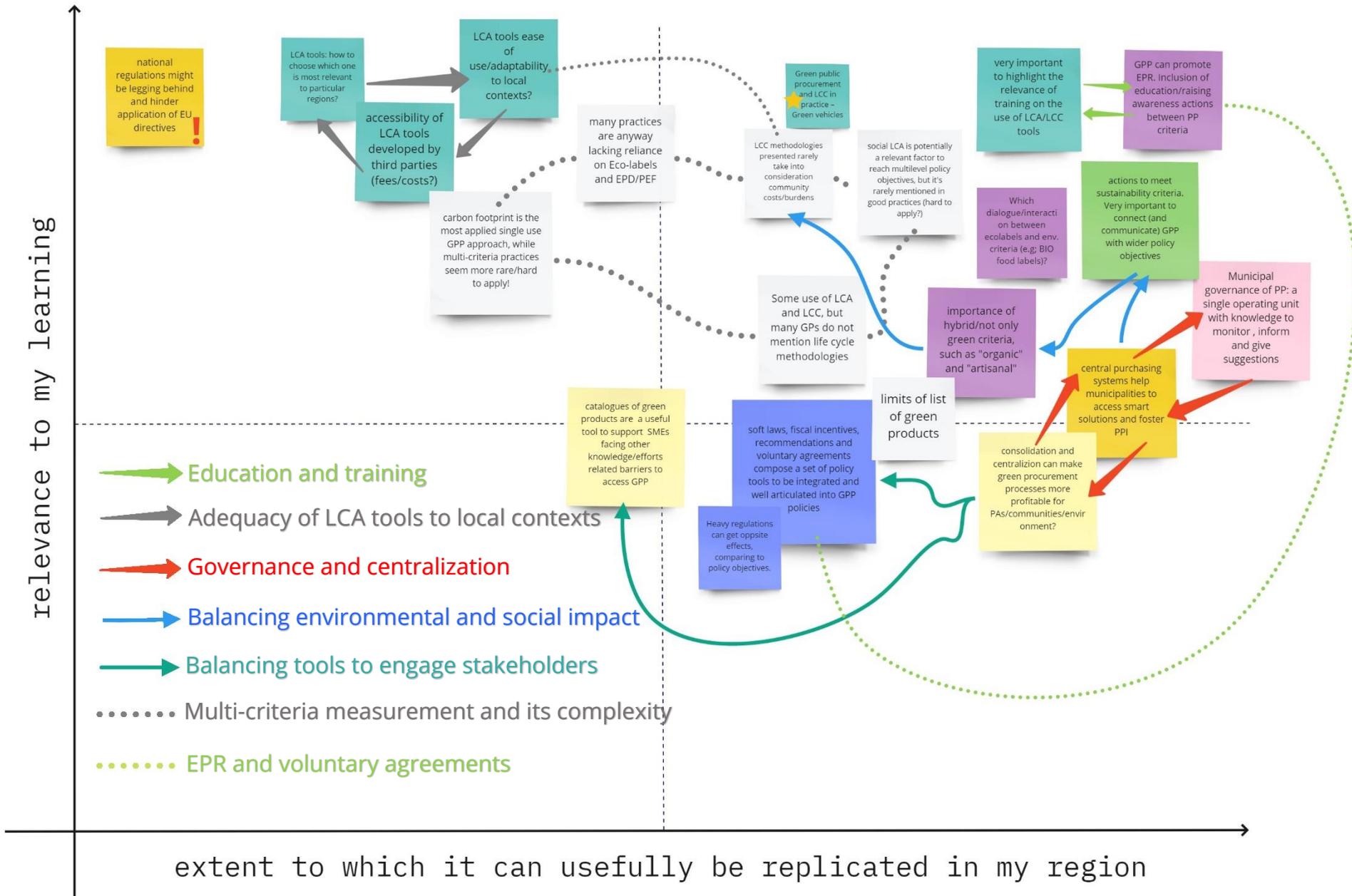
During each of the TLJ days, at the opening of the meeting, we shared a link to a dedicated discussion board that remained active throughout the entire session. Each participant was invited to express his or her opinion and share ideas and comments on digital post-it notes.

These "extended" post-it sessions were then used to organise wrap-up sessions at the end of each of the TLJ days. In addition, the second and third TLJ days began by summarising the reflections shared by the partners on the previous day, to coherently resume discussions and stimulate further reflection. The following pages present graphical representations of the main topics discussed through the live discussion boards during the three days of TLJ.

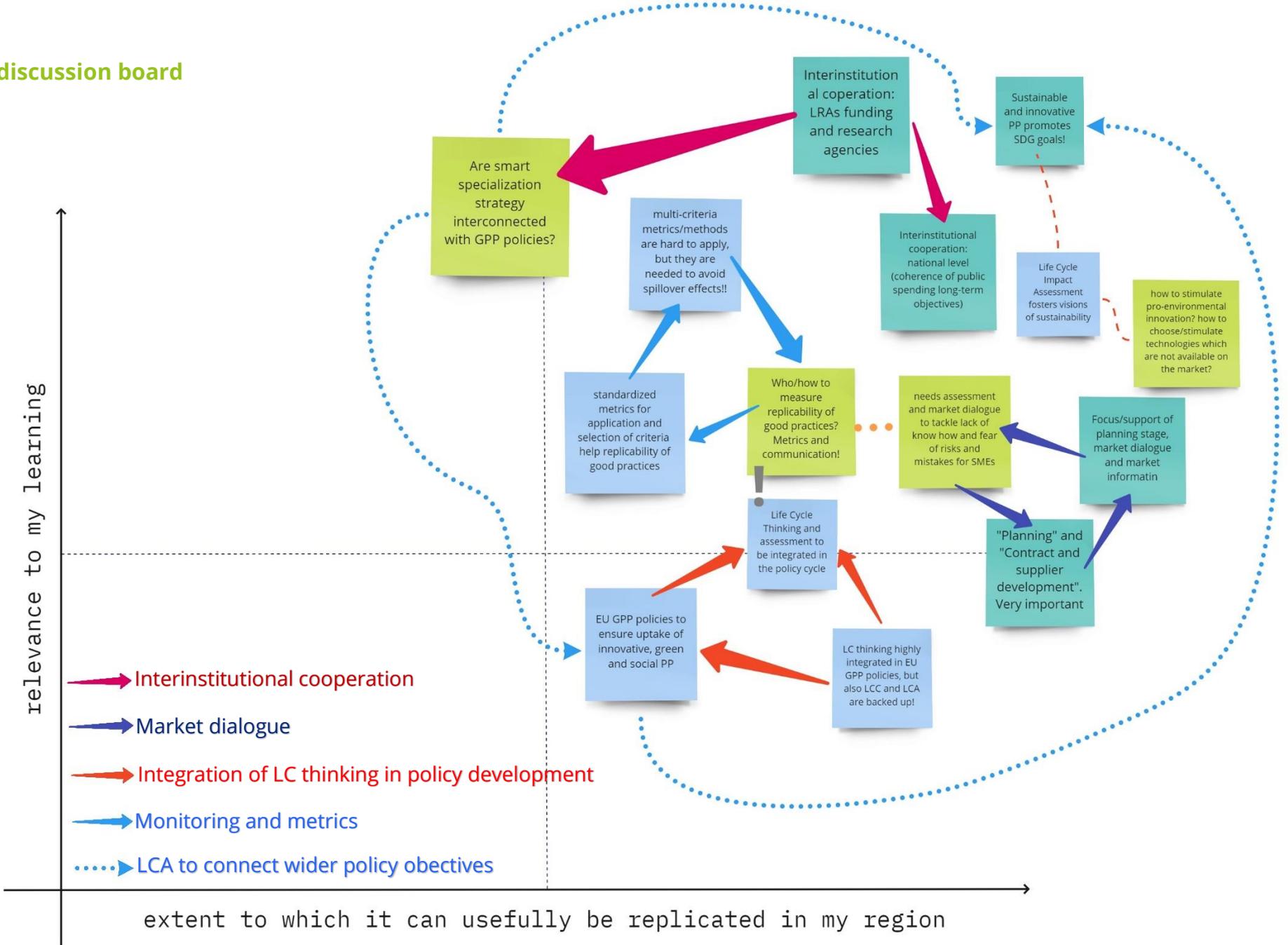
1st day discussion board



2nd day discussion board



3rd day discussion board



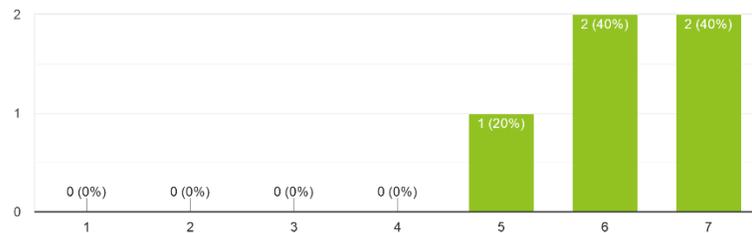
Participants' feedback

Once again participants globally positively evaluated the TLJ, using superlatives to describe it in one word.

And to conclude, define this TLJ in one final word!
5 responses

- Exciting!
- Enriching!
- Slovenian! jocking "Thorough"
- Brilliant!
- Inspiring for action

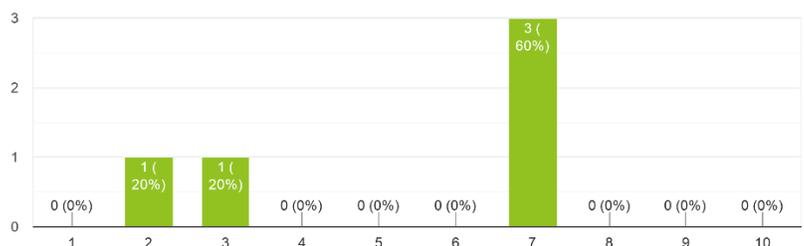
How did the TLJ compare to your expectations?
5 responses



Nonetheless, the length of the TLJ (too short) keeps being mentioned as a point to improve. It is again recommended to allocate more time to interaction, Q&A and also the Peer-to-Peer session. It is important to work thoroughly and in advance on the document(s) supporting the discussion and possible questions to be raised. This could help the host to receive adequate feedback. The role of moderators should be increased as it is a crucial one to guarantee a fruitful session.

A novelty of this TLJ, as mentioned above, was the live discussion board. This has been midly welcomed by participants, a little bit more than half highly evaluated this tool whereas the other part did not find it that helpful or mentioned that it could be cumbersome to handle them with taking notes, elaborate questions, etc.

Were the Miro boards useful and clear for use?
5 responses



The participation of local stakeholders in the TLJ varies from one territory to another, with often few stakeholders attending and most of them being only listeners when they are not presenting a good practice or workshop. Thus, it appears as a point of improvement for next TLJs since the involvement of stakeholders in the project is crucial. A suggestion is to dedicate a session to them which would help to facilitate interaction between stakeholders from different regions. The language but also the variety of sectors they are representing might be additional obstacles to tackle and explaining the low level of engagement. Partners are already identifying relevant stakeholders to invite for next TLJ.

Conclusion

Faced with the renewed impossibility to organise the TLJ on-site, LCA4regions partners continued on the same dynamic as previously to organise another successful journey. This new piece of the puzzle provided useful information, references and learnings to partners and helps them setting towards the elaboration of their Action Plans.

For example, one partner is studying the possibility to include in its Action Plan an action related to GPP and the use of LCA tools for GPP, so this TLJ and in particular the Good Practices and the experience of Slovenia proved to be very useful.

Partners tried an innovative method to compensate the diminished interactivity inherent to online meetings, in a spirit of always improving the TLJ. As suggested above, efforts for the next TLJ should be focused on the preparation of the peer-review session beforehand and the engagement of stakeholders.

The next TLJ will take place in September 2021, organised by the Lodzkie region. It will tackle the topic of LCA in training and capacity building.