



LCA4Regions

Interreg Europe



European Union
European Regional
Development Fund

NAVARRA - RAB

David Sotillo

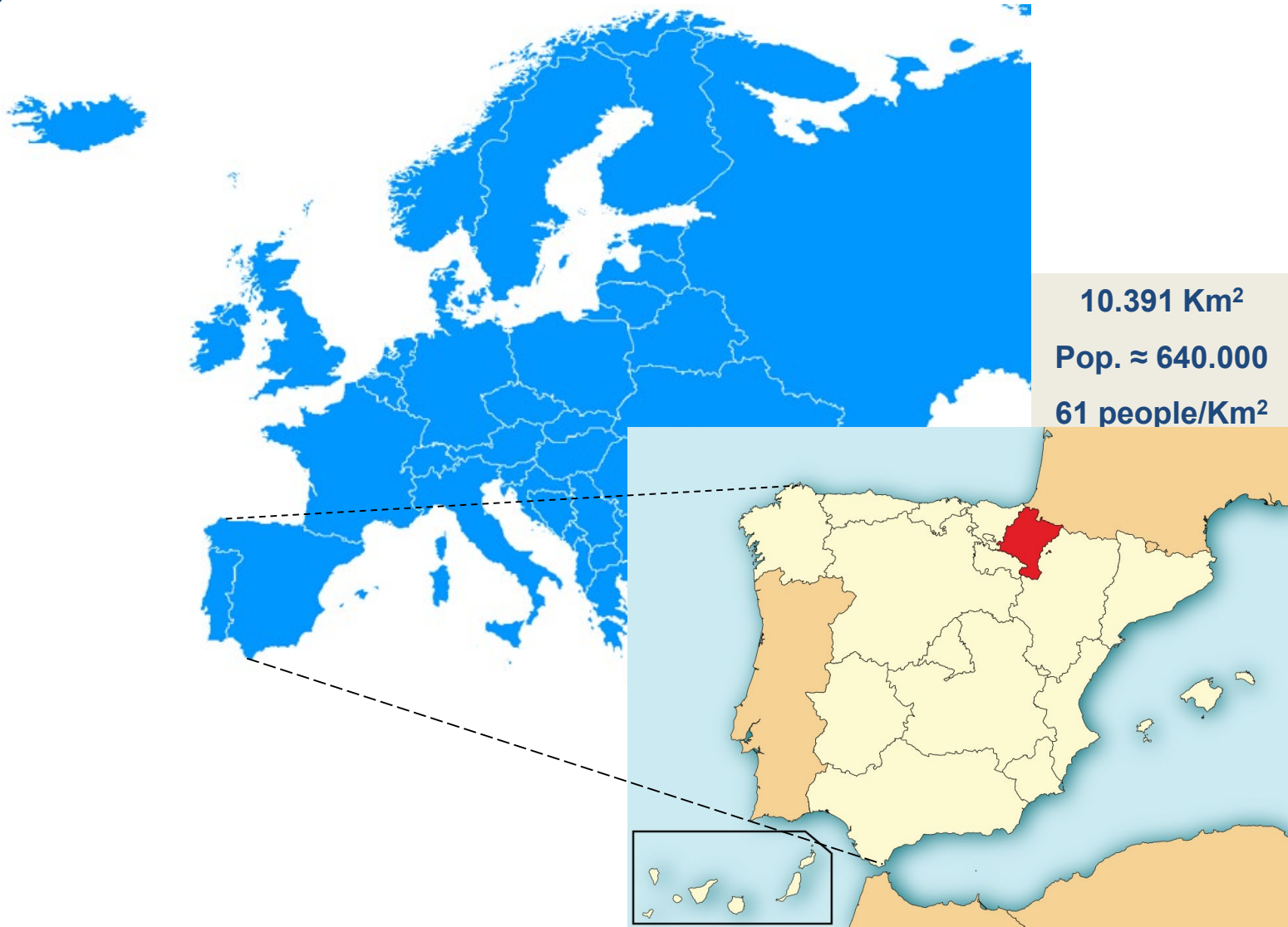
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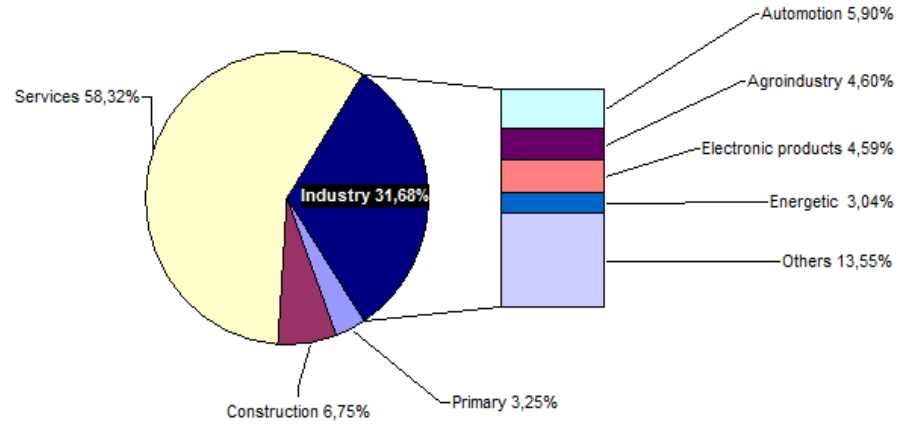
TLJ 1 – Kaunas, 15-16/01/2020

¿WHERE WE ARE?

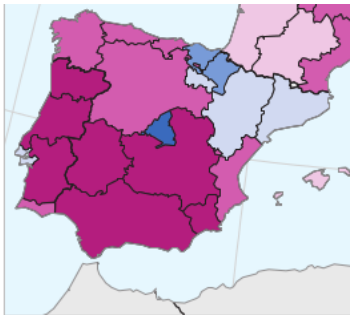


ECONOMY

GDP = 20.555 M€ →



Comparing to UE
2014

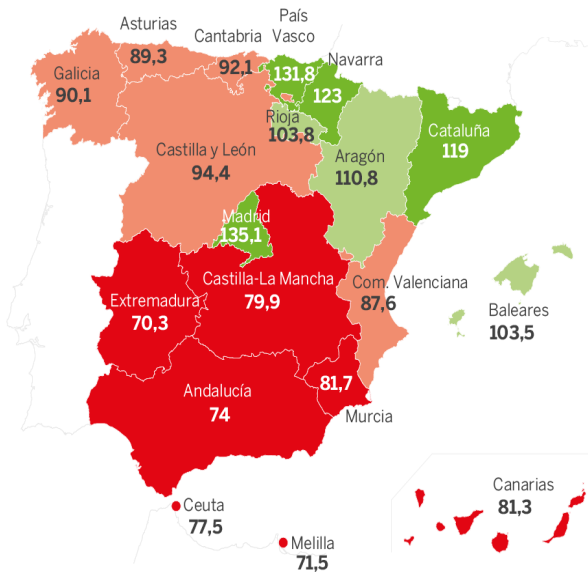


(% of the EU-28 average, EU-28)

EU-28 = 100



Comparing to
Spain 2019



Posición	Comunidad Autónoma	PIB (%)
1	Cataluña	19,1
2	Madrid, Comunidad de	19,0
3	Andalucía	13,3
4	Comunitat Valenciana	9,3
5	País Vasco	6,1
6	Galicia	5,2
7	Castilla y León	4,9
8	Canarias	3,8
9	Castilla-La Mancha	3,5
10	Aragón	3,1
11	Murcia, Región de	2,6
12	Balears, Illes	2,6
13	Asturias, Principado de	2,0
14	Navarra, Comunidad Foral de	1,7
15	Extremadura	1,6
16	Cantabria	1,1
17	Rioja, La	0,7
18	Ceuta	0,1
19	Melilla	0,1
20	Extra-regio	0,1

- Datos: INE (2018)

Regional state of the play

- ✓ Education level of its human resources: above the Spanish average, but below those of the 15 European reference regions studied in Navarre's S3 development strategy.
- ✓ The four major technological fields are: electrical engineering, instruments, chemistry and mechanical engineering. Also, specialization in food and in transport equipment.
- ✓ Large subspecialisation in Electrical Engineering (including the field of ICT) and household appliances. However, low percentage of Navarra of patents in electrical engineering, and especially in instruments.
- ✓ Remarkable technological specialization in mechanical engineering and chemistry. High percentage of patents in mechanical engineering.

Regional state of the play

- ✓ Business size (exclusively of the manufacturing industry) above the Spanish average, close to the reference European reference regions.
- ✓ As for companies that introduce technological innovations (of product or process), Navarra is above the average of the European regions and close to the average of the reference regions, but below in non-technological innovations (organizational or marketing) and below those that would correspond to the levels of innovation in product or process.

Regulatory framework

- ✓ Laws that promote life cycle methodologies in all their breadth have not been enabled at the regional (or national) level. In Navarra, the Foral Law 2/2018, of April 13, on Public Contracts, promotes the realization of Life Cycle Analysis, but focusing on the analysis of costs exclusively.

Competences

- ✓ Navarra, with the rest of Spain, stands out for the high level of decentralization, with important regulatory powers and its own and differentiated fiscal framework.
- ✓ It also presents levels above the European average in terms of social and institutional capital.

Regional Stakeholders

UPNA	Centro Nacional de Energías Renovables - CENER	Asociación de Empresarios de la Madera de Navarra	HIBRIDACION TERMOSOLAR NAVARRA SL	IDOM
VALSAY, S.L.	IK-INGENIERIA	Asociación Bodegas de Navarra (ABN)	GRUPO 3e	FLORETTE AGRICOLA, S.L - VEGA MAYOR, S.L
BSH ELECTRODOMESTICOS ESPAÑA, S.A.	ACCIONA ENERGIA, S.A.	Asociación cluster automoción en Navarra (ACAN)	ESCUELA DE ARTE DE PAMPLONA	NAGRIFOOD
SUSTAINN	SIEMENS GAMESA RENEWABLE ENERGY EÓLICA, S.L.	CEMENTOS PORTLAND VALDERRIVAS SA - FÁBRICA CEMENTO	Escuela de Arte y Superior de diseño de Corella	AEGRAN
IHOBE	PLANET ENERGY	BIOSASUN	AIN	NASUVINSA
GRUNVER	ASOCIACION TEDER	ANEFA	GESTION AMBIENTAL DE NAVARRA, S.A.	VOLKSWAGEN NAVARRA, S.A

Existing Good Practices

Name, Purpose of action	Calculation of carbon footprint in services provided	MANCOMUNIDAD DE LA COMARCA DE PAMPLONA	
		50 Councils	
Scoping range	Annual analysis, considering: integral water cycle, collection and treatment of urban waste and regional urban transportation.	Methods used	Carbon footprint services Organizational life cycle analysis
Results and outcomes	According to the last year calculated, MCP / SCPSA has reduced its emissions by 20.7% between 2014 and 2018, which is a first step forward in the Community commitment to be carbon neutral by 2030, included in its strategic plan 2017-2030.		

Existing Good Practices

Name, Purpose of action	Inventory of greenhouse gas emissions	GOVERNMENT OF NAVARRA	
		Unknown stakeholders	
Scoping range	Annual evaluation of GHG emissions into the atmosphere taking into account the sectors that originate them, such as Energy, Industrial Processes, Use of Solvents, Agriculture and Waste Management and, in each of them different subsectors are contemplated and the different types of GHG generated in them (CO ₂ , CH ₄ and N ₂ O, HFC, PFC and SF ₆).	Methods used	Carbon footprint services Materials flow assessment Input – output tables
Results and outcomes	Provides information on the activities that cause emissions and removals, as well as the methods used to make the calculations. It allows to know the sectors with the greatest contribution with their emissions to climate change and their specific contributions. It serves to evaluate the fulfillment of the objective contemplated in the Roadmap of Climate Change of Navarra (KLINA), in the field of Mitigation of the phenomenon of Climate Change, to reduce GHG emissions, identifying specific goals of reduction for the years 2020 and 2030.		

Existing Good Practices

Name, Purpose of action	Navarra Ecological Footprint	GOVERNMENT OF NAVARRA	
		Unknown stakeholders	
Scoping range	Calculation of the Ecological Footprint of Navarra and its evolution between 2000 and 2009	Methods used	Materials flow assessment Ecological regional footprint
Results and outcomes	Evaluate the impact compared to its biocapacity. Design a more environmental policy and adopt commitments as citizens. Comparing the values of this footprint and the carrying capacity allows to know the level of self-sufficiency of the region.		

Existing Good Practices

Name, Purpose of action	Carbon footprint and LCA cleaning road	CITY COUNCIL OF PAMPLONA	
		Unknown stakeholders	
Scoping range	Knowledge of environmental burdens and the amount of Greenhouse Gas (GHG) emissions associated with the services described in the previous section throughout its entire life cycle, as a previous step to the possibility of acting on the most important emissions and impacts.	Methods used	Service Life Cycle Analysis Carbon footprint service Sustainable public purchase Green purchase
Results and outcomes	It is introduced by the City Council of Pamplona as an integral section of the document "General Technical Conditions. Exploitation project "of the BIDDING OF THE ROAD CLEANING CONTRACT OF PAMPLONA - LOT 2, a point of" Carbon Footprint and Life Cycle Analysis ". In this case, the calculation of the carbon footprint and the Life Cycle Analysis of the tendered service of "Cleaning of bins, cleaning and maintenance of canine containers, cleaning and maintenance of grids and vertical cleaning" are proposed.		

Existing Good Practices

Name, Purpose of action	Municipal schools healthy menus	CITY COUNCIL OF PAMPLONA	
		Cooks, educators, management teams and cleaning assistants of 11 municipal schools / Nutritionists / Council of Organic Agricultural production	
Scoping range	Approach to LCA in public procurement, betting on a sustainable food production and proximity, reducing the environmental impacts of products.	Methods used	Bio-economy Sustainable public purchase Green purchase Sustainable supply-chain management (SSCM)
Results and outcomes	This new menu structure is based on scientific reasons and recommendations of a nutritional and dietary nature and is in direct and formative relationship with the cooks and cooks who prepare food in schools every day, with the directions that coordinate the project in each school , with the educators who accompany the educational processes in the dining rooms and with the cleaning assistants that close this virtuous circle with their important work, and to analyze the food waste that is caused		

Existing Good Practices

Name, Purpose of action	Use of reusable glasses in parties and events	CITY COUNCIL OF PAMPLONA	
		Unknown stakeholders	
Scoping range	Since 2017, the City Council of Pamplona offers a system of distribution, collection and cleaning of reused vessels both in Sanfermines and at parties or events in the city organized by non-profit associations.	Methods used	Bio-economy Sustainable public purchase Green purchase Sustainable supply-chain management (SSCM)
Results and outcomes	Reduction of the negative impact generated by the amount of plastic discarded in the streets during this type of events, both at the environmental level (in San Fermín, about 1,140 tons of waste are removed from the glass, swept and collected waste, of the that half is removed from the ground and 15%, about 75,000 Kg, are disposable plastic cups and recycling is impossible, so they end up buried every year in the Aranguren landfill) as hygiene and image of the city.		

Existing Good Practices

Name, Purpose of action	ECOCIRPLAS project	UAGN (Union of farmers of Navarre)	
		UCAN, ELKARKIDE, SOLTECO, farmers, plastic waste managers, machinery manufacturers	
Scoping range	Pilot project for the implementation of an environmental, social and economic strategy to reduce and reuse agricultural plastic based on the principles of circular economy and sustainable development.	Methods used	Circular economy Grave to cradle Circular materials management Extended producer responsibility
Results and outcomes	<p>Improvement of the environmental footprint of agricultural holdings in the use of plastic materials, and also livestock, in the use of silage or cordage and feed protection.</p> <p>Reduction in consumption and reuse of waste. Generation of new materials from the waste itself, with high added value and having a market in the agricultural sector in the first instance, and urban furniture as a general area.</p> <p>Reduce the volume of agricultural plastic that reaches the landfill and that which is abandoned in the field.</p> <p>Generate inclusive employment and local business initiatives in the field of innovation, and more specifically within the circular economy.</p>		

Existing Good Practices

Name, Purpose of action	Carbon footprint of Navarra asparagus	TEDER Association	
		Unknown stakeholders	
Scoping range	Study carried out between July 2014 and June 2015, with 315 participating farms and a total of 938 plots and a total cultivation area of 942 Ha.	Methods used	Methodology from cradle to door Calculation of carbon footprint of agrifood product, according to PAS2050 Standard
Results and outcomes	<p>Approaches were made to improve the doses of nitrogen fertilizer in coverts (Ammonium Nitrosulfate NSA 26%) in irrigation facilities. From 477 Kg / ha to 293 kg / ha, optimizing its use by applying it twice (first of June and end of July of each year of production).</p> <p>In this way, by decreasing the contribution of coverts of fertilizer NSA 26%, an annual saving of 38.5% of the amount is maintained while maintaining productivity. This reduction has a direct impact on the reduction of Greenhouse Gas Emissions.</p>		

Existing Good Practices

Name, Purpose of action	LCA and calculation of the carbon footprint of the cured sheep cheese latxa de Lezaun	TEDER Association	
Scoping range	Study carried out between January and September 2014, in a semi-extensive exploitation of 524 sheep, of the Idiazabal Designation of Origin.	Methods used	Methodology from cradle to grave Calculation of carbon footprint of agrifood product, according to PAS2050 Standard
Results and outcomes	<p>Detection of the greatest impacts, which occur mainly in the milk production phase, where the greatest contribution to emissions comes from farm animals (enteric fermentation emissions and manure management). It is an impact on which one can act for its environmental improvement.</p> <p>Detection of impacts on the conservation of milk, due to the high consumption of the cold stores. The installation of a device that measured the temperature of the cheese, not that of the environment, was recommended so that in this way, when opening the cameras, the energy consumption is not triggered to reach the temperature set in the chamber.</p>		

Existing Good Practices

Name, Purpose of action	Environmental Declaration of a 196 MW photovoltaic plant product in Chile	ACCIONA ENERGÍA	
		Unknown stakeholders	
Scoping range	Environmental Product Declaration of the 196 MW photovoltaic plant in El Romero (Chile). Study carried out during 2016, getting the EPD certification in November 2017.	Methods used	Evaluation of the LCA life cycle (materials, energy). Environmental footprint, environmental footprint of the product (PEF).
Results and outcomes	Both the use of the simplified life cycle analysis tool developed, as well as the conclusions obtained from the exhaustive analyses aimed at certification of Environmental Product Declarations, have already allowed the identification of concrete lines of improvement such as the use of piloted foundations, the towers of concrete, the use of local suppliers or the increase of the useful life, getting that each new project has less environmental impact than its predecessors.		

Existing Good Practices

Name, Purpose of action	Environmental Declaration of 132 MW wind power product in Australia	ACCIONA ENERGÍA	
		Unknown stakeholders	
Scoping range	Environmental Product Declaration of the 132 MW wind power plant in Mount Gellibrand (Australia). Study carried out during 2016, getting the EPD certification in November 2017.	Methods used	Evaluation of the LCA life cycle (materials, energy). Environmental footprint, environmental footprint of the product (PEF).
Results and outcomes	Both the use of the simplified life cycle analysis tool developed, as well as the conclusions obtained from the exhaustive analyses aimed at certification of Environmental Product Declarations, have already allowed the identification of concrete lines of improvement such as the use of piloted foundations, the towers of concrete, the use of local suppliers or the increase of the useful life, getting that each new project has less environmental impact than its predecessors.		

Existing Good Practices

Name, Purpose of action/ Problem to be solved/reason for the activity	LCA from the production of organic extra virgin olive oil 2008-2010	BIOSASUN, S.A.	
Scoping range	Life cycle analysis of extra virgin olive oil production from environmental, economic and social points of view. Made between January 2008 and December 2010.	Methods used	Waste system from cradle to grave. LCA life cycle assessment (materials, energy), social analysis (SLCA) and cost analysis (LCC). Product environmental footprint (PEF).
Results and outcomes / Results applied (y/n)	Improvements in the design and construction of sustainable facilities in an agricultural environment, adaptation of energy generation to criteria of greater sustainability, development of R&D projects, improvements in labelling, etc.		
Lessons learned			

Existing Good Practices

Name, Purpose of action	LCA from the production of organic extra virgin olive oil 2013	BIOSASUN, S.A.	
Scoping range	The calculation of the carbon footprint involved calculating the total amount of CO2 and other greenhouse gas (GHG) emissions caused directly or indirectly, following the methodology proposed in the PAS 2050: 2011 Standard: GWP PROTOCOL (100 years). Made between January and September 2013.	Methods used	Unknown stakeholders
Results and outcomes	Improvements in the design and construction of sustainable facilities in an agricultural environment, adaptation of energy generation to criteria of greater sustainability, development of R&D projects, improvements in labelling, etc.		

Life cycle tools and infrastructure

UMBERTO	SIMAPRO	SIMUR	EURENERS	ENECO
<p>LCA tool It uses associated databases, such as Ecoinvent 3.1 and LCI Gabi, which integrate ISO 14040/44 requirements</p>	<p>It allows the calculation of the environmental, social and economic impacts associated with a product or service Application to eco-design, the development of eco-labels, the calculation of carbon footprints or water footprints, among others.</p>	<p>SIMUR is a common analysis tool based on a global vision of waste management and its consequences. Different management scales (state, Autonomous Community, commonwealth, municipality, etc.).</p>	<p>It is based on the Calculation methodology established in the PAS 2050 Standard and based on the Analysis of the life cycle of a product, focused from the aspect of Global Warming. It counts all the emissions that occur throughout the life cycle. It allows the setting of scenarios for energy improvement and emission reduction.</p>	<p>Based on the international GHG Protocol methodology completed by the emission factors and the broader scope of study of the Bilan Carbone methodology. It is a methodology for quantifying greenhouse gas emissions (hereinafter, GHG) simplified adapted for SMEs.</p>

Regional indicators

Life Cycle Assessment	Carbon footprint	Eco – design	Environmental label
Various experiences of LCA in the region, some described above.	15 organizations certified	16 companies certified in ISO 14006	11 products: 6 tissue paper, 1 comforter, 1 mattress protector, 1 hotel and 2 lubricating greases
Product environmental declarations	Ecological footprint	Green purchase	Management Systems ISO 14001 and ISO 50001
Eggnovo: 3 Acciona: 6 Siemens Gamesa: 9 Composites Gurea: 1 (erased from register in 2014)	Government of Navarre 2000 – 2009	Pamplona road cleaning service Healthy menus in municipal schools of Pamplona	427 organizations certified in ISO 14001 and 9 with ISO 50001 certification.
Waste and material flows / Resource efficiency		Public procurement	Training and capacity building / Monitoring and evaluation
Number of waste streams and treatments considered in statistics. 18 Share of waste treated in specific management options, e.g. incineration, landfill, or recycling. Available data for 15 streams.	No data available for: resource efficiency indicators related to regional accounts, environmental impact indicator of waste streams nor parameters for different types of collection and different waste streams	% public procurements bound to LCA. None. Nº of goods and services with green public purchase (GPP) criteria. None. Nº of goods and services with life cycle cost analysis application. None.	No data available.

SWOT analysis

	STRENGTHS
Production structure / General framework	<ul style="list-style-type: none"> –Possibility of making Navarra a leading region. –Possibility of positioning. –Positive experiences in Navarra with innovative results. –Navarre’s industry good health and companies size can help the transformation. –Existence and availability of natural resources of proximity and quality.
Regional plans and programs	<ul style="list-style-type: none"> –Development of the LCA4Regions project. –Economic capacity of the Administration to develop plans and programmes. –Existence of plans for energy efficiency, waste streams, water use or KLINA itself.
Regulatory framework	<ul style="list-style-type: none"> –Own legislative capacity by the region. –Increasingly restrictive legislation regarding the need to calculate carbon footprints.
Data set and sources	
Knowledge level	<ul style="list-style-type: none"> –High level of qualified personnel in the region. –High level of knowledge in the Administration and interprofessional associations. –Integration of new models that respect the environment. –High availability of interested agents.
Level of awareness	<ul style="list-style-type: none"> –Environmental awareness by organizations in Navarra and the Administration itself. –Trends in multinationals. Objectives in multinationals based in Navarra to be carbon neutral in 2030.
Existence of clusters and business and interprofessional associations.	<ul style="list-style-type: none"> –Large number of associations implemented with high capacity for promotion.
Availability of LCA experts	
Civil Society Awareness	<ul style="list-style-type: none"> –Perception in organizations that, despite initial resistances, life cycle methodologies can be an optimal tool in terms of efficiency in the use of resources.

SWOT analysis

	WEAKNESSES
Production structure / General framework	<ul style="list-style-type: none"> –There is no effective assessment on environmental badges. –The need for LCA in public tenders is not included. –Navarra organizations could be worse prepared for the adaptability of future regulations and requirements that are proposed from Europe. – Absence of public investment.
Regional plans and programs	<ul style="list-style-type: none"> –Neither ACV nor ecodesign nor environmental product declarations by the Administration is encouraged. –Lack of coherence in the actions undertaken by the Administration. Absence of a comprehensive approach. –Administration self - complacency. –Lack of institutional support for eco-innovation. –Lack of public procurement strategy. –Absence of tax deductions. –Absence of plans and promotional actions by the Administration.–
Regulatory framework	<ul style="list-style-type: none"> –There is no regulatory framework that unifies methodologies.
Data set and sources	<ul style="list-style-type: none"> –Few examples and very specific
Knowledge level	<ul style="list-style-type: none"> –Low among private organizations and administrations. –Lack of training in the company. –Lack of technical knowledge. –Absence of homologated ACV training programs in Vocational Training and University. –Ignorance of the environmental LCA and its usefulness for the design and sustainable development of products and services. –It is not treated from a global perspective of sustainability of the life cycle, the LCA does not link with the LCC (costs) and SLCA (social). –The utility of LCA is unknown.
Level of awareness	<ul style="list-style-type: none"> –Low between private organizations and administrations.
Existence of clusters and business and interprofessional associations.	<ul style="list-style-type: none"> –There are no resources available in companies to analyze the product life cycle. –Lack of experts and local consultants in LCA.
Availability of LCA experts	<ul style="list-style-type: none"> –There are no resources available in companies to analyze the product life cycle. –Lack of experts and local consultants in LCA.
Civil Society Awareness	<ul style="list-style-type: none"> –Lack of knowledge and awareness in LCA. In the best case, lack of specificity in the knowledge of the LCA concept. Indefinition of the concept. –Ignorance of the environmental and social impacts of production processes.

SWOT analysis

	OPPORTUNITIES
Production structure / General framework	<ul style="list-style-type: none"> –Major European political trends, such as the Green New Deal to reduce climate change. –Advance other competitors with an increasingly decisive purchase argument. –Improvement of the image of products / services / organizations / administrations. –Possibility of favoring the application of life cycle methodologies through subsidies or deductions.
Regional plans and programs	<ul style="list-style-type: none"> –Examples in other regions such as Catalonia and the Basque Country and their commitment to Sustainable Design (ecodesign) –Circular economy package and tools linked to the life cycle that the European commission is sharing (the European vision is linked to the life cycle). –European financing of projects (such as LCA4R) aimed at promoting plans and programs.
Regulatory framework	<ul style="list-style-type: none"> –United Nations Environmental Program Approach for products and services sustainable development. –Possibility of starting from scratch with the implementation of life cycle methodologies in regulation. –Legislative changes to adapt to EU commitments favour the implementation of life cycle methodologies.
Data set and sources	<ul style="list-style-type: none"> –Possibility of collecting more data about good practices and that these have a more general scope. –Possibility of creating a unique tool for LCA.
Knowledge level	<ul style="list-style-type: none"> –Training and awareness in the integration of the life cycle in the design and development of products and services and in the conception of business models. –Use LCA as an improvement measure for organizations.
Level of awareness	
Existence of clusters and business and interprofessional associations.	
Availability of LCA experts	<ul style="list-style-type: none"> –Development of new consulting companies in LCA, attracted by the promotion of the concept. –Possibility of generating new types of qualified employment.
Civil Society Awareness	<ul style="list-style-type: none"> –Increasing level of awareness. –Deep social and awareness changes in recent times, which favor the implementation of LCA methodologies, resulting in good practices implemented very well seen by society.

SWOT analysis

	THREATS
Production structure / General framework	<ul style="list-style-type: none"> –Competitive disadvantage compared to other regions. Two possible scenarios: either other Autonomous Communities can take advantage of our delay to favour their image or, if we get ahead, we could make our production more expensive. –Outsourcing of environmental costs by international competitors. –Lack of definition in the initial scope and limits of the final results of the studies, currently of free choice and with the purpose, in many cases, of improving the image of the product. –Extended period of time to validate the changes. –Dispersion of application methodologies and interpretation of results. –Resistances to make products more expensive by the application of LCA. –Productive inertia and economic interests contrary to the application of LCA. –Upcoming business cycle is expected to be negative. –Frequent changes in the approach: it has gone from carbon footprints, to the circular economy and it is not known what the future will bring.
Regional plans and programs	<ul style="list-style-type: none"> –Use of LCA as a barrier in the commercialization of products or services or in the tendering of public contracts.
Regulatory framework	<ul style="list-style-type: none"> –Non-compliance with the Contract Law and its reference to the life cycle from the cost part and the environmental part. In this sense, the organizations that access public financing are included, but also the administrations that write the specifications.
Data set and sources	<ul style="list-style-type: none"> –Absence of accessible tools leads to the abandonment of LCA methodologies. –High cost of LCA tools. –Absence of structured information at sector, regional or national level. In general, access under payment. Difficulty in data collection. –Low data reliability. –Little realization: the spectrum of usable data is too broad and shallow.

SWOT analysis

	THREATS
Knowledge level	<ul style="list-style-type: none"> –The lack of information and knowledge leads to trivialization of possible impacts and the need to perform LCA. –Lack of transparency in the information provided as the basis of the LCA. –Lack of intercomparability among the results discourages the application of LCA methodologies.
Level of awareness	–Lack of knowledge translates into inaction.
Existence of clusters and business and interprofessional associations.	–Inertia by these organizations.
Availability of LCA experts	
Civil Society Awareness	–Resistance of different pressure groups can distort the application of LCA or delay the approval of regulations.



LCA4Regions

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Thank you!

Questions will be welcome!!

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