

Deliverable D2.1.1

Internal research note on case selection/demarcation (salient sectors)

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Summary

This deliverable presents the results of consortium discussions on case selection, case demarcation and empirical research. It identifies project-level and work package-specific criteria and considerations on this issues. The document presents a framework to ensure convergence across work packages. It serves as a point of reference for the further development of methodological protocols and case study guidelines in the first half of 2022.

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1 Introduction

This deliverable presents a methodological framework for the selection and demarcation of LAMARTRA case studies. This has been fed, amongst others, by inputs from experts and stakeholders from the follow-committee. It elaborates the methodology described in the description of work (DoW) and the methodological principles elaborated in the project proposal[[1]](#footnote-1). The deliverable captures the result of a collective activity, converging towards a framework for four ‘nested’ case studies that are scientifically appropriate and relevant to LAMARTRA stakeholders[[2]](#footnote-2). The deliverable is therefore structured as follows: After an outline of general considerations for case selection/demarcation **(Chapter 2)**, specific requirements, methodological considerations and candidate cases of each WP are presented **(Chapter 3)**. The deliverable concludes with a framework for empirical research. This first sketch of the four empirical cases will be elaborated in the respective methodological protocols for empirical analysis of WPs 2, 3, 4 and 5 **(Chapter 4)**.

2 General considerations for case selection/demarcation

LAMARTRA comprises four tracks of empirical research. In order to create synergies and convergence between these tracks, the project develops an overall framework for case selection/demarcation. Importantly, each of the four tracks will be guided by its own methodological protocol – developed in the first months of year 2. Discussions between LAMARTRA partners have brought the following general considerations:

1. **Nested-case approach:** We will study four empirical cases, described in the project proposal as ‘salient sectors’. The case definition along the logic of sectors is essential for our quantitative analyses of worker profiles (WP3). Within the selected sectors we will identify sub-cases: *companies* (WP5), *transition policy arenas* (i.e. networks of actors with stakes in a particular transition process) (WP2), and *hybrid fora* (WP4).
2. **Research objects and units of analysis:** The focus on economic sectors helps to develop common focus across work packages. Still this is not an obvious or ‘natural’ empirical focus for WP2 and WP4. One could consider every sector as a fictional separate entity. Analysis could also, for example, follow one particular **object** (e.g health monitoring technologies) and see how its trajectories cross different sectors (and then assessing the interconnection of such sectors and their consequences). Or one could follow the sector and describe every activity and sectors attached to it.
3. **Policy relevance:** Cases should allow concrete analysis of ‘dual transition’ processes, informing development of LAMARTRA ‘policy mixes’/practical implications. With that aim in mind, the project proposal indicates various examples[[3]](#footnote-3). Earlier exploratory interviews with stakeholders and experts[[4]](#footnote-4) have yielded criteria ase selection criteria such as **transformation effects** (sectors expected to emerge, develop, transform, decline, disappear or to relocate as part of the transition towards a carbon neutral Belgium), **impacts** on the Belgian **labour market** (creation of new jobs and associated skills, the redefinition or the transformation of existing jobs and skills, and the disappearance of jobs that have become obsolete), or challenges of **social justice**. The following sectors have been identified as policy relevant: **Construction** (i.e.: high potential for job creation; problem of shortage of skilled workforce), **Energy-intensive industries** (i.e.: potential disappearance of existing jobs), **Petrochemistry** as strategically important sector, **Steel, Cement**, **Transport** (creation of new jobs and disappearance/transformation of existing jobs), **Wind energy** (i.e.: issue of the quality of the jobs created)
4. **Transdisciplinary dimension:** For sake of practical salience and translation into practice, case selection/demarcation should be informed through exchanges with practitioners and Follow-up Committee (see Chapter 4). Also the further demarcation of cases in the separate WP2-5 methodological protocols will be fine-tuned through exchanges with practitioners (exploratory interviews). One way to developing the transdisciplinary angle on case methodology is to focus on certain ‘flagships’ of the Walloon/Flemish industry. This would make it easier to convince (future) participants to take part in the project, and to attract policy-makers’ attention.
5. **Quali-quantitative bridging:** Cases need allow for bridging between quali-quantitative analyses. The mixed methods approach should ensure a minimum of synergy and convergence between the quantitative analysis of WP3 on the one hand, and the qualitative analyses of WP2, 4 and 5 on the other hand.
6. **Diverse cases:** Cases should be theoretically well-defined, with a clear aim of comparison (Hassenteufel 2005) - identifying challenges of the 'double transition of labour/decarbonization' and possible combinations of governance responses to those. Defining case characteristics enables the comparison against other (negative/positive) reference cases[[5]](#footnote-5), and provides the outlines of a future typology (the illuminating exemplars, but also the systematic typology, to inform policy). It is through consciously-selected case diversity that the sum of the four case studies will be greater than the parts (Cf. Seawright & Gerring 2008). The sample *as a whole* should cover the **range of ‘two transitions’ dynamics** (creation, redefinition/transformation*,* and disappearance of jobs and associated skills) and also attend to the shades of grey within apparently **‘positive’** or **‘negative’** cases (bright cases mainly characterized by ‘niche innovation’ and emerging new jobs, and the somewhat more grim cases in which ‘exnovation’/decline is the dominant development) (WP2), or balancing between regime of **promise** and regime of **fear** (WP4). The **‘best-in-class’ logic** of company-level analyses (WP5) is also a form of conscious selection – the cases can be contrasted against to the ‘weaker students’ that are struggling, or not wanting, to learn. The cases could also cover different types/visions/**discourses of sustainability transitions** - e.g. the ‘managerial-technocentrist’ approaches (top-down/state interventionist approaches, technological innovations, high tech...), as different from the ‘radical-ecocentric’ approaches (grassroot/localist/bottom up approaches, social innovations, low tech...) as distinguished by Audet (2014).
7. **Geographical distribution:** The cases cannot cover the whole of the Belgian economy. An important concernis therefore the geographical distribution of the empirical cases. Particular considerations are the balance between **Flanders/Wallonia** (and the Brussels Capital region); and the coverage of **more and less industrialised** regions.
8. **Temporality**: Transitions are long-term processes of structural change in socio-technical systems. The empirical research needs to address actors’ handling and anticipation of these processes. A relevant focus for the empirical studies is the distinction of (short/medium/long term) activities and developments – in between future forecasts and policy targets, and the demands of the present.
9. **Exemplars and under-exposed cases:** Reviews of academic literature, policy documents and ‘grey’ literature bring up various (in certain aspects) exemplar cases. It is useful to identify the exemplar cases that are highlighted in the different WP2-6 literature bases: (e.g. automotive industry, fossil fuel-based energy production, circular economy as prominent examples in transitions theory; with growing attention to ‘digital transition’ phenomena). Exemplar cases from grey literature reflect priorities of job creation, availability of skilled personnel, and job losses literature[[6]](#footnote-6), and also relevant are for example the 'skills action plans' for climate urgency. Exemplars from scientific literature also display preoccupations with particular issues (e.g. in transitions research there is a heavy over-representation of energy-related empirical studies). One can also consider the methodological biases towards established sectors, compared to the only just emerging initiatives and activities. In order to increase scientific novelty and to help governance on sectors/transition processes often overlooked, LAMARTRA might want to address *under-exposed* cases (i.e. under-exposed sectors, or within sectors under-exposed kinds of processes, under-exposed kinds of companies, or under-exposed kinds of actors).
10. **Access to data:** Apart from any theoretical consideration, the pragmatic side of methodology is crucial. The striving to end up with practically relevant knowledge (policy mixes for handling the ‘dual transition’) requires intimate understanding of concrete ‘labour transitioning’. Accessibility of data is a side constraint. Likely limitations are the **secrecy** around certain transition processes (e.g. nuclear industry), **political sensitivity** (sectors, companies and governmental agencies involved in tense negotiations, not allowing them to release detailed information), **lack of monitoring/systematic data gathering** (quantitative data insufficiently available). On the other hand, care must be taken not to select 'bland' sectors by elimination, because they would be less associated with complicated or tense negotiations, as an ultimate goal of the project is to attract political attention. Efforts must be done to actively gain access to relevant, salient data, rather than just respond to what appears easily available.
11. **Identifying the limitations of current indicators & data sets in-use:** A key challenge is that certain aspects, sectors, empirical phenomena of the ‘two transitions’ that are elusive. They are difficult to capture through commonly used indicators, difficult to gather data on, difficult to articulate in a scientifically systematic way. Throughout the research it is also useful to identify which ‘two transitions’ aspects prove difficult to capture empirically, and which aspects our case selection/demarcation leaves under-exposed[[7]](#footnote-7). Our multi-WP, multi-perspective, interdisciplinary project allows for some method triangulation, i.e. the relative blind spots of one analysis can be compensated by the parallel analyses by others.
12. **Articulation with other ongoing projects:** Several other studies and research on the labour market implications of the transition towards a climate neutral Belgium are underway. It is useful to take these studies into consideration, to avoid redundancies and over-solicitation of the stakeholders. If choosing matching cases, it will be relevant to develop synergies. With a view to aligning our research with other ongoing projects, we have organized (Friday June 4th 2021) a working session with the persons in charge of those projects. **Table 2.1** summarizes the main characteristics of each project as well as the case they focus on.

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| --- | --- | --- | --- | --- | --- |
| **Projects** | **Funding / Sponsor** | **Date** | **Case Studies** | **Level of Analysis** | **Geographical Scope** |
| **Study on Jobs-Skills and Transition to Climate Neutrality in Belgium** | FPS Environment | May 2021 - April 2022 | * Circular economy in Flanders * Digitization in Wallonia * Renovation of buildings in RBC | TBD | Belgium |
| **Sustainable Employment in the Age of Digitalisation (SEAD)** | Belspo | April 2020 - March 2024 | * 20 ‘traditional’ organisations * 5 organisations from the platform economy | Organisation | Belgium |
| **Modelling the Impact of a Circular Holistic Economy on the Labour market and Lifelong lEarning (MICHELLE)** | FWO | October 2020 - September 2024 | * Construction | Sector | Flanders |
| **Anticipation of Skills Needs/Occupations in Wallonia** | IFAPME (WCA) | From 2021 | * Construction (2021) * Food (2021-2022) * Metallurgy, Plastics, biotechs… (from 2022) | Value Chain | Wallonia |
| **Just Transition Energy Climate Job (TRAJECT)** | AWAC | From March 2021 | To be defined | To be defined | Wallonia |

Figure 2.1: Related projects & their research foci

3 WP-specific considerations case selection/demarcation

This chapter presents specific considerations for WP2 **(section 3.1)**, WP3 **(section 3.2)**, WP4 **(section 3.3)** and WP5 **(section 3.4)**.

3.1 Towards integrative theory & transitions policy mixes (WP2)

This section presents the main requirements/preferences from the point of view of the transitions governance analysis, the empirical part of WP2. The main choice of sector is not very sensitive for this stream of empirical research. That is to say, case demarcation does not necessarily follow usual categorisations in terms of specific economic sectors. Cases usually take the form of functional socio-technical systems (e.g. mobility, energy, food & agriculture, Cf. Grin et al. 2010), strategic action fields in which particular issues of public are negotiated (Fligstein & McAdam 2011) or arenas of actors that form around a particular technology or socio-technical innovation (Jørgensen 2012).

* **Relevance for transition ‘policy mixes’.** Case studies need to be relevant for study of transition ‘policy mixes’ (Kivimaa & Kern 2016). The ‘salient sectors’ selected should somehow be displaying interesting **multi-actor transition governance processes** (cutting across private/public/civil society), **interplay** between social, technological, institutional and infrastructural **innovations** (the focus in transitions research), and dynamics of innovation and **exnovation** (that theme of creative destruction that is central in transitions research). Transitions research is in principle sector-transcending, but it can be focused on a series of‘salient sectors’*.*
* **Connected, intersecting cases:** Key units of analysis in transitions research are functional societal subsystems like mobility, energy, food, systems. It focuses on socio-technical ‘regimes’, dominant sets of rules that guided the development of these socio-technical systems. Transitions theory does not work along a distinction of economic or policy sectors. Cases of ‘salient sectors’ can for this empirical stream be demarcated more in terms of the socio-technical systems/’regimes’ that the sectors form part of, and in terms of the decision-making/innovation arenas that form around concrete transition issues. Transitions theory highlights that social, technical etc. innovations occur across sectors and socio-technical systems, and that there is co-evolution (Köhler et al. 2019) between developments in different sectors. It would make sense in this WP to mind the intersections (Pel 2014) between our four ‘salient sectors’. Relevant interactions between cases are: Jobs/workers migrating from one sector another, good/bad practices being transferred and imported. **The ‘salient sectors’ do not evolve in isolation.**
* **Temporal demarcation:** Transitions are long-term processes of structural change. The cases need to be demarcated such in this WP that they allow for some process understanding, i.e. development over time, innovation, and anticipation of future changes. The purely historical cases (e.g. the studies of the rise of ‘industrial modernity’, mass manufacturing or the introduction of grain elevator technology, Cf. van Driel & Schot 2005; Schot & Kanger 2018) are not suitable. These bird’s eye view analyses are too remote from our interest in policy mixes. Cases need to involve *ongoing*/*recent past/anticipated futures* transitions (Garud & Gehman 2012). Cases also better not focus on transitions mainly *projected* to unfold, and without somehow visible ‘labour’ implications - (for example the ‘autonomous cars’, which have remained future visions for decades). Empirical analysis should be close to day-to-day decision-making.
* **Access to data:** This empirical stream will work with a combination of document analysis, semi-structured interviews with transition governance actors (state and non-state actors), and focus groups/workshops[[8]](#footnote-8). The precise balance between those can be chosen according to availability of documents/respondents in chosen ‘salient sectors’. The sectors with all too high secrecy/political sensitivity may be problematic - we do need to get a reasonable sense of actor dynamics, and reliable/detailed accounts of governance challenges.
* **Case preferences/empirical ‘comfort zone’:** ULB team has no strong preferences here, but certain economic sectors/policy domains are more familiar than others. Within LAMARTRA, ULB is probably the most specifically oriented towards environmentally salient sectors. Literature review thus far (on ‘deep transitions, notably) suggests to focus on issues of ‘digital transition’: As key driver of socio-technical transition, as mixture of emergent and purposive transition, and as transition dynamic cutting through various sectors. This ‘digital transition’ is also an important link between labour transition and low-carbon transition.

3.2 Mapping the impact of low-carbon transition on workers (WP3)

This section presents the main requirements and preferences from the perspective of *mapping of the impact of the low-carbon transition on workers*, i.e. the empirical analyses to be conducted in WP3. To map the impact of the low-carbon transition on workers, WP3 relies on administrative micro-data data from the Crossroad Bank for Social Security (CBSS). Two data requests will be prepared and will be submitted to the privacy commission of the CBSS (task 3.2): one on the workers in the most carbon-intensive companies, the other on the workers in the four sectors selected in WP2 (salient sectors). The first dataset (top-down approach) will be linked to the publicly available data of the EU Emission Trading System (EU ETS), which list the biggest carbon emitters in Belgium (task 3.3). The two datasets will be used for data analysis (task 3.4) and the dataset related to salient sectors will also serve for modelling (task 3.5).

Points to take into consideration (some points have been taken over from other WPs as relevant):

* **Choice of sector/ connected cases**: The choice of sectors is linked to the work done in other WPs, in addition to the points raised in the task description (‘salient sectors’ identified in WP2 + the most carbon-intensive industries should be covered)
* **Relevance for transitions policy mixes.** Case studies need to be relevant to study transitions ‘policy mixes’, i.e. the ‘salient sectors’ selected should somehow be displaying interesting transition processes in the labour market, in the area of climate change, or both. We can think of this as a matrix with different cells. Then, it has to be decided how we can link this WP with other WPs, e.g. by covering the same sectors or by focusing in qualitative research on sectors that cannot be covered by quantitative research and vice versa.
* **Access to data:** Data should be available, but it is to be checked at what level of aggregation. Another issue is whether there are sufficient cases for the sectors chosen to do meaningful analyses[[9]](#footnote-9).
* **Other relevant projects that could be linked**: One could focus on sectors that are in focus in neighbouring projects, see e.g. : <https://www.vlaio.be/nl/nieuws/moonshot-vlaanderen-co2-arm-2050> ‘Biogebaseerde chemie’; ‘Circulariteit van koolstof in materialen’; ‘Elektrificatie en procestransformatie’ Energie-innovatie’
* **Case preferences/empirical ‘comfort zone’:** The HIVA team has no strong preferences here, but certain economic sectors/domains are more familiar than others (e.g. circular economy).

3.3 Anticipating low carbon/ labour pathways (WP4)

The empirical research of WP4 revolves around **hybrid fora**.The method of hybrid fora suggest to transform sociotechnical controversies produced by experts, non-experts, citizens and politicians into productive conversations (Callon et al. 2009). It also brings uncertainties to the fore “not only allowing actors outside but also inside the traditional institutional settings to make alternative knowledge claims and policy recommendations” (Leunbach and Nielsen 2019, p.5).

The main issue of hybrid forum is to build “*emergent concerned groups*” (Callon and Rabeharisoa 2008: 5). As Leunbach & Nielsen (2019: 5) summarize it, hybrid fora comprise *“organized activities designed to include many different voices in the deliberation, but they may also involve unanticipated events, often confrontations, where different perspectives clash and new identities emerge*”.

For the researcher, it implies a particular epistemological posture, a constructivist one. The idea of the hybrid forum explicitly assumes the need for *“transdisciplinary, transient and collaborative modes of inquiry that have a high degree of public participation when it comes to articulating relevant problems (...)”* (Leunbach and Nielsen 2019: 5).

Applying this to low carbon and labour transitions, WP4 members will focus on **tensions, frictions and controversies** that could occur about the **world actors wish to live in (and the particular undesirable endpoints)** and **how to reach** particular endpoints thatthey could agree on. It will therefore identify **conditions** that allow or avoid particular transition pathways (sector per sector). One key issue in the LAMARTRA project (and the WP4) will be to constitute as soon as possible the **“emergent concerned groups”** and to mobilise these periodically throughout the project (4-years). The empirical research will also consider particular different spaces (**unanticipated events, institutionalized deliberation spaces** that WP4 researchers will create) where networks express their points of view.

**Practical criteria for setting up the hybrid forum**

* **Official status** of the hybrid forum: The hybrid fora will be tied to the LAMARTRA project, and as such temporary. An important challenge for the empirical research will therefore be to explore how these networks/platforms could be institutionalised – to leave a legacy for policy-makers. A particular issue is whether this institutional anchorage should be at federal, regional, or local administrative level.
* **Accessibility:** Participants are expected to be easily accessible and available to for several half days or days. The agriculture sector is particularly difficult to reach.
* **Accessibility and** **language**. Are the hybrid fora to be organized in English or in Dutch/French? The favoured principle of participation is that participants express themselves in their own language.
* **Choice of venue:** Important practical issue is whether the venue for the hybrid forum should be always the same, or spread geographically over the Belgian territory. Researchers will explore the availability of symbolic locations.
* **Effective participation and involvement of practitioners:** Participants in the hybrid fora should see a clear interest in participating in the project (so there is a certain cost-benefit ratio associated with the promotion of the project and the time spent participating in the various workshops). Researchers should ensure that participants are selected who actually have time to devote to the study. Participation should be possible in different formats (electronic, face-to-face). A further important point for the recruitment of participants is the level of controversy in the selected cases (Leunbach & Nielsen 2020), and participants’ ability to speak freely.
* **Impact:** This is related the previous point about involvement: Policy-makers should have a declared interest in the chosen sectors/cases.

**Analytical questions and research foci**

* **Visions:** *What are the worlds the actors wish to live in,* *and the worlds they refuse?* (Jasanoff & Kim 2009, 2015). *What are the issues at stake?* (Leunbach & Nielsen 2019). *What are the fictional expectations of the actors* (Beckert 2014)? *What are the sociotechnical path dependencies?*
* **Means:** *What are the means used by the actors to support and put on the agenda particular discourses or practices?*
* **Value chain:** *What is the value chain proposed by the actors? For example, what is the political value of a project? How can the project be promoted to other actors who do not share the same vision?* (Heinich 2020)
* **Pathways:** What configuration of values (economic, political, symbolic, social, industrial) emerges from a particular pathway?
* **Contrasted Temporalities:** *What temporalities do the actors propose to consider for these transitions? Why do these temporalities come into tension? What temporalities do the actors hold dear?* (For example, a glorious past, a plausible future, desired or undesirable futures) (Adam 2008).
* **Changing actor identities:** Through the hybrid forum, engaged actors are socio-active, their identities can evolve with controversies or through the discussion (Leunbach & Nielsen 2019).
* **Materialities:** How do the infrastructures of these different sectors resist, change, or disappear in the face of these different transitions? (Bridge et al. 2018)

3.4 Engaging with transition politics at the workplace (WP5)

This WP and stream of empirical investigations starts only in the course of year 2. The cases will be on the micro-level of the firm, i.e. smaller units of analysis embedded in certain sectors of the economy.

The in-depth case studies will conduct ethnographic, participatory observations of 4 firms, selected along a “best in class” rationale (critical cases) in the 4 industries selected for this project in WP2. These critical cases will be examples where the interests of workers, and of the environment appear to be reconciled in innovative ways. The WP will generate a better understanding of the determinants of the ‘bridging of two transitions’ at the micro-organizational, firm-level: characteristics related to:

* workers participation;
* presence and attitudes of trade union representatives;
* possibly other organizations involved in defending the interests of workers (including State policies), and in particular the fate of the most vulnerable ones.

4 Conclusion: Four ‘salient sectors’, a framework

The general **(Chapter 2)** and work package-specific **(Chapter 3)** considerations are summarized in a framework for empirical case research **(section 4.1)**. In the conclusion we indicate next steps in LAMARTRA research **(section 4.2)**.

4.1 A framework for empirical case research

The criteria and considerations for case selection stem from internal discussion meetings (April-July 2021), and have been discussed and validated with the members of the experts and stakeholders of the follow-up committee. The considerations are visualized into the following framework for research design/case demarcation **(Figure 4.1)**:

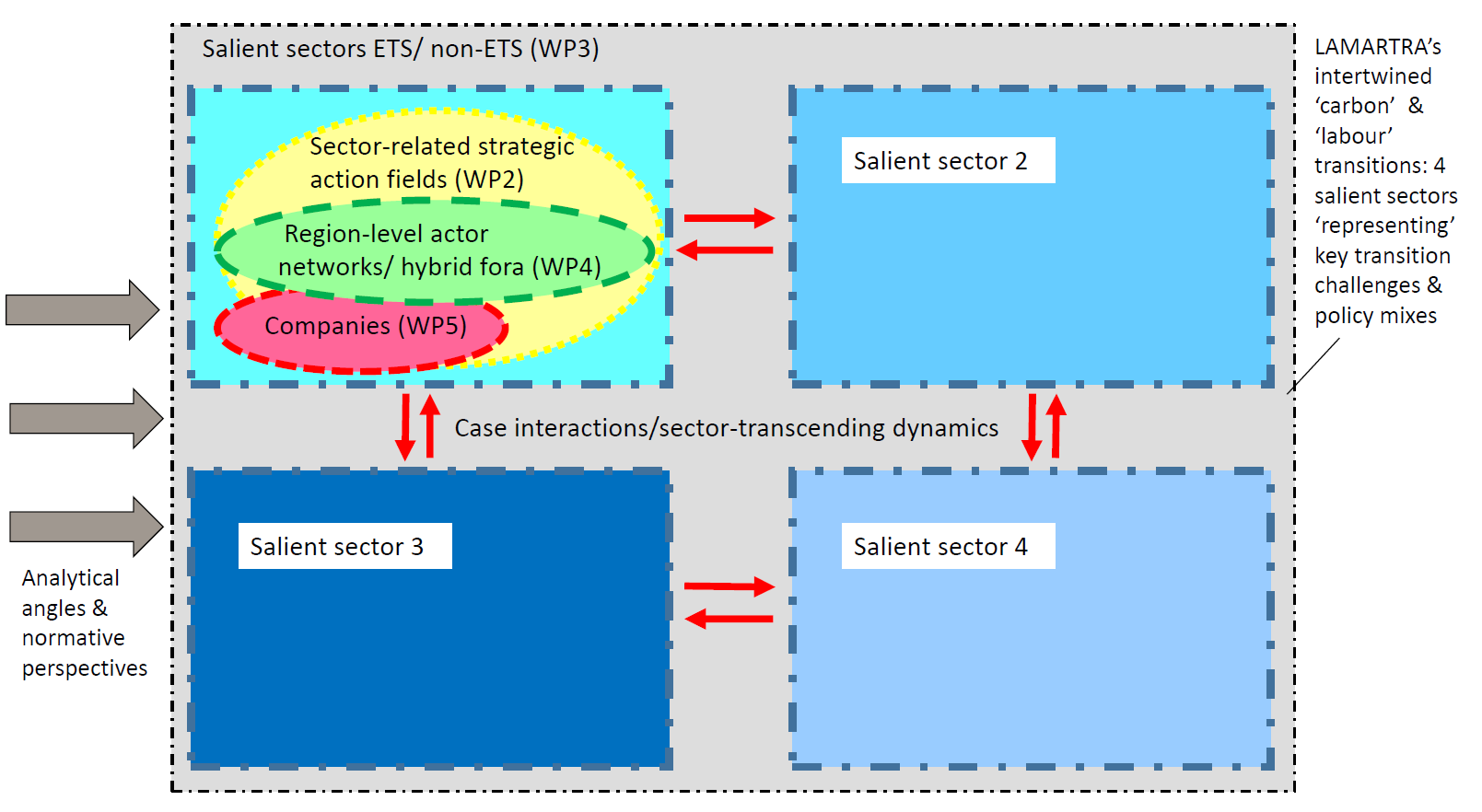


Figure 4.1: Case research: salient sectors and nested case studies

**The diagram indicates the follow aspects:**

* The highest aggregation level of empirical analysis is that of the WP3. This quantitative analysis is done on the level of economic sectors[[10]](#footnote-10). These four **‘salient sectors’** are the preferred fields for the qualitative analyses of WP 2,4 and 5.
* **Case diversity: Traditional and later-stage economic activities.** The main choice is to choose 4 ‘salient’ sectors that are diverse on this primary-secondary, tertiary and quaternary sector[[11]](#footnote-11) distinction. Taken together these cover a big part of the ‘labour’/’carbon’ transition dynamics in Belgium. Corresponding with different stages/waves of economic development (the activities of which exist alongside each other) they represent a diversity of decarbonization challenges, different mixtures of innovation and exnovation challenges, and different skills and worker profiles. Also in terms of actor constellations and prevailing modes of governance they are sufficiently diverse to show different faces of ‘dual transition’ governance challenges. Finally, the cases fulfill criteria of relevance.
* Agriculture
* Construction
* Metallurgy
* E-commerce
* A **‘nested case’** approach. Within the ‘salient sectors’, WP2, and especially WP4 and WP5, work on lower levels of aggregation. These work packages will define cases within and around the indicated sectors – as far as possible in light of WP-specific criteria and considerations (sections 3.2-3.5). The diagram indicates how these analyses will zoom in onto particular networks of actors and hybrid fora **(WP4)**, companies and their institutional surroundings **(WP5)**, and startegic action fields/socio-technical systems **(WP2)**. Importantly, these qualitative analyses may involve cross-sector dynamics – they need not be exclusively confined to the four 'salient sectors'.
* **Case intersections.** As indicated through the red arrows, some of the qualitative empirical analyses (notably of WP2 and WP4) will also address the interconnections between the cases and the sectors studied. This allows to capture cross-sectoral dynamics and phenomena of so called ‘deep’ i.e. sector-transcending transitions (Schot & Kanger 2018).
* **Complementary perspectives on ‘dual transition’.** The framework indicates common empirical areas. Beyond the convergence in empirical terms, each WP defines their own ‘sub-cases’. The left-hand arrows indicate how the respective analyses will bring forward different angles on these empirical areas, and complemetary conclusions on ‘dual transition’ dynamics and governance: Cases will be analysed along different analytical themes. This may also imply different normative angles on the empirics: WP4 will highlight controversies and the diversity of desired and feared futures, WP5 starts from issues of workplace democracy, and the transitions governance analyses of WP2 start from sustainability-oriented transitions research.

4.2 Next steps

The framework provides guidelines th ensure well-considered and explicit convergence across the four lines of empirical research. The work package-specific considerations indicate already that there will be many further choices to make, based on crucial considerations of data availability/access and relevance. Importantly, these are choices to make for *four* cases – each of which poses particular research challenges. These WP-specific choices will be elaborated through task 5.1, task 4.2, tasks 3.2 and 3.3., and deliverable 2.3.1 (‘methodological protocol for transitions governance analysis’).

Another next step is the development of a conference paper on LAMARTRA’s interdisciplinary methodological approach (D2.1.2, scheduled for M18). Qua methods and angles on the ‘dual’ transition, the project is arguably more than the sum of the parts.There important pending questions on how the topic – the transition dynamics but also the associated governance, can be quantified and understood. The paper will be fed through regular discussions of both empirical findings as well as methodlogical issues.

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1. This part is not included in the DoW. [↑](#footnote-ref-1)
2. This comprises Follow-up committee, case-specific stakeholders, and ultimately the Belgian public at large. [↑](#footnote-ref-2)
3. The proposals for empirical cases refer to different units and levels of analysis (circular economy as a sector-transcending kind of transition process or normative position w/r to a desired kind of transition; petrochemical industry as a sector; regions facing economic decline) [↑](#footnote-ref-3)
4. Trade unions, Environmental NGOs, Arbeid en Milieu, Le Forem, Observatoire bruxellois de l’emploi and SERV [↑](#footnote-ref-4)
5. This refers to Deliverables 2.3.4 and 2.4.2 [↑](#footnote-ref-5)
6. Étude de prospective participative sur l’emploi et la formation dans le cadre de la transition vers la neutralité climatique en Belgique à l’horizon 2050 [↑](#footnote-ref-6)
7. For example, it merit consideration what the consequences are of delineating a sector (see Bowker and Star). *What are we excluding in our future data collection, and why? Do the (future) targeted stakeholders share the same sector category as the researcher? Do the targeted stakeholders feel concerned about the issues, the studied sector? Do they consider the selected sector as important (or why not)?* [↑](#footnote-ref-7)
8. The workshops form the linkage with WP7 Valorisation, Dissemination, Exploitation of results [↑](#footnote-ref-8)
9. *MB: For the four sectors Agriculture, Construction, Metallurgy and E-commerce, the first three are well-defined in NACE, whereas I wonder about e-commerce. There is a 4-digit category of retail via internet or mail order, but I wonder how much hybrid store/e-commerce (e.g FNAC) would be captured here.*

   *Maybe in WP3 we could look more broadly at retail (excluding sectors where we do not believe there is a lot of e-commerce - though may be increasingly difficult) and look at to what extent increasing e-commerce is changing employee composition?*

   *Metallurgy may be too narrow to overcome privacy concerns related to admin data.*

   *For construction broadly, data would be available. I am still not clear on how detail info we can get on education, but it would be interesting to see if we would see a switch between different trades (e.g. increased demand for electricians).* [↑](#footnote-ref-9)
10. Whether and how to work along the NACE categorization is a further choice to make for WP3, considering relevance of the categorization as well as the structuring of datasets. [↑](#footnote-ref-10)
11. The definition of a ‘sector’ has been debated extensively. Their definition along the ETS (Emission Trading System)/non-ETS is of great policy importance, but this defines the matter somewhat one-sidedly in terms of decarbonisation. The NACE categorization was found to be unsuitable for its difficulty to capture recent and future transition processes, but in terms of data availability it remains relevant. Meanwhile, there are the definitions of policy sectors and of sector-level and cross-sectoral sustainability transitions (e.g. the VITO website highlights 5 possible cross-sector themes: “sustainable chemistry”, “sustainable land use”, “sustainable health”, “sustainable energy”, “sustainable materials” <https://vito.be/en> ). Actors’ understandings of ‘sectors’ are themselves aspects of labour/decarbonization transformation, and are relevant empirical foci for the qualitative analyses of WP2, 4 and 5. [↑](#footnote-ref-11)