LAMARTRA

Bridging decarbonization and labour market in sustainability transitions

Imagining 'low-carbon' and 'quality of work' transition futures for agriculture and construction with and for stakeholders

Policy Brief

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Key messages

1. The implementation of ambitious and well-targeted horizontal policies requires regular consultation of the stakeholders concerned, sector by sector

2. Cross-cutting policy implies first taking into account the typical constraints of the targeted sector and adapting accordingly

3. Low-carbon and quality of work concepts include many criteria that need to be clearly defined

4. Continuous training dedicated to transitions, valorization and promotion programs for farmers and technical execution jobs are intersectoral expectations

5. Proximity-driven market, access to land (agriculture) and material resources (construction) are key factors to consider

Introduction

If the reduction of greenhouse gas (GHG) emissions is considered a priority in policy discourses and strategies in the agricultural and construction sectors (e.g. Circular Wallonia, 2021; Shifting Economy 2022-2030; 2021), how this will be translated and implemented in practice and what conditions will apply to workers remain open questions.

The implementation of transversal policies at the sectoral level means first taking into account the initial framework and constraints (regulatory, technical, political - Markard et al. 2012) and sectoral expectations (Borup et al. 2006), and then identifying how actors innovate or adapt their behavior to new ambitions despite the effects of structural inertia or lock-in (Geels 2014).

In addition to taking stock of sectoral constraints, several studies have highlighted the importance of prioritizing the involvement of stakeholders affected by future policies (Callon et al. 2001, 2009), organizing discussion spaces (Leunbach & Nielsen 2019, Callon and Rabeharisoa 2008) and giving them the opportunity to reflect on the desirable and undesirable scenarios of their practices, identifying alliances (Macchi 2001) in a foresight and multi-level perspective (Wilkinson 2006).

WP4, led by the Spiral Research Centre of the University of Liège and the Walloon Institute for Statistics, Evaluation and Prospective (IWEPS), developed a foresight and participatory approach that considers that the 'low-carbon' and 'quality of work' transitions must be carried out for and with the stakeholders in the sector. To identify (sector by sector) the conditions that enable or prevent certain transition pathways, **WP4 organized two foresight workshops (agriculture and construction) with key stakeholders to imagine their future implementation and their constraints in Belgium.**

Methods and results

Imagining the future of transition pathways implies assessing the existing constraints, lock-in and opportunities before creating collective (un)desirable sectoral scenarios for the future (Wilkinson 2016, Godet 1993). Based on **qualitative methodology**, two successive phases that combine **documentary analysis** (grey & scientific literatures)**, semi-structured interviews and scenario workshops methods** were conducted.

Phase I of data collection relied on policy documents analysis and scientific and 19 semi-structured interviews with unions, federation of companies, training centers, competitiveness clusters, universities and research centers, sub-sectors working with specific materials, administrations**. It made it possible to identify 75 givens (representing the sector as it is)** of current practices and constraints of workers on their work and their sector, and to present **51 drivers (for the sector as it should be)** on low-carbon and labor, economical, regulatory, sociotechnical that are considered relevant in imagining futures of dual transition[1] .

Phase II of data collection was based on two major foresight workshops using the scenario method to structure of possibilities with the goal of plausibly preparing - not predicting - the evolution of important variables and levers over time (Moniz 2006; Wilkinson 2016). The workshop for the agricultural sector (n=19 participants) and the workshop for the construction sector (n=18 participants) brought together heterogeneous stakeholders from the Brussels and Walloon regions and worked with an identical time horizon (from 2023 to 2050). Phase II allowed to confirm or criticize the initial diagnosis (givens, drivers, constraints, opportunities for transitions pathways) identified in phase I; to consider desirable and undesirable potential future scenarios for their sector (with drivers); to create and test their collective scenarios and trends for the future.

Key insights from the agricultural sector:

1. **'Low-carbon' is a contested term and 'quality of work' (which overlaps with ideas of decent work, fulfillment, and meaning) is a fuzzy one**. The term 'low-carbon' encompasses a broader environmental lens that includes aspects with "positive environmental impact", it is also narrowly associated with an accounting vision of the transition (what emits, what production methods and what product types) and its technical solutions. Uncertainty about the definition of "quality of work" is similarly related to the nature of a

1. For further information on the givens and drivers for the agricultural sector, a set of cards was designed (42 'givens', and 25 'drivers') https://hdl.handle.net/2268/306559. For further information on the givens and drivers for the construction sector, another a set of cards was designed (33 'givens', and 26 'drivers') https://hdl.handle.net/2268/324070.

Methods and results

form of income[2], the mitigation of future uncertainties, the quality of life, such as personal fulfillment, paid leave, access to part-time employment, or access to a social life.

2. **Acting on typical constraints of the sector is necessary**: the current lack of capacity to allocate time for training due to their demanding workloads and competing commitments, the undervalued agricultural sector (including the **lack of promotion** of technical sectors in education), "a**gri-bashing**", the aging population of farmers (lack of attractiveness for young people), the self-employed status, limited employment opportunities, or the **arduous nature of access to land** (e.g. escalating cost of land, its fragmentation, and its artificialization) serve as important drivers that prevent transition.
3. There is and will be a **constant evolution of various agricultural practices** (i.e. precision farming, agroecology, the valorization of 'co-products', the multi-functionality of the field, urban agriculture, or measures to promote biodiversity agrivoltaics) and of the **farmer's competences** (e.g. long-term and systemic thinking, and cross-disciplinary and diversified skills). Both act as catalyst for achieving a desirable trajectory, encompassing both the quality of agricultural employment and the sector's carbon footprint. **Supportive and imperative trainings for farmers in transition** (i.e. continuous training, the establishment and maintenance of networks of peers for the exchange of practices, and the engagement in activities related to their personal and social lives).
4. **Farming and environmental public policies have a pivotal role** to facilitate the coexistence of multiple farming models. There are concerns about the EU's tendency to "smooth out" the diversity of practices and promote measures that may appear contradictory, and about the need to improve consultation between decision-making bodies within Belgian policies. Tensions arise among international, national markets requirements. **The market should be conceptualized as a European-wide entity** as international trade remains a key component of the agricultural market, irrespective of individual preferences. The debate on the need for a shift towards localized production, driven by geostrategic considerations or environmental concerns, such as reducing the carbon footprint, has emerged as a contentious issue.

2. For instance, one participant posed the following question: 'Is a permanent contract a quality contract? Emancipation from the social security services?'

Methods and results

5. **Achieving 'sustainability' requires a balance between the farmer's income and the farm's profitability.** It is envisioned as a fair pricing strategy for farmers that includes the economic costs of producing the commodity, the costs of changing practices and providing ecosystem services (e.g., promoting biodiversity), the inclusion of the carbon costs throughout the supply chain to enhance the competitiveness of sustainable initiatives (internalizing externalities), and a **reform of the subsidy system** more directly linked to positive environmental benefits.
6. **A key driver is commercial exchange that fosters proximity**. Reducing the distance between 'producer and product' is associated with improved food quality, an incentive for farmers to invest and change their practices, and a means to reappropriating our relationship to food, where it comes from, how it is produced, and its impact on health and the environment.

Key insights from the construction sector:

1. **A well-defined but narrow definition of the term 'low-carbon'** relies primarily on measures to make buildings more energy efficient, materials that sequester CO2 emissions, reduced energy consumption in manufacturing processes, and recyclable materials. Limiting 'low-carbon' to the reduction of CO2 emissions was seen as an a 'accounting or engineering vision' that closed solutions to compensation mechanisms. **One aspect is missing: the question of depletion and (future) access to material resources**. Buildings that are too hermetic to their external environment, leading to problems such as humidity or poor indoor air quality for the occupants.
2. **'Quality of work' remains an ambiguous term covering a wide range of criteria** such as job security, a fair pay, quality of skills or support for the difficulty of the tasks, personal fulfilment, the pursuit of one's own sense of purpose and the ability to freely choose one's own career path, including the option of pursuing a career in the construction sector, the alignment of work with personal values and a sense of responsibility for one's actions, and the promotion of workers' health and well-being..
3. **Acting on typical constraints of the sector is necessary**: technical execution jobs are structurally and culturally **undervalued** compared to higher education and university

2. For instance, one participant posed the following question: 'Is a permanent contract a quality contract? Emancipation from the social security services?'

Methods and results

careers. The sector faces **great difficulties in recruiting personnel,** although these challenges are reduced in the eco-construction sector (good image). **Repetitive work is a recurring constraint**: skepticism is expressed that the development of eco-construction would lead to less repetitive work.

4. **Promote circular thinking from conception to execution and a transformative relationship with materials:** it is imperative to conceive and execute a project in accordance with strategies that promote sobriety, such as deliberate reduction of energy and material consumption, consideration of existing and recycled materials, and the right quantity.
5. **Training in circular thinking is key to transition:** new knowledge generated will drive circular thinking, meaning at work, health and 'non-displaceable jobs', serve as a catalyst for a change in mindset (with promotion of environmentally preferable materials).
6. **Eco-construction with nature-based materials:** as opposed to health damaging materials (e.g., asbestos or petroleum-derived), eco-construction fosters meaningful work through the use of bio-based materials and a healthy working environment when working with nature-based materials.

Conclusions

The concept of 'quality of work' in sustainable transitions is interpreted differently across sectors. In the agricultural sector, it is primarily associated with a better quality of life for farmers, including the ability to develop a social life and secure a decent income. In the construction sector, 'quality of work' is associated with fulfilment and a healthy working environment.

The agricultural sector faces a number of challenges, including long-standing lock-ins, the institutionalization of revenue streams, the difficulty of attracting younger generations, and the dependence on a market design. The revaluation of farmers' incomes is seen as crucial to facilitate changes in practices and to improve the quality of work through a diversity of practices. In response to these challenges, the sector suggests working on individual skills (supported by a strong training and networking component), consistently consolidating aligned environmental and agricultural policies (EU to Belgium) that value the coexistence of different farming models and jointly strengthening a European and local market and proximity trading logic.

The construction sector imagines itself as circular, where materiality is envisioned to re-politicize our relationship to it in the face of resource depletion. The advent of eco-materials is seen as a catalyst for a promising future, one that has the potential to foster well-being and purpose in the workplace, thereby revitalizing a historically undervalued industry. Training is recognized as a critical factor in harnessing the labor and material transitions of the construction sector.

Policy recommendations

1

Start from Sectoral Realities

To be effective, cross-cutting policies must begin with a grounded understanding of sector-specific realities. In the agricultural sector, barriers such as heavy workloads, the self-employed status of most workers, undervaluation of the profession, restricted access to land, and an aging workforce significantly hinder the capacity for transition. In the construction sector, key constraints include the structural undervaluation of manual and technical jobs, the repetitive nature of work, and growing concerns over future access to raw materials. These constraints should not be treated as peripheral, but rather integrated systematically into the design and assessment of transition policies.

Recommendation: *Systematically identify and integrate sector-specific constraints into the design, implementation, and evaluation of transition policies, in order to ensure their relevance and effectiveness.*

2

Clarify the Concepts of "Low-Carbon" and "Quality of Work"

The key notions underpinning transition strategies – such as "low-carbon" and "quality of work" –require clarification. Currently, "low-carbon" is too often reduced to carbon accounting and technical fixes, overlooking broader ecological and material considerations like biodiversity or resource depletion. Similarly, "quality of work" is interpreted differently across sectors: in agriculture, it refers to securing a decent income and the possibility of a balanced social life, while in construction, it encompasses well-being, purpose, and autonomy at work.

Recommendation: *Co-develop, with sectoral stakeholders, operational definitions and measurable indicators of "low-carbon" and "quality of work" tailored to each sector's specific values, constraints and aspirations.*

Policy recommendations

3

Make Training a Lever for Transformation

Across both sectors, continuous training emerges as a central lever of transformation. Stakeholders expressed a strong need for access to training that not only develops new technical skills (e.g., agroecological practices, circular construction) but also enables the sharing of experiences and builds a sense of professional meaning. Training is not only a tool for upskilling – it also contributes to reframing the purpose and value of work in a transforming economy.

Recommendation: *Design and support continuous, accessible and locally rooted training programs that combine technical learning with peer exchange and long-term professional development.*

4

Ensure Coherence Across Governance Levels

Another important element concerns the need to ensure coherence across governance levels. In agriculture, inconsistencies between European and regional policies are perceived as undermining the sector's capacity to plan for the long term. In construction, concerns focus on the limited adaptability of European standards to local material and climatic conditions. Without policy coherence, actors are left navigating contradictory incentives and ambiguous regulatory environments.

Recommendation: *Establish coordination mechanisms across EU, national and regional governance levels to ensure the alignment of climate, labor and sectoral policies and reduce regulatory contradictions.*

Policy recommendations

5

Secure Structural Enablers of Just Transitions

Certain structural conditions are critical enablers of just transitions and deserve direct policy attention. In agriculture, improving access to land – particularly for young farmers – through public land allocation schemes would remove a major obstacle to sectoral renewal. In construction, securing access to sustainable materials and scaling up bio-based or reused material value chains requires targeted support, particularly through public procurement.

Recommendation: *Develop targeted policies to ensure long-term access to key enablers of transition – such as land in agriculture and materials in construction – including through dedicated funding schemes and sustainable public procurement.*

6

Create Spaces for Long-Term, Participatory Scenario Building

The workshops revealed the power of collective foresight to surface sector-specific tensions, imaginaries and levers for action. Stakeholders were able to articulate both desirable and undesirable futures, which fed into the definition of more grounded transition pathways. This method also helped to challenge purely technical visions of decarbonization.

Recommendation: *Institutionalize foresight exercises within transition governance frameworks, to regularly reconnect policy objectives with stakeholders' visions, constraints and evolving practices.*

7

Promote Alliances Across Sectors and Actors

The scenarios developed underline the need for coordination not only across levels of governance, but also between actors who typically operate in silos (e.g., training centers, labor organizations, ecological movements, material suppliers). Transitions require the activation of new alliances and shared responsibilities.

Recommendation: *Support platforms for cross-sectoral cooperation, including at the territorial level, to foster mutual understanding and resource pooling between diverse actors involved in the transition.*

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Project

This policy brief is part of a research project called LAMARTRA (2021-2025). The project aimed to explore the potential futures that could emerge from the low-carbon and labour transitions. It also sought to understand how these transitions can be governed to achieve both climate objectives and just work and employment opportunities.

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Imagining and contesting futures and transitions in agriculture and construction

— METHODOLOGY —

DATA COLLECTION
DOCUMENT ANALYSIS
19 INTERVIEWS

CARDS
DRIVERS
GIVENS
BLACK SWANS

FORESIGHT WORKSHOPS
AGRI : n = 19
CONSTR : n = 18

CIVIL SERVANTS, RESEARCH CENTERS, WORKERS, FEDERATIONS...

KEY INSIGHTS AGRICULTURE

FUZZY WORD
PERSONAL FULFILMENT
DECENT INCOME
SOCIAL LIFE
ACCESS to PART-TIME WORK
QUALITY OF WORK ?

CONTESTED TERM
LOW CARBON

LOW CARBON
QUALITY OF WORK

KEY INSIGHTS CONSTRUCTION

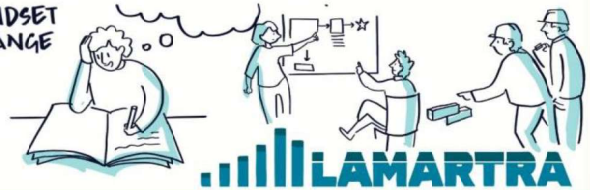
CO_2 EFFICIENCY
... but NOT
MATERIAL DEPLETION
FUTURE RESOURCE ACCESS
LOW CARBON

AMBIGUOUS TERM
CARREER FREEDOM
PURPOSE
FULFILMENT
HEALTH
QUALITY OF WORK ?

- MANUAL JOBS ARE STRUCTURALLY UNDERVALUED, and HARD to FILL
- EXCEPT in ECO-CONSTRUCTION
  ↳ HEALTHIER ENVIRONMENT MEANINGFUL, NON-DISPLACEABLE WORK

- MAJOR CONSTRAINTS :
  - LACK OF TIME FOR TRAINING
  - UNDERVALUATION OF the SECTOR
  - AGRIBASHING
  - AGING POPULATION / RENEWAL of GENERATION
  - SELF-EMPLOYMENT
  - LAND INACCESSIBILITY
- ACHIEVING "SUSTAINABILITY" REQUIRES a BALANCE BETWEEN the FARMER'S INCOME and the FARM'S PROFITABILITY

- PROMOTE CIRCULAR THINKING & SOBRIETY in MATERIALS MUST GUIDE the ENTIRE VALUE CHAIN
- TRAINING FOSTERS KNOWLEDGE, MEANING at WORK & MINDSET CHANGE



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POLICY RECOMMENDATIONS

1. START FROM & INTEGRATE SECTOR SPECIFIC CONSTRAINTS IN TRANSITION POLICIES
   EX : THROUGH PARTICIPATIVE FORESIGHT as a POLICY INSTRUMENT
2. CO-DEVELOP OPERATIONAL DEFINITIONS and MEASURABLE INDICATORS of "LOW-CARBON" and "QUALITY of WORK"
3. ESTABLISH COORDINATION MECHANISMS ACROSS POLICY LEVELS and ENHANCE CROSS-SECTORAL COOPERATION

4. ENSURE LONG-TERM ACCESS to KEY ENABLERS of TRANSITION
   EX • LAND in AGRICULTURE
   • MATERIALS in CONSTRUCTION
   • TRAINING PROGRAMS (for both AGRICULTURE and CONSTRUCTION SECTOR)