Proposal for a high-level strategy in support of the Flemish green skills transition

Trinomics

This project is carried out with funding by the European Union via the Structural Reform Support Programme and in cooperation with the Directorate General for Structural Reform Support of the European Commission

Ockham IPS

Authors
Simon Broek
Gert-Jan Lindeboom
Pavla Cihlarova
Maja Lardot
Tessa Zell
Koen Rademaekers

Contact person
Simon Broek
S.broek@ockham-ips.nl

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Rotterdam, 11 July 2023

High-level Strategy support of the Flemish green skills transition

In association with:

Ockham IPS

Executive Summary

E.1 Introduction

This strategy is one of the key deliverables in the European Commission DG Reform project 'Green Skills Roadmap for Belgium' (REFORM/SC2021/111), implemented by Trinomics together with Ockham IPS under the supervision of the European Commission DG Reform and the Flemish Department of Work and Social Economy (DWSE). The strategy builds on the analyses included in the 'Report on Green Skills Need in Flanders'[1] (Deliverable 2), and the insight gained from best practices studied in the context of peer learning activities organised to Gothenburg (Sweden) and Paris (France) as part of Deliverable 3[2].The outcomes of the consultation activities are reported in a separate document (Deliverable 4), and highlight in more detail the building blocks from the consultation activities that were used to underpin the development of this Strategy. The consultations took place in the period September – December 2022, and included a variety of Flemish stakeholders in multiple consultation events. Stakeholders were asked to provide input for the vision (presented below) and contribute to diagnosing the critical challenges in addressing the green transition in Flanders. Based on these inputs, a broad variety of concrete policy proposals were formulated and validated by means of a survey and consultation workshops. This strategy is the final product of all this work and is accompanied by a more detailed Roadmap (Deliverable 7), where the contents of this strategy are further operationalised in concrete next steps and milestones.

E.2 Vision and objectives for 2030

Flanders has the ambition to benefit from the green transition as an engine of growth. By offering a fertile eco-system for technology-driven innovation, Flanders seeks to be in the vanguard of the Green Transition in Europe. This calls for investing in skills and better embedding green skills in training and education as a driver for a new wave of high-quality green jobs, enriching existing jobs and further enabling economic development. It seeks to inspire a critical mass of 'front-runner' Flemish employers (especially SMEs), governmental and civil society organisations, as well as individual citizens to invest in future green skills and jobs. As such, the green skills transition is not only about greening, but also about making companies, institutions and individuals ready for the future.

Given this vision, the objective of this high-level strategy is to contribute to an environment in which different actors, including individuals, companies, sectoral organisations, various skills development providers and the regional government are sensitive to the importance of green skills, today and in the (near) future. It also seeks to ensure that these stakeholders are encouraged to overcome challenges related to the green skills transition matching the future supply and demand for green skills. This objective is linked to four specific objectives:

- Encourage employers to identify future green skills and jobs needs and stimulate them to act upon the identified needs;
- Stimulate skills development providers to improve the supply of green skills according to current and future demand;
- Encourage individuals to reflect on their own skills and develop green skills to support future-readiness;

[1] Trinomics (2023). Report on Green Skills Needs in Flanders.
[2] Trinomics (2023). Green Skills roadmap Flanders: best practices report.

- Improve the governance among the Flemish actors to create an enabling environment for the strategy's implementation.

E.3 The green transition as opportunity

The green transition offers opportunities for the Flemish labour market and economy, both in terms of job creation and economic growth. Existing estimates suggest that no less than 80 000 additional jobs are to be created by new opportunities and demands in Belgium. Many more jobs in Flanders face new or additional skills requirements, which means that Flanders has the unique opportunity to reap the benefits of the Green Transition while strengthening the resilience of its workforce, including those in the social economy and those that are currently not employed.

With European-level strategies, policies and targets in the European Green Deal, the importance of working on a cleaner environment, more affordable energy, and smarter transport will only further increase. At the societal level, citizens already show an increasing awareness and support for the green transition, with increased calls for further accelerating the transition and responding to its consequences.

E.4 The green skills challenge

The green transition is hampered by the green skills challenge: there are green skills gaps in specific sectors and generally across the economy and society. At the same time, the lifelong learning culture could be strengthened to stimulate people to invest in green skills development. Such learning does not need to focus on completely new jobs or entirely new skillsets; much can be gained by addressing 'greening' in relation to the application of existing skills in new 'green' contexts.

E.5 Embedding the high-level strategy in the policy context: related policy initiatives

The green transition is already prioritised in a large number of existing high-level strategies and policies. Additionally, numerous public and private initiatives already exist to improve green skills development in Flanders. However, there is scope for linking these two, and presenting an explicit strategy that lists how Flanders can effectively respond to the green skills challenge in the face of the accelerating green transition. This high-level strategy seeks to complement existing initiatives and brings together the various efforts related to green skills in one place. This helps to further encourage the development of a lifelong learning culture towards the relevant skills of the future, while strengthening the cooperation between education providers and the labour market.

E.6 A call for action – responding to the identified challenges

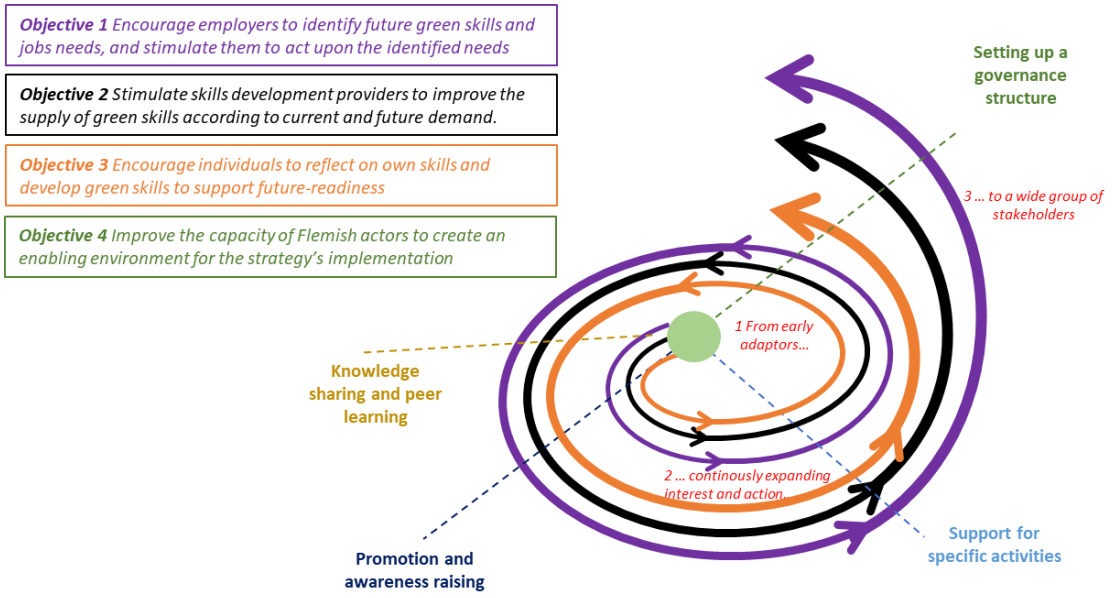
There is a need to improve the capacity of stakeholders and governance in Flanders to put in place the activities foreseen.[3] A governance structure is proposed that seeks to facilitate the coordination between the different actors and the actions to be undertaken and allows the coherent linking of more specific actions defined in the Roadmap to this Strategy's high-level vision. The governance structure will enable bringing together relevant governmental stakeholders and represents stakeholders from the

[3] The governance structure will be further developed in the forthcoming report on the governance framework, Deliverable 6 of this project.

world of work (unions, employer's organisations, sectoral funds), the world of education and training (learning providers), as well as other key stakeholders from civil society to facilitate cooperation and coordination of actions. In addition, the Strategy foresees support for specific activities (in relation to education and encouraging job creation), which are presented in more detail in the Roadmap for Green Skills. Such actions are subsequently complemented by actions in the field of promotion and awareness raising, as well as actions related to knowledge sharing and peer learning.

The strategy aims to raise awareness and provide specific (financial) support, so that companies, skills development providers and the Flemish government are increasingly encouraged to take active steps themselves to respond to the green skills transition. Through knowledge exchange and peer learning among front-runners that already work on green skills development at the national and international level, the Strategy aims to expand towards reaching a tipping point, where an increasing number of previously 'non-engaged stakeholders' also become involved in the green skills transition, while in turn incentivising others. The figure below shows the envisaged change process of continuously expanding interest in, and action on, green skills by companies, skills development providers and the government. The types of actions are presented in the figure.

Figure 0-1: Envisaged change process



While the strategy is primarily directed at all sectors and covers all green skills, it prioritises specific sectors for the implementation of actions. This enables these specific sectors to effectively function as front-runners, pilots or exemplary sectors. While the Strategy aims for an intersectoral approach, in the short term, the activities can be primarily targeted on the following (clusters of) sectors (technical and professional skills and green competences):

- **The construction sector** could illustrate how a sector-specific approach could work on solving existing shortages of skilled workers and all employees requiring new skills.
- **The energy & utilities sector** could illustrate how the sector-specific approach could support the growth of the sector by recruiting more workers with the right skills specific to individual green technologies as well as generally applicable professional skills.
- **The circular economy sector** could illustrate how the sector-specific approach could support creation of new jobs and respond to new skills demands.

- **The manufacturing & extractive industries sector** could illustrate how a sector-specific approach could work, mainly focusing on the up-skilling and re-skilling of employees. Actions should – among others –focus on attracting employees with sufficient STEM skills which are also in high demand in other sectors.

Samenvatting

E.1 Introductie

Deze strategie vormt één van de centrale pijlers van het project 'Strategie voor Green Skills in Vlaanderen' van de Europese Commissie DG REFORM (REFORM/SC2021/111), uitgevoerd door Trinomics samen met Ockham IPS onder begeleiding van de Europese Commissie (DG REFORM) en het Vlaams Departement Werk en Sociale Economie (DWSE). De strategie bouwt voort op de analyses zoals gepubliceerd in het rapport 'Green Skills Needs in Flanders' (Deliverable 2)[4], en de inzichten die zijn opgedaan uit beste praktijken die zijn bestudeerd in het kader van peer learning (intercollegiaal leren), georganiseerd in Göteborg (Zweden) en Parijs (Frankrijk) in het kader van dit project (Deliverable 3)[5]. De resultaten van de consultaties zijn gerapporteerd in een apart document (Deliverable 4), welke in detail de diverse bouwstenen uit de consultatieactiviteiten belicht die de ontwikkeling van deze strategie nader ondersteunen. De consultaties vonden plaats in de periode september - december 2022 met een brede groep van Vlaamse belanghebbenden in meerdere consultatie-evenementen. Stakeholders hebben hierbij input geleverd voor de visie (hieronder gepresenteerd) en bijgedragen aan het identificeren van de cruciale uitdagingen bij het aanpakken van de groene transitie in Vlaanderen. Op basis van deze input werden een breed scala aan concrete beleidsvoorstellen geformuleerd en gevalideerd door middel van een enquête en consultatieworkshops. Deze strategie is het eindproduct van dit werk en kan samen worden gelezen met een meer gedetailleerde 'roadmap' (Deliverable 7), waarin de inhoud van deze strategie wordt geoperationaliseerd in concrete volgende stappen en mijlpalen.

E.2 Visie en doelstellingen tot 2030

Om een koploperspositie in te nemen in Europa, ambieert Vlaanderen om een vruchtbare bodem te creëren voor technologie-gedreven innovaties en circulaire business concepten die een oplossing kunnen bieden aan de vraagstukken van deze tijd. De aandacht gaat daarbij uit naar het vinden van synergiën tussen de groene en de digitale transitie, zodat deze hand in hand gaan. Dit vereist investeringen in vaardigheden en een betere integratie van groene vaardigheden in training en onderwijs. Dit kan de drijvende kracht vormen achter de ontwikkeling van een nieuwe golf van hoogwaardige groene banen, die bestaande banen verrijken en verdere economische ontwikkeling mogelijk kunnen maken. De Strategie streeft naar het bereiken van een kritische massa van 'voorlopers' onder Vlaamse werkgevers (vooral KMO's), overheids- en maatschappelijke organisaties, en individuele burgers te inspireren om te investeren in toekomstige groene vaardigheden en banen. Als zodanig gaat de groene vaardigheden transitie niet alleen over vergroening, maar ook over het toekomstbestendig maken van bedrijven, instellingen en individuen.

Met deze visie als uitgangspunt heeft deze strategie als doel bij te dragen aan een omgeving waarin verschillende actoren, waaronder individuen, bedrijven, sectorale organisaties, onderwijsaanbieders en de Vlaamse overheid zich bewust zijn van het belang van groene vaardigheden, zowel vandaag als in de (nabije) toekomst. De Strategie poogt belanghebbenden aan te moedigen om een antwoord te formuleren op uitdagingen die samenhangen met de overgang naar groene vaardigheden. Dit doel is gekoppeld aan vier specifieke doelstellingen:

[4] Trinomics (2023). Report on Green Skills Needs in Flanders.
[5] Trinomics (2023). Green Skills roadmap Flanders: best practices report.

- Werkgevers aanmoedigen om toekomstige behoeften aan groene vaardigheden en banen te identificeren en hen te stimuleren om te handelen volgens de geïdentificeerde behoeften;
- Onderwijsaanbieders te stimuleren om het aanbod van groene vaardigheden te verbeteren in overeenstemming met de huidige en toekomstige vraag;
- Individuen aan te zetten om na te denken over hun eigen vaardigheden, en deze nader te ontwikkelen in het licht van de huidige en toekomstige vraag naar groene vaardigheden;
- De governance onder de Vlaamse actoren verbeteren om een gunstige omgeving te creëren voor de uitvoering van de strategie.

E.3 De groene transitie als kans

De groene transitie biedt kansen voor de Vlaamse arbeidsmarkt en economie, zowel op het gebied van banencreatie als economische groei. Bestaande schattingen suggereren dat in België maar liefst 80.000 extra banen zullen worden gecreëerd door nieuwe mogelijkheden en eisen (zie deliverable 2 van dit project). Daarnaast wordt een nog veel groter aantal van Vlaamse banen geconfronteerd met nieuwe of aanvullende eisen van vaardigheden. Hiermee heeft Vlaanderen de unieke kans om de voordelen van de Groene Transitie te benutten en tegelijkertijd een positieve bijdrage te leveren aan de veerkracht van de Vlaamse arbeidsmarkt, inclusief van personen werkzaam in de sociale economie en degenen die momenteel niet aan het werk zijn.

Met Europese strategieën, beleidsmaatregelen en doelstellingen in het kader van de Europese Green Deal zal het belang van werken aan een schonere omgeving, betaalbare energie en slimmer transport alleen maar verder toenemen. Op maatschappelijk niveau is een toenemend bewustzijn onder burgers reeds in toenemende mate zichtbaar, hetgeen zich uit in steun voor de groene transitie en de formulering van antwoorden op de gevolgen van deze transitie.

E.4 De uitdagingen rondom groene vaardigheden

Op dit moment vormt het gebrek aan beschikbare groene kennis en vaardigheden in Vlaanderen een obstakel voor de verdere ontwikkeling van de groene transitie. Er zijn tekorten aan groene vaardigheden in de gehele Vlaamse economie, en in specifieke sectoren in het bijzonder. Tegelijkertijd is het van essentieel belang om de cultuur van levenslang leren te versterken, om zo de investering in de ontwikkeling van groene vaardigheden te stimuleren. Dit leren hoeft zich niet te richten op volledig nieuwe vaardigheden of beroepen; er kan veel worden bereikt door 'vergroening' explicieter te koppelen aan het toepassen van bestaande vaardigheden in nieuwe 'groene' contexten.

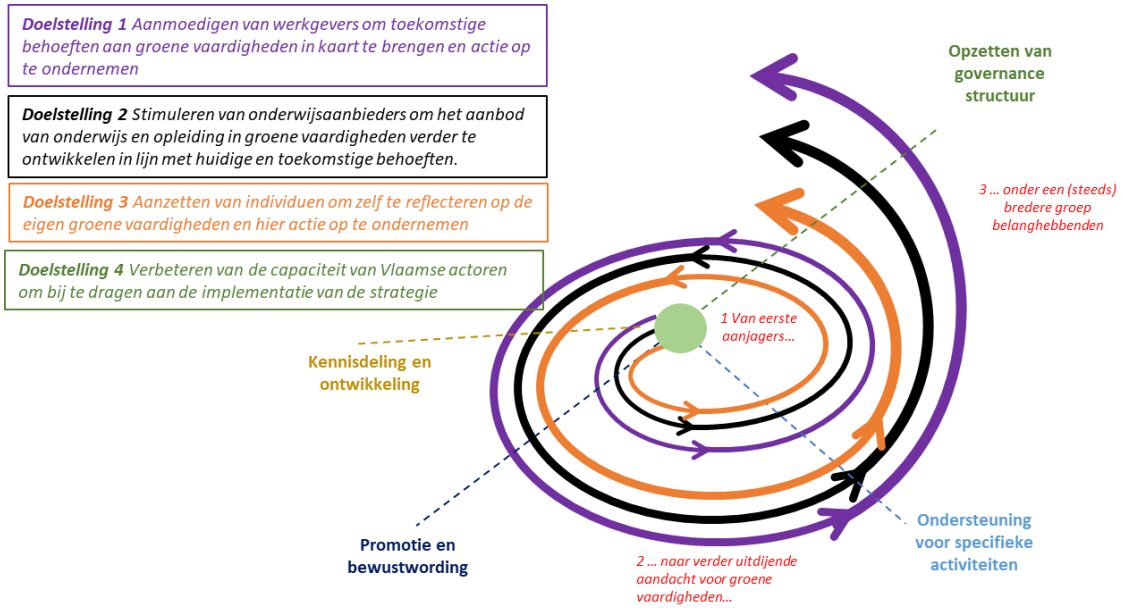
E.5 Positionering van de Strategie in bredere beleidscontext

De strategie moet worden geplaatst binnen de bredere beleidscontext. De groene transitie staat al hoog op de agenda in verschillende bestaande strategieën en beleidsmaatregelen. Daarnaast bestaan er al tal van publieke en private initiatieven om de ontwikkeling van groene vaardigheden in Vlaanderen te verbeteren. Er is echter ruimte om deze beter met elkaar te verbinden in een expliciete strategie die beschrijft hoe Vlaanderen effectief kan reageren met de ontwikkeling van groene vaardigheden in het licht van de versnellende groene transitie. Deze strategie is ontworpen als een aanvulling op bestaande initiatieven en heeft tot doel om de verschillende inspanningen met betrekking tot groene vaardigheden samen te brengen op één plek. Dit helpt om de ontwikkeling van een cultuur van levenslang leren naar relevante vaardigheden voor de toekomst verder te bevorderen, met daarbij de nodige aandacht voor de samenwerking tussen onderwijsaanbieders en de arbeidsmarkt.

E.6 Aan de slag – te ondernemen acties op de geïdentificeerde beleidsvraagstukken

Een effectieve uitrol van de activiteiten in deze Strategie vraagt om een verdere versterking van de onderlinge samenwerking van diverse actoren in Vlaanderen. Daarom is naast deze strategie een governance structuur ontwikkeld, die als doel heeft de coördinatie tussen de verschillende actoren en de te ondernemen acties te stroomlijnen. Deze governance structuur beoogt het samenbrengen van belanghebbenden in de publieke sector met vertegenwoordigers van de arbeidsmarkt (vakbonden, werkgeversorganisaties, sectorfondsen) en onderwijsaanbieders, evenals belanghebbenden uit het maatschappelijk middenveld. Daarnaast voorziet de strategie in ondersteuning voor specifieke activiteiten (met betrekking tot onderwijs en het stimuleren van de creatie van nieuwe banen), die in meer detail worden beschreven in de operationele 'roadmap'. Deze acties worden vervolgens aangevuld met acties op het gebied van promotie en bewustwording, evenals acties in verband met kennisdeling en ontwikkeling. De strategie beoogt bij te dragen aan een vergroting van bewustzijn en specifieke (financiële) ondersteuning te bieden, zodat bedrijven, onderwijsaanbieders en de Vlaamse overheid worden aangemoedigd om zelf actieve stappen te ondernemen om te reageren op de overgang naar groene vaardigheden. Door kennisuitwisseling en peer learning onder de pioniers die al op regionaal, nationaal en internationaal niveau werken aan de ontwikkeling van groene vaardigheden, streeft de strategie ernaar om een steeds breder publiek te bereiken. Het uiteindelijke doel daarbij is het bereiken van een kantelpunt, waarbij een toenemend aantal 'niet-betrokken belanghebbenden' ook wordt betrokken bij de groene transitie, die vervolgens ook op hun beurt weer anderen stimuleren. De onderstaande figuur illustreert het beoogde veranderingsproces van deze strategie.

Figuur 0-2: Veranderingsproces



Deze strategie richt zich in de eerste plaats op de Vlaamse economie als geheel, maar wijst een aantal specifieke sectoren aan waarbinnen de voorgestelde acties als eerste kunnen worden uitgerold; **de bouwsector, de energie- en nutssector, circulaire economie en de maakindustrie**. De achterliggende gedachte is dat deze sectoren actief naar voren treden als maatschappelijke voorlopers en daarmee als inspiratie kunnen dienen voor de rest van de Vlaamse economie. Zo kunnen hier proefprojecten worden geïnitieerd om zo andere sectoren te stimuleren om zelf ook vergelijkbare stappen te ondernemen.

CONTENTS

List of acronyms and abbreviations

Acronyms and Abbreviations	Meaning
CPD	Continuing Professional Development
DG	Directorate General
DWSE	Department of Work and Social Economy
EGD	European Green Deal
EIB	European Investment Bank
EU	European Union
GDP	Gross Domestic Product
Green ES Jobs	Green Enhanced Skills Jobs
Green ID Jobs	Green Increased Demand Jobs
Green NE Jobs	Green New and Emerging Jobs
LLL	Lifelong Learning
NEET	Not in Education, Employment or Training
NGOs	Non-Governmental Organisations
PES	Public Employment Services
R&D&I	Research and Development and Innovation
SMEs	Small and Medium Enterprises
STEM	Science, Technology, Engineering and Mathematics
TSI	Technical Support Instrument
VDAB	*Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding*
VEKP	*Vlaams Energie- en Klimaatplan*
VET	Vocational Education and Training
UN SDGs	United Nations Sustainable Development Goals

Introduction

The aim of the project is to develop a Roadmap for Green Skills in Flanders. This report is Deliverable 5 of this project and consists of a proposal for a high-level strategy to underpin the planned Green Skills Roadmap. This project has been carried out for the Flemish Department of Work and Social Economy (DWSE) with funding from the European Union via the Technical Support Instrument (TSI) and in cooperation with the Directorate General for Structural Reform Support of the European Commission.

In order to develop the strategy, we have built on the analysis of EU and Flemish best practices, barriers and opportunities produced under project deliverable 2 and 3, as well as the input provided by stakeholders in the consultation workshops organised under project deliverable 4. As this report is intended as a strategy document that the Department of Work and Social Economy can use as a stand-alone document, we have refrained from referring to the previous deliverables of the project in the strategy document itself. However, Annex A provides an overview of how the draft strategy was derived from the previous deliverables.

The strategy consists of six chapters:

- **Chapter 1 – Vision and objectives**. This chapter brings the strategy together in a short and communicable statement providing clarity on its intentions and the general and specific objectives.
- **Chapter 2 – The green transition as opportunity.** This section discusses the need for a green skills strategy by presenting evidence on the benefits for the Flemish economy of investing in green skills.
- **Chapter 3 – The green skills challenge.** While the green transition offers opportunities and is needed from a societal perspective, there is general acknowledgement of a skills gap in the Flemish working population. Furthermore, there is an overall lack of a lifelong learning culture to develop green skills for the future. Together, they constitute the 'green skills challenge', which is described in this section.
- **Chapter 4 - Embedding the high-level strategy in the policy context: related policy initiatives.** This section presents an overview of initiatives that are important in positioning the actions of the high-level strategy to clarify what the strategy needs to do to complement what is already in place.
- **Chapter 5 – A call for action.** Based on an analysis of the barriers that prevent various stakeholders from taking action to stimulate the development of green skills, the broad outline for actions has been proposed in this chapter. It combines insights from good practices elsewhere in the EU and provides the structure for the implementation roadmap and governance framework. (deliverable 7).
- **Annex A** explains the approach applied to arrive at this strategy.
- **Annex B** includes a figure with the overview of the forecasting exercise done for the assessment of the skills need in Flanders under the first report of this project.

1 Vision and objectives for 2030

This high-level strategy seeks to position Flanders to benefit from the green transition as an engine of growth. By offering a fertile eco-system for technology-driven innovation, Flanders seeks to be in the vanguard of the Green Transition in Europe. This calls for investing in skills and better embedding green skills in training and education as a driver for a new wave of high quality green jobs, enriching existing jobs and further enabling economic development. It seeks to inspire a critical mass of 'front-runner' Flemish employers (especially SMEs), as well as other institutions, governmental and civil society organisations, as well as individual citizens to invest in future green skills and jobs. As such, the green skills transition is not only about greening, but about making companies, institutions and individuals ready for the future.

Given this vision, the objective of this high-level strategy is to contribute to an environment in which different actors, including individuals, companies, sectoral organisations, various skills development providers and the regional government are sensitive to the importance of green skills, today and in the (near) future. It also seeks to ensure that these stakeholders are encouraged to overcome challenges related to the green skills transition matching the future supply and demand for green skills. This objective is linked to four specific objectives:

- Encourage employers to identify future green skills and jobs needs and stimulate them to act upon the identified needs;
- Stimulate skills development providers to improve the supply of green skills according to current and future demand;
- Encourage individuals to reflect on their own skills and develop green skills to support future-readiness;
- Improve the governance among the Flemish actors to create an enabling environment for the strategy's implementation.

1.1 A vision for the green skills transition in Flanders

Flanders wants to position itself in the best way to benefit from the green transition in Europe as an engine of growth (see glossary). This requires starting with concrete support for developing a skilled workforce. It aims for growth in terms of increased employment, strengthened innovation capability, as well as in terms of Gross Domestic Product (GDP) and sustainability. To get there, Flanders has the ambition to support its enterprises and citizens in accelerating the shift towards a carbon-neutral circular economy with attention on new types of jobs, as well as overall wellbeing and new ways of working.

Flanders aims to be in the vanguard of the green transition in Europe, by creating a fertile eco-system for technology-driven innovation through stimulating business concepts that help progress towards a circular economy. Much is to be gained from the synergies of bringing together the digital and green transitions in an integrated way.

None of this could be achieved without investing in skills. Flanders therefore aims to mobilise all of its available resources and citizens for learning, including everyone from initial education to people already active in the labour market, either in employment, looking for work, or returning to the labour market. It involves mobilising youth entering the labour market as well as more experienced workers already active on the labour market. Doing so further helps ensure that the green transition also offers a just transition and offers the tools to support individuals with all types of qualifications and educational backgrounds towards new green jobs, with specific attention to those in a more vulnerable position in the labour market.

To make these ambitions a reality, this high-level strategy presents the broad outline for the actions necessary to achieve this vision and to embed green skills in training and education as a driver for a new wave of high quality green jobs, enriching existing jobs and further enabling economic development. Action is needed now, particularly if Flanders is to position itself in the green transition with a comparative advantage against its immediate peers. Immediate action is primarily encouraged among a critical mass of 'front-runner' Flemish companies (especially Small and Medium Enterprises (SMEs)), institutions, government and civil society organisations, as well as individual citizens to invest in future green skills and jobs. From there, the strategy seeks to inspire a broader movement in Flanders, where these 'frontrunners' can bring about change by advocating the necessity and benefits of investing in future green skills and jobs, supported by increased effectiveness of the Flemish skills development system to develop green skills.

This high-level strategy presents an overall vision for positioning Flanders in the green skills transition by 2030 (see glossary). It provides specific objectives and areas for follow-up action that support all stakeholders in making this vision a reality by 2030.

Guiding principles for the further elaboration of the Strategy's broader ambitions and for turning specific objectives into an operational roadmap.

- ***Align the objectives of the Green Skills strategy to the Vision 2050 agenda:*** *The objective of accelerating the green transition in Flanders should be aligned to existing high-level initiatives, such as the Green Deal, Fitfor55 and the Circular Economy Action Plan. Similarly, a more detailed roadmap consisting of concrete activities based on the strategy should link to existing transition initiatives in Flanders, such as local green deals, spearhead-clusters, intersectoral and sectoral policy initiatives.*
- ***Implementation requires the support of the Flemish government and building on broad commitment:*** *Public support for the preparation and accompanying of the green transition in Flanders more broadly is expected to have considerable positive consequences for employment in the Flemish Community and Belgium more widely. This calls for a strong interdepartmental cooperation mechanism with a clear coordinating role. When establishing this structure, alignment should be sought with existing policy structures in related policy fields, such as Circular Flanders and STEM, to allow – where possible – building on lessons learned from these structures.*
- ***Supporting the green transition in Flanders is everyone's responsibility:*** *All efforts towards investing in green skills by the Flemish government, companies or citizens depend on actions taken by others; by other companies in the same sector, outside of their sector, by the various government agencies, education and training providers, or Non-Governmental Organisations (NGOs). This requires approaching the implementation of the Green Skills strategy as a collective effort. Fostering a conducive environment for green skills application in jobs, identification of future green skills needs, and green skills development therefore requires the involvement of a large coalition of stakeholders.*
- ***Investing in green skills goes beyond greening existing business practices, aiming at the broader objective of making companies, institutions and individuals ready for the future:*** *Green skills can refer to a lot of different things. It can be understood as the specific technical skills needed for certain new jobs or changing existing jobs, the professional skills in a wide variety of jobs to strengthen green perspectives on work tasks but may also include generic competences related to a green mindset such as critical thinking and finding creative and green solutions to challenges (see glossary). As such, this high-level strategy connects 'green skills' to a more holistic set of skills and competences related to future-orientation, critical and creative thinking and problem-solving.*
- ***It is important to monitor progress:*** *The roadmap should also include monitoring activities. Stakeholders will need to define specific indicators that allow monitoring progress against the objectives in specific sectors and areas of*

the strategy. It could also support organising the (interim) evaluation of relevant (inter)sectoral actions and offer a starting point for other new partnership building initiatives.

- ***The approach should be designed as inclusive and respectful of high-quality working conditions**: The strategy is positioned in the broader framework of the Flemish Labour market and is expected to contribute to a just transition dedicated to leaving no-one behind.*
- ***Green-skill investments should have a lifelong learning perspective**: Investment in green skills cannot be seen separately from the Flemish lifelong learning action plan and the activities related to it. Initiatives will focus on learners irrespective of their background and position in the labour market. It should not be limited to learners in education and green skill investments should also be explicitly tailored to jobseekers, the social economy, employees, and employers.*
- ***Use specific sectors as a catalyst for engaging stakeholders in a broader joint intersectoral approach**: The strategy proposes concrete objectives and activities that combine a focus on specific sectors with building a broader intersectoral cooperation structure. Activities that flow from this strategy are intended as a catalyst, which after sufficient positive response in pilot-sectors can spread to other sectors and encourage an intersectoral approach to green skills.*

1.2 Objectives of the high-level strategy for the green skills transition

The high-level strategy aims **to build an environment in which different actors are increasingly sensitive to the future need for green skills. It should encourage them to overcome the skills challenge related to the green skills transition and help match the future supply and demand for green skills**. This requires an ambitious approach that works effectively on different parallel tracks. Starting with small and scalable steps, the Strategy is designed to work towards a tipping point at which the investments in green skills and jobs inspire action by a continuously growing number of companies, industries and economic sectors, where investing in green skills becomes a logical and self-explanatory decision among companies, workers and Flemish institutions. This strategy should help prepare the Flemish labour market for the sustainability policies of the coming decades, and support the implementation of the Flemish climate policy, the implementation of the European Green Deal (EGD) and the transition to a climate-neutral society. **Four specific objectives** have been formulated in order to help deliver the vision and the overall objective:

Specific objective 1: Encourage employers to identify future green skills and jobs needs, and stimulate them to act upon the identified needs

Employers, both public and private and specifically SMEs need to gain a better understanding of the future needs for green skills and jobs. Through a better understanding, they can also better position themselves in the green transition developing green skills. For this reason, a specific objective is proposed that actively encourages employers to rethink their future-readiness against the perspective of the green transition. For this purpose, supporting sector organisations can play a key role in developing sectoral approaches to sensitise employers to the need, necessity and opportunities related to investing in green skills, on the basis of which broader intersectoral alliances can be built. The aim is to make green skills part of the discussion in companies about being future-ready and to encourage employers to take action. This specific objective is directed towards public and private employers, sectoral organisations and other labour market stakeholders, with a particular focus on SMEs. Companies and sectors differ in the extent to which they reflect on (future) green skills needs and the need for developing actions to solve identified green skills challenges. There are sectors that already have considerable insights in green skills needs and that have the resources (both financial and in terms of

human capacity) to develop actions.[6] Other sectors, or specific companies (especially SMEs) do not have the information on green skills needs, urgency to act, or resources to work on the green skills transition. For those, this strategy foresees the provision of additional support.

Specific objective 2: Stimulate skills development providers to improve the supply of green skills according to current and future demand

Technical, professional, or cross-cutting green skills could be provided by a wide variety of skills providers such as initial, formal education and training providers; employment services and related training providers; and private training providers/sectoral training providers. The aim is to stimulate different skills development providers to take action and cooperate to increase the provision of green skills (technical, professional and cross-cutting) to address the current and future demand. An important additional aspect of the strategy is to strengthen the cooperation both within and between the worlds of education and work

Specific objective 3: Encourage individuals to reflect on their own skills and develop green skills to support future-readiness

The third specific objective focuses on individuals, thereby acknowledging their key role in supporting the green transition through technical, professional, or cross-cutting green skills. The aim is to position them as agents of change by making them aware of the needs and opportunities related to green skills; to have them reflect on their future green skills needs; and to support them in acquiring green skills. Activities under this objective could contribute to fostering a positive image in engaging in developing green skills through additional training. This objective covers (future) workers and Flemish citizens in general, but specifically targets those individuals for whom green skills development can provide an opportunity to enhance their employability, which is important for those further from the labour market (unemployed or inactive) and more vulnerable groups (e.g. young people, NEETs (Not in Education, Employment or Training), 55+).[7] This objective also targets traditional gender roles in green jobs and aims to make green jobs more attractive to girls and women.

Specific objective 4: Improve the governance of the Flemish actors to create an enabling environment for the strategy's implementation

The Strategy should be implemented by all relevant public and private stakeholders. This requires building a structure for cooperation and coordination between public and private actors that can create an enabling environment for the successful implementation of the strategy. It enables the monitoring of day-to-day progress towards the objectives defined and creates the structure to determine the agenda of concrete follow-up activities beyond the activities already suggested in the roadmap linked to this strategy.

[6] See for instance Trinomics (2022), Final Report on Green Skills Need in Flanders: (Deliverable 2), REFORM/SC2021/111. This study identifies in particular the existing work on the manufacturing sector, or specific attention to STEM skills, which are of particular relevance also in the context of the green transition (page 50).
[7] Boey, R. & Vansteenkiste, S. (2022). Trendrapport 2022: Kwetsbare groepen op de Vlaamse arbeidsmarkt.

Glossary on green transition, jobs and skills

- **Green transition**: In accordance with the EU-level definition used in the EGD, green transition is defined as the '*transformation of the EU into a modern, resource-efficient and competitive economy, where (…) economic growth is decoupled from resource use*'.[8]
- **Competence**: Demonstrated ability to use knowledge, know-how, experience, and – job-related, personal, social or methodological – skills (or abilities), in work or study situations and in professional and personal development. Note that competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects – including technical skills – as well as interpersonal attributes (e.g. social or organisational skills) and ethical values, which can be summarised by the term 'attitudes'.[9]
- **Skill**: The ability to apply knowledge and use know-how to complete tasks and solve problems. [10]
- **Green skills:** Green skills refer to skills which contribute directly or indirectly to the green transition and are comprised of several types of skills and competences, namely:
  - Technical skills and competences (specific to occupation),
  - Professional skills and competences (these can be applied across occupations, for example analytical or management skills) and
  - Cross-cutting skills and competences (these are to be adopted by society in a broad sense in order to enable the green transition, for example understanding of sustainability or lifelong learning).[11]
- **Green jobs:** No universal definition has been identified. A categorisation of 5 different types of jobs that contribute to the green transition (Green Increased Demand (Green ID) jobs, Green Enhanced Skills (Green ES) jobs, Green New and Emerging (Green NE) jobs, Green Rival Jobs and Other Non-Green Jobs) used by the European Commission has been identified:
  - **Green Increased Demand (Green ID)** jobs are existing jobs that are expected to be in high demand due to greening, but do not require significant changes in tasks, skills or knowledge. These jobs are considered indirectly green because they support green economic activity, but do not involve any specifically green tasks (e.g. bus drivers as key actors in public transport, counted in the occupational category 'bus drivers, transit and intercity', as well as e.g. renewable energy engineers, sales and marketing professionals, organic agriculture farmers, etc).
  - **Green Enhanced Skills (Green ES)** jobs are existing jobs that require substantial changes in tasks, skills and knowledge as a result of greening (e.g. electric vehicle electricians, counted in the occupational category 'automotive speciality technicians', but also construction workers, architects, urban planners, teachers, human resource professionals, etc).
  - **Green New and Emerging (Green NE)** jobs are unique jobs (as defined by worker requirements) created to meet the new needs of the green economy. (e.g. fuel cell engineers, counted in the occupational category 'engineering professionals' as well as e.g. sustainability auditors and sustainable finance experts).
  - **Green Rival Jobs are non-green jobs** that are 'similar' to one of the three 'green' job categories, either because they involve very similar tasks or (in the case of new employees) because they require similar skills and other worker attributes. They are likely to be affected by the greening of the economy because of their similarity to existing green occupations (e.g. lorry drivers, industrial engineers in fossil-

[8] Cedefop (2021). The green employment and skills transformation: insights from a European Green Deal skills forecast scenario.
[9] Cedefop (2014). Terminology of European education and training policy. Slightly adjusted in reference to the definition of competence as used in the EQF (European Parliament and Council (2017), on the Council Recommendation of 22 May 2017, on the European Qualifications Framework for lifelong learning and repealing the Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning.
[10] Cedefop (2014). Terminology of European education and training policy.
[11] Competences are a combination of knowledge, skills and attitudes while skills amount to only one aspect of competences.

fuel-based production or investment managers concentrating on non-green economic sectors and criteria other than sustainability).

- **Other Non-Green Jobs** are non-green jobs that are less likely to be affected (at least in the short term) by the greening of the economy, because of their lack of similarity to green occupations (including perhaps occupations such as notaries, medical doctors and pharmacists or nurses).

2 The green transition as opportunity

The green transition offers opportunities for the Flemish labour market and economy, both in terms of job creation and economic growth. With an estimated 80 000 additional jobs created by new opportunities and demands in Belgium, and many more jobs facing new or additional skills requirements[1], Flanders has an opportunity to reap the benefits of the Green Transition while strengthening the resilience of its workforce, including those in the social economy and those that are currently not employed.

With European-level strategies, policies and targets in the EGD, the importance of working on cleaner environment, more affordable energy, and smarter transport will only further increase. Citizens in the meantime show an increasing societal awareness and support for the green transition, with increasing numbers calling for accelerating the transition.

2.1 Green skills create opportunities for Flanders

Flanders can benefit from the green transition, both in terms of job creation and economic growth. The study on the green transition defines four ways in which the green transition can impact the Flemish labour market. Firstly, it is expected to lead to the creation of new jobs within certain (sub-)sectors; secondly, opportunities for workers to remain within sectors are likely, but taking up different types of jobs; thirdly, certain jobs or entire subsectors will disappear, requiring workers to change economic sectors to remain in employment; and finally, the tasks and activities of existing jobs will change or expand, including the required skills.

A flagship Cedefop study into the impact of the EGD on skills predicts a positive net effect on employment in the EU-27 of around 3.7%.[12] A Eurofound study from 2019 highlights that among EU Member States, **Belgium has the highest projected growth in employment between 2020 and 2030 as a % difference compared to the baseline.**[13] It is estimated that approximately 80 000 jobs are created in Belgium by 2030, the majority of which will be in the construction sector and processing industries (mainly intermediary goods). While in the overall economy the current share of green jobs is estimated at roughly 26%, this share is expected to grow substantially in the coming years, and already lies considerably higher for these sectors mentioned.[14] This underlines the potential for further investments, particularly in those sectors that are known to be impacted by the green transition. In the transport sector an asymmetric effect is predicted: certain jobs will be lost due to lower demand for maintenance of private vehicles, while other activities such as communal transport services will expand.

The impact of the green transition will not only differ across sectors, but also across regions. Regions with a high concentration of energy-intensive industries will face greater losses than regions with a more diverse economy.[15] Another beneficial effect on labour will be caused by the additional government revenues from a carbon tax which can be expected to reach 3.5 billion euro yearly by 2030. If this was reinvested in lowering labour costs, even more jobs would be created.[16] Additionally, the circular economy employment index is increasing faster than the average Flemish employment index.[17]

[12] Cedefop (2021). The green employment and skills transformation: Insights from a European Green Deal skills forecast scenario.
[13] Eurofound (2019). Energy scenario: Employment implications of the Paris Climate Agreement.
[14] Trinomics (2022), Report on Green Skills Need in Flanders, developed for DG REFORM / DWSE.
[15] De Smet, L. & Lamberts, M. (2012). De transitie van België naar een koolstofarme samenleving in 2050: De uitdagingen voor tewerkstelling, vorming en opportuniteiten voor kmo's.
[16] Climact (2016). De macro-economische impact van de koolstofarme transitie in België.
[17] Willeghems, G. & Bachus, K. (2019). Modelling job creation in the circular economy in Flanders.

Other studies reach similar conclusions with job creation of more than 30 thousand jobs predicted by 2030.[18] In general, studies expect a net increase in jobs due to the circular transition even though some existing jobs will be lost (job substitution) and some sectors will undergo job transformation (change in tasks).

2.2 Legislative, societal and ecological pressures to invest in the green skills transition

The green transition is being driven by three main external forces, namely EU legislative and policy efforts, public opinion, and global ecological necessity.

At EU-level, the **European Green Deal** (EGD) is the EU's main strategy to transition the EU economy to a sustainable economic model, which is the **driving force behind the green (skills) transition**. The overarching objective of the EGD is for the EU to become the first climate neutral continent by 2050, resulting in a cleaner environment, more affordable energy, smarter transport, new jobs and overall better quality of life. There are a number of elements of the EGD with specific targets that will have a direct impact on the sectors relevant to Flanders, namely, industry as a whole, construction, transport and the agricultural sector.[19] For example, in the construction sector the Greenhouse Gas emissions and energy consumption of buildings are to drastically decrease. In the transport sector, the EU Strategy for Sustainable and Smart Mobility aims to decrease emissions from the EU's transport sector by 90% by 2050, with concrete 2030 targets (e.g., 30 million zero-emission cars, high-speed rail transport or sustainable fuels for aviation/maritime transport). Industry as a whole will also be touched by decarbonisation efforts, from the Circular Economy Action Plan (which aims to increase the lifespan of products in order to alleviate pressure on natural resources) to the Emissions Trading System, which aims to encourage industry to reduce emissions more quickly. These ambitions have been further translated into the **European Climate Law,** which entered into force in 2021.

Specifically related to green skills, the Council of the European Union adopted a Council **recommendation to stimulate learning for the green transition and sustainable development,**[20] which recommends establishing learning for the green transition and sustainable development as one of the priority areas in education and, subsequently, stimulating and supporting the learning environment and resources and making relevant information available. In addition, in February 2023 the European Commission presented the Green Deal Industrial Plan to enhance the competitiveness of Europe's net-zero industry and support the fast transition to climate neutrality, highlighting the importance of green skills and proposing specific actions to develop green skills. This includes **establishing** Net-Zero Industry Academies **to** roll out up-skilling and re-skilling programmes in strategic industries.[21] These changes and others all provide a major impetus to the green transition in the EU and, by extension, Flanders.

Among European citizens, there is **an increasing societal awareness and support for the green transition**. As revealed by the 2022-2023 European Investment Bank (EIB) Climate Survey[22] a majority of EU citizens (84%) believe that we need to drastically reduce energy consumption and approx. 50% agree

[18] Willeghems, G. & Bachus, K. (2019). Modelling job creation in the circular economy in Flanders.
[19] Specifically, the EU targets relate to sustainable industry; buildings and renovations; sustainable mobility; and farm to fork.
[20] Council of the European Union (2022). Council adopts recommendation to stimulate learning for the green transition and sustainable development.
[21] COM(2023) 62 final. A Green Deal Industrial Plan for the Net-Zero Age.
[22] European Investment Bank (2022). Majority of Europeans say the war in Ukraine and high energy prices should accelerate the green transition.

that the green transition should be accelerated. Stakeholder opinions collected for this project also show there is awareness among relevant Flemish stakeholders of the need to focus on the green transition and their willingness to participate in it.

Underlying the legislative and societal pressure for the green transition, there is an **ecological necessity**. Scientific evidence confirms that climate change and biodiversity reduction are man-made and that action is needed to deal with their impact.[23] These actions are agreed at a global level via the United Nations climate action framework.[24]

[23] See latest IPCC report: IPCC (2023). Assessment Report 6 Synthesis Report.
[24] United Nations. Website: Climate Action.

3 The green skills challenge

The green transition is hampered by the green skills challenge: there are green skills gaps in specific sectors and generally across the economy and society. At the same time, the lifelong learning culture could be strengthened to stimulate people to invest in green skills development. Such learning does not need to focus on completely new jobs or entirely new skillsets; much can be gained by addressing 'greening' in relation to the application of existing skills in new 'green' contexts.

While the green transition offers opportunities and is needed from a societal perspective, there is a general acknowledgement of a skills gap in the Flemish working population. Furthermore, the lifelong learning culture could be strengthened to develop the green skills for the future. Together, these two factors constitute the '**green skills challenge**'.

3.1 The green skills gap in Flanders

The green transition is widely expected to have a **significant impact on skills needs;** a total of 26% of existing jobs are expected to see significant impacts from the green transition.[25] For Flanders as a whole, substantially new and enhanced skillsets will be crucial for an estimated 16% of all jobs in Flanders, though with considerable variation between sectors (see Annex B for more specific breakdowns). Another 6% of jobs are estimated to face significant increased demand, resulting in additional employment opportunities. Finally, 4% can be classified as new and emerging jobs, which will help address the needs of the green transition. To respond to each of these three types of impacts, workers in these jobs depend on extensive learning and / training towards several **specific technical skills** (e.g., Science, Technology, Engineering and Mathematics (STEM) skills) or professional skills that will be increasingly required for these new green jobs or green tasks.

Beyond these additional needs for specific technical skills, the Flemish economy at large will require changes to **existing skills in any occupation or building on smaller adaptations of existing skills to 'green' them. The impacts of the green transition are not expected to be limited to technical know-how;** broader generic skills and competences (such as ecological consciousness, communication skills, etc.) will also be increasingly important across many non-green jobs and across society more broadly. Altogether, this calls for an increasingly complex and expanding set of skills for the Flemish workforce in order to successfully carry out their jobs. This offers a wide range of opportunities but also carries the risk that employees with lower qualifications struggle to adapt and keep up. The digital transition poses similar, perhaps even more serious challenges of this nature. The risk of greater societal inequality if people cannot 'keep up' with these new needs is therefore real and warrants our full attention.

A number of economic sectors can be highlighted, due to the anticipated impacts of the green transition on the technical and professional skills required for jobs in those sectors, as well as the associated aggregated impacts of these sectors on employment in Flanders:

- *Construction sector*, which is facing two challenges, namely i) the **existing gap in workers and issues finding staff**, combined with ii) requirements for **new skills** (including complex skills).
- *Energy & utilities sector* is expected to grow in certain aspects and, as such there will be a need for **skills** related to specific technologies.

[25] Trinomics (2022). Final Report on Green Skills Need in Flanders: (Deliverable 2), REFORM/SC2021/111.

- The *Circular economy* sector is also expected to grow significantly, which will result in creation of new jobs and demand for new skills. According to a 2019 study, in the circular economy, the highest potential for increased employment is in machinery repair sectors, rental and leasing, and repair. However, these are relatively small sectors, and the study mentions (lower) potential also exists in the following larger sectors: sewerage, waste management and remediation activities and motor vehicles, wholesale waste and scrap, and second-hand retailers.[26]
- *Manufacturing & energy-intensive industries*, where considerable impacts are expected. All types of skills are expected to be required within this sector, especially **STEM.**

By definition, the impacts of the green transition are not limited to this selection of sectors. Other sectors, such as agriculture and agri-food or logistics and transport are also expected to face considerable impacts from the green transition. However, these are comparatively smaller sectors in terms of employment in Flanders compared to those mentioned above, responsible for 2% and 6% of total employment in Flanders respectively. As such, the overall impacts of anticipated changes to the technical and professional skills in those jobs on overall employment in Flanders remain more limited, even if large changes to the technical and professional skills required within the sector are foreseen. In other sectors, such as the services sector, the impacts of the green transition are estimated to be comparatively less fundamental, and for this reason they are not mentioned in the list above.

To conclude on the green skills gap in Flanders, there is only a limited need for completely new green skills (with some exceptions, for example in the circular economy sector), while 'greening' is related more to applying existing skills in new 'green' contexts.

Annex B summarises the results of the quantitative analysis of green skills needs in Flanders.

3.2 Developing a lifelong learning culture in Flanders

Developing a **lifelong learning (LLL) culture in Flanders** is one of the key priorities as identified in the Vision 2050[27], and has been shaped by the LLL Action plan, developed by the Lifelong Learning Partnership.[28] It finds that employees are often not sufficiently intrinsically motivated[29] or externally incentivised to pursue lifelong learning to further (upskill) or redirect (reskill) their careers. More efforts will be needed to access the entire work force and increase everyone's resilience to the impacts of the green transition, which is the scope of this Strategy. Additionally, companies will need to increase their awareness and knowledge of the green transition and its impact on their operations and employees. Amid the 47 actions included in the LLL Action Plan, it seeks to develop a **harmonised system for certifying skills,** which could lead to increased recognition of the efforts made and thus increase the attractiveness of learning in general, but also increase the potential mobility between jobs. This high-level Strategy can complement such efforts by encouraging stakeholders to include a green perspective in such actions. To **facilitate adult learning** and combining a job with an education, hybrid learning, e-learning and dual learning could be further explored. Other innovative approaches could make learning more attractive and accessible using cutting-edge technologies such as augmented

[26] Willeghems, G. & Bachus, K. (2019). Modelling job creation in the circular economy in Flanders.
[27] Vlaamse Regering (2016). Visie 2050 – Een langetermijnstrategie voor Vlaanderen.
[28] Vlaamse Regering (2021). Actieplan levenslang leren, Koers zetten naar een lerend Vlaanderen.
[29] Van Langenhove, H., Penders, I., Sourbron, M., & Vansteenkiste, S. (2020). Monitoringsrapport opleidingsdeelname en de opleidingsinspanningen van werkgevers in Vlaanderen.

reality, virtual reality.[30] To conclude, the lifelong learning culture in Flanders could be strengthened, further stimulating the acquisition of new skills and the application of new skills in a labour market context. The High-Level Strategy on green skills seeks to further support this strengthening, targeted support that aims at complementary measures to the objectives and actions already initiated.

[30] Garcia, C. (2022). Green Manufacturers Are Discovering the Merits of Augmented Reality Green Manufacturers Are Discovering the Merits of Augmented Reality.

4 Embedding the high-level strategy in the policy context: related policy initiatives

The green transition is prioritised in a large number of existing high-level strategies and policies. Additionally, numerous public and private initiatives already exist to improve green skills development in Flanders. However, there is scope for linking these two, and presenting an explicit strategy that lists how Flanders will be able to respond to the green skills challenge in the face of the accelerating green transition. The high-level strategy proposed seeks to complement existing initiatives and bring together the various efforts related to green skills in one place. This helps ensure applying the focus on the development of a lifelong learning culture towards the relevant skills of the future, while strengthening the cooperation between education providers and the labour market.

4.1 Flemish policies that shape an enabling environment for green skills development

Several high-level strategies and policies exist in Flanders that target the labour market and education system with the aim of shaping an environment conducive to the development of green skills in the short, medium and long term. This strategy aims to complement such efforts, by raising additional attention to the green skills component. To outline the scope for such complementary actions, this section therefore reviews existing policies that shape an enabling environment for green skills development. These are discussed below under the headings of general climate and industry plans; education, training and lifelong learning plans and plans fostering closer collaboration between education and the labour market.

General climate and industry plans

To prepare for and accelerate the green transition, the Flemish government has established several policies, some of which were influenced by the European Green Deal. In 2019, a **Flemish Energy and Climate Plan** (*Vlaams Energie- en Klimaatplan, VEKP*) for 2021-2030 was adopted. A revision of the recently validated VEKP is planned in the coming years to incorporate the new European Green Deal ambitions and targets. A portion of the budget from the Climate Fund has been made available to achieve the eleven climate engagements by the ministry of education (e.g., climate trajectories in school curricula and a STEM-climate project for students). More specifically, one focal point is to strengthen the population's knowledge on climate and green skills. This was foreseen to be done by establishing a **taskforce on 'climate and education'** to provide educational actors with streamlined information on climate and the environment. The taskforce could provide educational tools to schools, establish a training course for teachers and create an educational working package on climate for specific courses in the secondary education system. In higher education, the operations of institutions will be analysed and green topics will increasingly be included in curricula.[31] Finally, the fourth Flemish strategy sustainable development (approved in 2021) identified seven priority areas including circular economy, energy and climate and mobility.[32]

Jobs and competences are identified as accelerators for the circular transition in the '**Roadmap Circular Economy 2020-2030**'. The government announced plans to train people in eco-design, the sharing economy and new business models. Some of the circular economy activities are compatible with

[31] Vlaamse Regering (2019). Vlaamse Energie- en klimaatplan 2021-2030.
[32] Vlaamse Regering (2021). Vlaamse strategie duurzame ontwikkeling.

employment opportunities for vulnerable groups in the social economy. They also emphasise a need to stimulate young people through challenges, awards and bootcamps.[33] In addition, a specific working group on jobs and skills has been established by DWSE to support the green transition, focussing on jobs and skills.[34]

The **'Visie 2050 - long-term strategy for Flanders'** describes the major trends that will affect Flemish and international markets[35] including climate change and resource depletion. One of Flanders' priorities under the strategy in order to respond to these transitions is to establish a lifelong learning culture and stimulate dynamic and resilient employees through a prioritisation of adult learning, upskilling and reskilling.[36] The **'Vizier 2030'** interconnects the Flemish Vision 2050 and the United Nations Sustainable Development Goals (UN SDGs). Related to SDG 4, one of the aims is to enhance lifelong and life broad learning by offering training and courses that provide a solid basis of knowledge, skills and attitudes which, besides increasing competences, strengthen resilience and societal participation.[37]

The '**Policy note 2019-2024 - Work and Social Economy**' contains the major strategic choices of the Flemish minister for Economy, Innovation, Work, Social Economy and Agriculture. Significant transitions such as digitalisation, globalisation and climate change will cause structural changes to the Flemish labour market. The green and circular transitions with new and green products and processes will create new jobs and initiate shifts within and between sectors. Several competences will be essential to fill these new jobs and the note mentions STEM-skills, digital skills, non-cognitive skills and the capacity to learn and adapt.[38]

Education, training and lifelong learning plans

Lifelong learning and recognition of competences gained through different means can help the working-age population by increasing their productivity and personal growth; becoming more flexible and more broadly employable; managing their skills and mobility; and easing their (re)introduction into the labour market. In this way, green skills and knowledge can continuously be added to employees' basic knowhow. This will facilitate the mobility of employees from sectors that are hit the hardest by the green transition to sectors with more opportunities.[39]

The '**Action plan on lifelong learning**' underlines that Flanders has been slow in developing a lifelong learning culture. The action plan is part of the **'Partnership lifelong learning'** and contains the following actions which are meant to achieve the lifelong learning goals: (1) building knowhow; (2) raising awareness and mobilising people; (3) giving competences a central place in the economy and society; (4) increasing support and guidance; and, (5) stimulating collaboration and partnerships. An essential element will be to develop 'transversal skills' which can be used in diverse contexts.[40] The action plan also supports the objectives related to lifelong learning in the **'Policy note 2019-2024 education'**.[41]

[33] Vlaamse regering (2020). Een transversale werking voor de circulaire economie van Vlaanderen.
[34] Vlaanderen Circulair (n.d.). Hefboomwerking Jobs & Vaardigheden.
[35] Vlaamse Regering (2016). Visie 2050 – Een langetermijnstrategie voor Vlaanderen.
[36] Vlaamse Regering (2016). Visie 2050 – Een langetermijnstrategie voor Vlaanderen.
[37] Vlaamse Regering (2019). Vizier 2030 – Een 2030-doestellingenkader voor Vlaanderen.
[38] Vlaamse Minister van Economie, Innovatie, Werk, Sociale Economie en Landbouw (2019). Beleidsnota 2019-2024 Werk en Sociale Economie.
[39] Nationale Arbeidsraad & Centrale raad voor het bedrijfsleven (2010). Een geslaagde overgang naar een koolstofarme economie - tweede advies over de thematiek van de groene jobs.
[40] Vlaamse Overheid (2021). Actieplan levenslang leren – Koers zetten naar een lerend Vlaanderen.
[41] Vlaams minister van Onderwijs, Sport, Dierenwelzijn en Vlaamse Rand (2019). Beleidsnota 2019-2024 Onderwijs.

The **'Strategic literacy plan for 2017-2024'** addresses the weak literacy and digital skills of sub-groups in society. The interconnection of digital and green skills is mentioned extensively. The strategy also highlights the importance of ensuring that all sub-groups of society can take part in the job market and contribute to the green transition. This includes young people in secondary school, underprivileged people and job seekers. (Digital) literacy is an important building block to acquire other skills.[42]

The Flemish government has introduced several initiatives to strengthen adult education and facilitate the upskilling and reskilling of the workforce. One example is the **reform (2019) to make higher vocational education** completely part of higher education by transferring the responsibility for it from Centres for Adult Education towards university colleges. Another key tool was the entry into force of the **'Workable Work law'** in 2019. This replaced the legal obligation for employers to spend a share of the wage cost on training with the obligation to provide an average of five days training per year instead.[43]

The **'STEM Agenda 2030'** is a strategy to stimulate young people to choose STEM education, professions and careers to address the mismatch in demand & supply for technical occupations. In addition, it aims to strengthen the skills needed for STEM in broader society by focusing on so-called STEM-literacy. The agenda mentions that STEM competences are important to reach the EGD ambitions and especially to enlarge the Flemish circular economy. The governance structure of the STEM-agenda aims to create sufficient alignment with flanking themes such as digitalisation, entrepreneurship, the European agenda, Flanders plan for economic recovery[44], basic literacy, science communication and lifelong learning.[45]

The **'Competentieversterkende trajecten'** is an initiative of the VDAB (*Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding*) which aims to help lower-skilled adults to reach a minimum level of literacy, numeric and digital skills as well as improving their broad skillset. These competence enhancing trajectories have been established as a component of the European Skills Agenda – Upskilling Pathways: new opportunities for adults. The project trains job seekers while participating in the labour market through, for instance, temporary employment and local job placements.[46]

Plans fostering closer collaboration between education and the labour market

Sector covenants are collaboration agreements between the Flemish government and the sectoral social partners with the aim of aligning the educational system and the labour market, with particular emphasis on lifelong learning and diversity. These exist for a large number of sectors including construction, industry, services, sales and logistics.[47] The Flemish government monitors and evaluates all sector covenants annually. One of the more recent additions to these sector covenants concerns dual learning, where the government provides financial support for the sectors to establish a dual learning framework (combined training in secondary school and at the workplace). This is intended to improve the alignment between the needs of the sectors and the training or education provided by the educational system.[48] SERV also supports intersectoral cooperation through its action plan.[49]

[42] Departement Onderwijs en Vorming (2016). Strategisch Plan Geletterdheid.
[43] OECD (2019). Skills Strategy Flanders: Assessment and Recommendations.
[44] Vlaamse overheid (2020), Relanceplan Vlaamse Regering – Vlaamse Veerkracht.
[45] Vlaamse Overheid (2021). STEM-agenda 2030.
[46] VDAB (2018). Jaarlijkse beleidsmatige planning.
[47] Vlaamse Overheid. Website: Overzicht van sectorconvenants en addenda.
[48] Vlaamse Overheid. Website: Sector convenants.
[49] SERV (2021). SERV (2021). Actieplan intersectorale werking.

The Flemish **'Partnership dual learning'** was created to facilitate cooperation and alignment between all the partners involved. It regulates the recognition of companies as learning places of sound quality, it monitors implementation of apprenticeship agreements, it informs companies about dual learning and supports companies in providing apprenticeships.[50]

[50] Vlaamse Overheid (n.d.). Vlaams Partnerschap Duaal Leren en sectorale partnerschappen.

4.2 Public and private initiatives in support of green skills development

There are several ongoing initiatives in Flanders to promote green skills or skills related to the green transition as well as initiatives that try to address the skills mismatches and shortages on the labour market. This high-level strategy aims to make links between these, bring the key actions under one heading and complement existing efforts with a specific new focus. The box below provides an overview of some of these initiatives.

Overview of Flemish green skills initiatives

- **STEM-platform**: Established to ensure the coherent and correct implementation and follow-up of the STEM-action plan and functions as an advisory body to the Flemish government for all matters concerning STEM skills.[51]
- **Brightlab**: This private organisation works as a STEM education lab which prepares young people for the challenges of the 21st century with stimulating, powerful and innovative STEM education. They use a 'teach the teacher' approach: By focusing on providing the necessary skills and knowledge to teachers, the initiative hopes to reach as many students as possible and motivate them to pursue STEM-trainings and futures.[52]
- **Moonshot**: This is an innovation programme from the Flemish government to achieve a carbon neutral industry by 2050. The programme (financially) supports research and innovation initiatives in cooperation with some spearhead clusters to make Flanders' industry so-called carbon circular and CO_2 poor by 2050. They identified four research pathways/themes which can be supported by five competences (enablers) for which top-expertise is present in Flanders: conversion technology, separation technology, predictive technology, energy storage and energy transport.[53]
- **Young Talent Lab**: An initiative of Essenscia (the sector-federation of the chemical and life sciences industry) to foster a conversation between Flemish youth (between 17 and 30 years old) and chemical/pharmaceutical managers and CEOs about climate and sustainability.[54]
- ***Talentenfabriek***: This organisation is an expertise hub where several partners combine their knowledge, people and resources. The partners are: VDAB and the training funds Co-valent and mtech+. They try to increase the influx of employees into shortage occupations of the industrial sector with a special focus on vulnerable groups.[55]
- ***Industrie 4.0 Proeftuinen***: This platform of the Flemish government uses demonstration videos and living labs to show how companies in diverse sectors, from agriculture to chemicals, can optimise their processes with innovative technologies (e.g. augmented reality, IoT sensors and collaborative robots). These also enable employees to accept and implement these technologies and provide them with the necessary skills. The optimisation can be applied to all types of processes within the organisation, including green transition processes.[56]
- **Competent**: This is a database managed by the VDAB that contains professional competency profiles, describing which activities are performed in professional contexts and what someone needs to know and be able to do in order to adequately carry out the activities. It is used by VDAB to match jobseekers with vacancies based on skills requirements, in addition to the traditional qualification and work experience requirements.[57]

[51] Departement Onderwijs en Vorming. Website: STEM-platform en -stuurgroep.
[52] Brightlab. Website: Over Brightlab.
[53] VLAIO (2020). Website: Moonshot: Vlaanderen CO2-arm in 2050. & Vlaamse Overheid (2019). Vlaams Energie en Klimaat Plan.
[54] Essenscia. Website: Young Talent Lab: jongeren in dialoog met ceo's over klimaat en duurzaamheid.
[55] Talentenfabriek. Website: Over Talentenfabriek.
[56] Vlaamse Regering. Website: Ontdek de industrie 4.0-proeftuinen in Vlaanderen.
[57] VDAB. Website: Beroependatabank Competent.

- **Circular Ambassador Programme**: A training programme from Circular Flanders that combines knowledge with skills to train participants to become Circular Ambassadors. This project is currently in its early phase in Belgium, and expected to expanded to the EU as a whole.[58]
- **MOOC for education professionals**: To teach teachers about circularity and the green transition by means of self-paced education. This is to provide them with knowledge and to enable them to translate this knowledge into the courses and trainings they give to students. This project from Circular Flanders was rolled out in 2022.[59]
- **SCOPE**: A programme from the Flemish government in cooperation with the European Social Fund to assist recognised organisations (representing sectors or a cluster of companies) with strategic forecasting of competences. This led to eleven so-called focus studies (2017-2019) from innovative business networks and spearhead clusters where they established the impact of digitalisation, automation and other trends on competences and jobs specific for their sectors and activities. The studies can be used by the sectors to anticipate their green skills needs.[60]
- ***Duurzaam Educatiepunt***: This organisation is responsible for supporting people who are active in the field of sustainability education. They organise training courses and networking and inspiration days, provide coaching and advice on sustainability education upon request. They also do research as a centre of expertise, write publications on sustainability education and develop innovative supporting educational materials.[61]
- ***HYLAS and Techno Trailer:*** These are initiatives of the Province of Antwerp that target young teenagers by introducing them to STEM skills and jobs through challenged based and hybrid learning experiences. A central theme for both is to provide information and stimulate enthusiasm amongst young teens for study courses relevant to the green skills transition. HYLAS combines digital, (simulated) workplace and classroom learning experiences to introduce young teens to relevant professions for the green transition in construction while teaching STEM and sustainability curriculum goals. A pilot on bio-based circular building at Kamp C will be implemented in the spring of 2023.[62] The Techno Trailer brings STEM to primary schools in an exploratory way, digitally and with a truck that provides didactic materials supported by industrial sectors.[63]
- ***KMO-Portefeuille***: The instrument from VLAIO that funds training and the provision of advice for SMEs has been revised by the Flemish government in 2022 to a more narrow focus on future-oriented themes, of which sustainable development is a core topic.[64]

[58] Vlaanderen Circulair. Website: Circular Ambassador Program.
[59] Source: Stakeholder interviews.
[60] Vlaamse Regering. Website: Kennisplatform Departement Werk en Sociale Economie.
[61] Departement Omgeving. Website: Duurzaam educatiepunt.
[62] Provincie Antwerpen. Website: HYLAS.
[63] Provincie Antwerpen. Website: Techno Trailer.
[64] VLAIO (2022). Bijsturing kmo-portefeuille: meer aandacht voor beleidsprioriteiten en kwaliteit.

5 A call for action – responding to the identified challenges

The envisaged change process[65] underlying this strategy is that through **raising awareness** and providing specific (financial) **support**, companies, skills development providers and the Flemish government are encouraged to support the green skills transition. Their engagement should, through **knowledge exchange** and peer learning, result in the involvement of even more companies and skills development providers. Hence, the actions do not aim at directly reaching all companies or skills development providers in Flanders at once, but aim to do this gradually, by working with front-runners that already work on green skills development at the national and international level. From there, the strategy aims to work towards reaching a tipping point, where an increasing number of previously 'non-engaged stakeholders' also become involved in the green skills transition, while in turn incentivising others.

The implementation of the strategy depends first of all on **improving the capacity of stakeholders** in Flanders to put in place the activities foreseen.[66] It proposes a governance structure that seeks to facilitate the coordination between the different actors and the actions to be undertaken, and allows the coherent linking of more specific actions to this Strategy's high level vision. The governance structure will enable bringing together relevant governmental stakeholders and represent stakeholders from the world of work (unions, employer's organisations, sectoral funds) and the world of education and training (learning providers) as well as other key stakeholders from civil society to facilitate cooperation and coordination of actions. In addition, the Strategy foresees **support for specific activities (in relation to education and encouraging job creation**), which are presented in more detail in the operational Roadmap for Green Skills**.** Such actions are subsequently complemented by actions in the field of **promotion and awareness raising**, as well as actions related to **knowledge sharing and peer learnin**g.

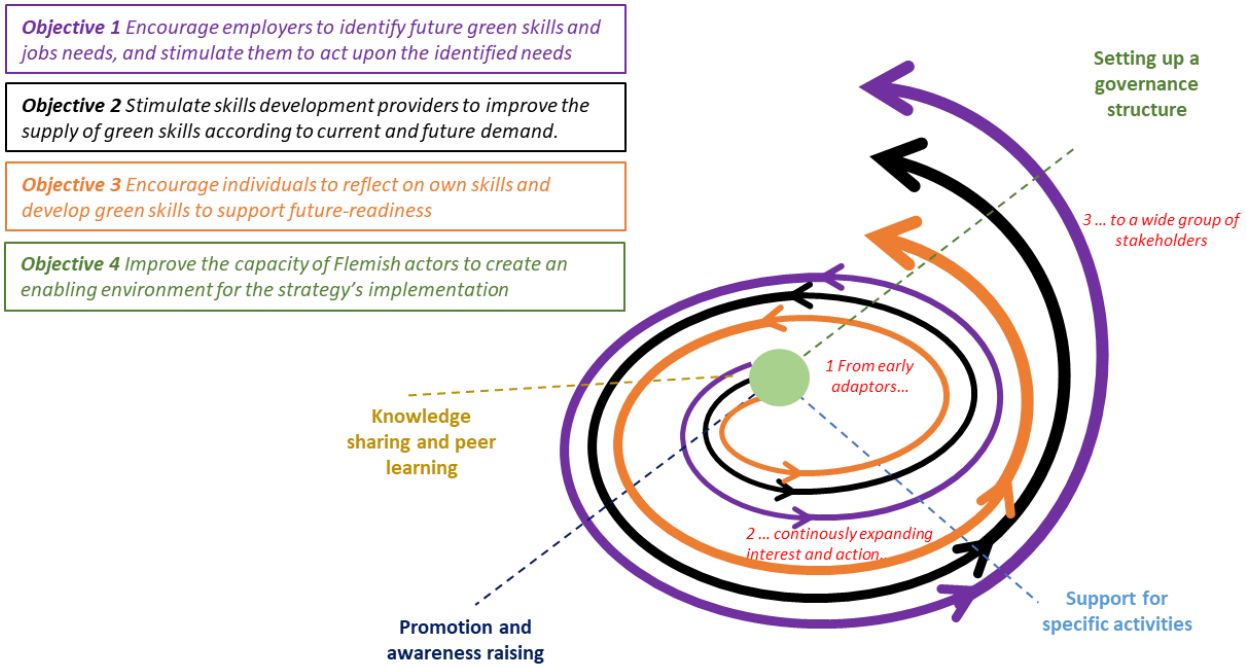
While the strategy is primarily directed at all sectors and covers all green skills, it prioritises specific sectors for the implementation of actions. This enables these specific sectors to effectively function as front-runners, pilots or exemplary sectors. While the Strategy aims for an intersectoral approach, in the short term, the activities can be primarily targeted on the following (clusters of) sectors (technical and professional skills and green competences):

- **The construction sector** could illustrate how a sector-specific approach could work on solving existing shortages of skilled workers and all employees requiring new skills.
- **The energy & utilities sector** could illustrate how the sector-specific approach could support the growth of the sector by recruiting more workers with the right skills specific to individual green technologies as well as generally applicable professional skills.
- **The circular economy sector** could illustrate how the sector-specific approach could support creation of new jobs and respond to new skills demands.
- **The manufacturing & extractive industries sector** could illustrate how a sector-specific approach could work, mainly focusing on the up-skilling and re-skilling of employees. Actions should – among others –focus on attracting employees with sufficient STEM skills which are also in high demand in other sectors.

[65] The envisaged change process is developed by Trinomics/Ockham IPS based on the inputs of the consulted stakeholders on barriers and actions.
[66] The governance structure will be further developed in the forthcoming report on the governance framework, Deliverable 6 of this project.

The figure below shows the envisaged change process of continuously expanding interest in, and action on, green skills by companies, skills development providers and the government. The types of actions are presented in the figure. In the remainder of the chapter, the actions are further detailed with examples of existing practices in boxes. This approach is based on the best practices analysis conducted by the project team before drafting this strategy document.

Figure 5-1: Envisaged change process



5.1 Setting up a governance structure - Improving the coordination among Flemish stakeholders to respond to the green transition

The first dimension of activities presented in this strategy contributes to the Strategy's objectives by bringing together relevant stakeholders in an institutional format that could help steer, coordinate and align the activities to foster an enabling environment for the successful implementation of the strategy. Identified barriers underlying the work in this area concern uncertainties about the policy direction of the public sector in response the green skills agenda, as seen in fragmented policies and limited specific attention for Green Skills development in Flanders. Having the right governance structure in place is a cross-cutting objective that will help implementation of the other activities regarding promotion and awareness raising, financial incentives and knowledge sharing and peer learning exchanges, as presented below.

As already shown above, a large variety of public and private actors have stakes in green skills development. Successful implementation of this Strategy therefore depends on these actors working together in a coherent manner and forming a clear vision. From the side of the public sector, multiple departments and agencies should be involved to ensure buy-in from all relevant stakeholders. Beyond the Flemish government, the contribution of labour market actors and the education and training systems in the fields of environment, energy, economy, innovation need to be mobilised. Through such a structure, the work of participating organisations (unions, employers' organisations, sectoral funds, learning providers) and other key civil society stakeholders can be coordinated and further aligned.

Some inspiring examples are presented below of different ways in which multi-stakeholder coalitions can be brought together around (similar) strategies and objectives.

Sweden (Gothenburg region):

- The Region of Gothenburg runs a business unit (Business Region Gothenburg) which has the objective of making Gothenburg a European metropolitan region that: i) is the best at retaining competence and attracting talent; ii) offers the best preconditions for high and sustainable growth; and iii) has the best climate for entrepreneurship and innovation. It has defined the creation of 120 000 new jobs by 2035 as a quantitative target. Focus areas relevant to the green transition are:
  - Developing school-entrepreneurial collaboration throughout the entire education system.
  - Developing the possibility for Vocational Education and Training (VET) and lifelong learning at working places.
  - Enable better matchmaking and faster validation of (green) skills.

Ireland:

- The Irish Green Building Council[67] was set up including organisations and businesses across the value chain of the built environment, and with NGOs and local authorities. The Council's aim is to provide a source of leadership for sustainability and quality in the built environment, to promote and assist in the provision of credible metrics for measuring progress towards the end goal of sustainability, and to be a source for companies transitioning their activities towards more sustainable practices.

France:

- In France a national climate conference has been held annually since 2012 as a follow up to the round table discussions taking place 15 years ago, where green skills was one of the topics. Linked to this initiative are a number of inter-ministerial professional advisory committees, managed by the Ministry of Education, set up to discuss – among others – the issue of green skills in the context of designing new education programmes and adapting existing ones to labour market needs.[68]

Germany:

- In Germany, developing training programmes for the supply of green skills is based on social dialogue and consensus. The "National Action Plan on Education for Sustainable Development" offers favourable guidelines for a growing public awareness and an increasing supply of relevant educational opportunities. The Action Plan provides an example of linking higher level goals to concrete action of various stakeholders. It recommends the establishment of collaborative structures between the institutional actors that form Education for Sustainable Development landscapes, such as municipal administrations, educational institutions and schools, vocational training or universities, and the field of nonformal and informal education, offered for instance by civil society organisations.

5.2 Support for specific activities

A second strand of actions helps put in place the conditions for contributing to the overall objectives. The actions provide more specific attention to the incentives necessary to facilitate the green transition and consists of financial measures and subsidies, as well as non-financial measures. The Flemish strategy for European investment funds (*Europa Werk en Sociale Economie*, or Europe WSE) is a key building block that offers European co-financing opportunities that can be linked to this Strategy on a wide range of actions that can be undertaken by Flemish public and/or private stakeholders.

[67] IGBC. Website: Irish Green Building Council.
[68] Cedefop (2022). Skills anticipation in France (2022 Update).

Activities can focus on skills development providers, companies and their sectoral representatives as well as workers and learners directly. The activities can respond to identified challenges beyond awareness and seek to offer additional support to more substantial issues for which companies, labour market organisations, skills development providers and the Flemish government need to invest to find a solution. The strategy also seeks to position the role of social economy entities in this larger framework. The development of additional (financial) incentives can stimulate developments in this area. Some examples are presented below of support mechanisms as inspiration for developing specific activities and incentives in Flanders. While support measures that flow from this Strategy are conceptualised to be open to all sectors and companies (and specifically aim to support SMEs), it can be imagined that priority is given to (clusters of) sectors where most impact is expected in terms of green transition, namely, the construction sector, the utilities sector, the manufacturing & energy-intensive industries sector, and the circular economy.

Flanders:

- The strategic exploration of the future skills needs in the battery value chain takes a broad perspective on skills, listing future demands for essential (battery specific) skills and competences, and more generic, cross-cutting competences, as greening plays a role in both. This project was funded by Europe WSE, which is an actor who regularly provides funding for projects that aim to expand the knowledge base on green skills and stimulate their development.[69]

Sweden:

- In the region of Gothenburg local cooperation was sought to improve competitiveness and innovation, bringing together the region, the City of Gothenburg and commercial partners, including Nothvolt, who – in collaboration with Volvo cars are seeking to establish a new battery factory with 3 500 employees. In combination with setting a quantitative target for the creation of green jobs (providing the focus), and active development of cooperative partnership between the City of Gothenburg, the Region and the private partners involved (providing the network), local partners have taken initiatives to build and attract talent. These efforts include the establishment of a new training centre. In addition, they seek to attract foreign talent with a new high quality international school and the set-up of an international house / meeting place for international workers, to help them integrate in Swedish society.

France:

- When looking at supporting pilot programmes, the French approach is to establish a strategy and roadmap for solving the skills shortage issue and stimulating job creation in the energy efficient renovation of buildings. Alliance Ville Emploi and ADEME[70] set up a pilot programme and acquired the funding for developing employment and energy renovations of buildings in the region of Cambrai. They implemented a tool for mobilising all the stakeholders in Cambrai in order to initiate and support a dialogue. Together, they, anticipated and calculated both skills and employment market needs to improve the energy performance of buildings according to national policy targets. They succeeded to provide the adequate workforce to implement locally the national renovation policy and to meet energy performance targets. Based on this pilot and the lessons they learned from implementation, they were then able to develop a nation-wide strategy.

Netherlands:

- '*Nationaal Groeifonds*' is a Dutch fund with the aim of investing in projects that foster economic growth. For the period 2021-2025, a total of €20 billion has been made available for this fund. The main areas of focus are Research and Development and Innovation (R&D&I); and knowledge development. For the first area, several priorities have been established, of which the relevant ones are: energy and sustainable development; agriculture and the environment; mobility; and key technologies. The second area contains education and lifelong learning as priority investments. This fund is a good example of public-private

[69] Flux50 (2023). Strategische competentieprognose van de batterijwaardeketen in Vlaanderen.
[70] For this project, a study visit took place to France where we visited both Alliance Ville Emploi and ADEME. They provided us with more details on their roadmap and pilot project which is reflected in this paragraph. For the full description of this initiative, one of the preceding reports of this project 'Best Practices Report' can be consulted.

partnerships and how the government can stimulate projects and investments from the private sector in specific areas, such as green skills development.[71]

Ireland

- In **Ireland**, businesses (both large and small) collaborate through an array of networks, to address their (green) skills needs. One of the ways in which this collaboration is facilitated, is with the Green Tech Skillnet.[72] This network has a focus on the renewable energy and green technology sectors and is co-funded by the National Training Fund and private employers.

5.3 Promotion and awareness raising

This type of action contributes to both objectives by **making green skills better known, more visible, better integrated in education and training offer, and finally better valued.** A general tendency that is observable throughout the identified barriers is that among different target groups (companies, learners, workers, institutions and education providers), green skills are not well understood and their value for the economy, society and on the labour market is not fully recognised. The high-level strategy aims at convincing companies of the necessity and the benefits of investing in future green skills and jobs and emphasises that the green skills transition is not only about greening, but also about making companies, institutions and workers ready for the future. Therefore, it is important to mainstream green skills among different target groups, making them aware of what green skills are and how they are beneficial for individuals, companies and society at large. Different types of green skills can be important for different target groups. Generally, the following headline messages can be communicated related to the different green skills:

- The lack of **specific technical green skills** hampers the further development and sustainability of some companies. The green transition calls for specific new (green) skills and fulfilling new (green) jobs.
- The green transition needs greener approaches within existing jobs, calling for **greening professional skills** in order to make greener choices in professional activities.
- The green transition calls for a change of mindset amongst all citizens in terms of considering sustainability issues and considering continuous learning and updating of competences (knowledge, skills and attitudes). Citizens need **cross-cutting competences related to a green and future-oriented mindset.**

Flanders:

- Small-scale initiatives to promote green jobs already exist. These initiatives can be used as inspiration for a wider campaign. Some examples are:
  - Reset.Vlaanderen is an organisation which brings together several partners from civil society and NGOs with the aim of realising the just sustainability transition in Flanders and is funded by the Flemish government and its agencies. It conducts research, implements projects, informs the broader public and organises training around four main themes: circular economy, affordable and sustainable energy, just financing and a democratic support base.[73]
  - Djapo is an initiative that tries to enhance citizenship competences in Flanders. This includes technical competences but is mostly focused on stimulating interdisciplinary thinking, system thinking, etc. The focus of the campaign is on preschool, primary and secondary education and uses a 'teach-the-teacher'

[71] Rijksoverheid. Website: Nationaal Groeifonds.
[72] Skillnet Ireland. Website: Green Tech Skillnet.
[73] Reset.Vlaanderen (n.d.). Portfolio.

approach by providing class templates, training and teaching materials about societal challenges such as climate change, social justice and human rights.[74]

Finland:

- A change in mindset can be achieved by introducing sustainability topics from a young age in education. Finland introduced sustainability as an integral part of education from an early age on, and made green topics an integral part of teaching materials in vocational schools, which are measures that will eventually stimulate the transition towards a workforce with green competences and skills.

EU level:

- The Green Skills in VET project (Erasmus+: 2017-2019)[75] had the following objectives: increasing the quality of green skills vocational education and training, increasing the awareness of VET system regarding Green skills education and to increase the awareness of policymakers, VET trainers and VET students, employers in the sector on green skills. Its actions included analysing the curricula for construction workers on green skills.[76]

5.4 Knowledge sharing and peer learning

The final area for action presented in this strategy contributes to the Strategy's objectives by putting in place the means for **different stakeholders to share experiences with those working on green skills, to be informed about good practices and to benefit from peer learning.** Such knowledge sharing is understood to include the sharing of data, knowledge and concrete experiences between institutional actors, for instance on green skills. A number of identified barriers concern the fact that existing information (i.e. SCOPE studies) is not sufficiently utilised and that platforms lack the ability to share experience on what works. The high-level strategy therefore focuses on establishing mechanisms to exchange practices and have companies and skills development providers capitalise on the experiences and lessons learned elsewhere. In addition, this dimension of actions is also conceptualised to include encouraging the ongoing communication and cooperation between education and employers, with a particular focus on teachers and trainers. Integrating green skills in all levels of education and in VET specifically, requires support for continuous professional development through which such interactions can be built and nurtured.

Germany:

- Industry organisations and individual companies often enter into partnership arrangements to develop green skills. Companies participating in such partnerships can act as frontrunners in green production processes and set ambitious standards in green skills for their employees, which can act as an inspiration for other companies. For instance, in Germany the chemical industry established a sustainability initiative, Chemie3, a joint venture at sector level with the sectoral industry association, the trade union and the respective employer association.[77] Its goal is to anchor sustainability as the guiding principle in the chemical industry.

Denmark:

- Regional cluster organisations played a central role in facilitating growth in the maritime sector in Northern Jutland. They acted as knowledge platforms by sharing knowledge from different industries. Their roles in the change process have been that of (i) vision brokers (transmitting future-oriented ideas and boost related thinking); ii) mentors (who counsel, coach and advise but who are not actively engaged in a change process by themselves); and iii) support agents (who provide support in terms of funding, building new infrastructure and provide support in orienting navigating through regulations).

[74] Djapo. Website: Education for sustainable development.
[75] Green Skills. Website: Green Skills project.
[76] Green Skills project (2017). Comparative report about the curriculums for construction workers on green skills.
[77] Chemie3. Website: Chemie3.

Sweden

- The 'Competence Hub' is a platform which concerns re/upskilling in critical sectors, targeting employees in the various sectors (automotive, transport, industry, trade & hospitality). The main objective is to reduce the gaps between education providers and companies. The region of Gothenburg in Sweden has shown that creating a network at a regional level and stimulating the cooperation between actors (companies, government, and schools) can contribute to overall green skills development.[78]

[78] For this project, a study visit took place to Sweden where we visited the Region of Gothenburg. They explained at that moment how they bring different actors together and create efficient networks. For more details, one of the preceding reports of this project 'Best Practices Report' can be consulted.

Annex A: Approach to arrive at this strategy

The strategy is developed in the context of the European Commission DG Reform project 'Green Skills Roadmap for Belgium' (REFORM/SC2021/111), implemented by Trinomics together with Ockham IPS under the supervision of DG Reform and DWSE. The sections below briefly indicate the basis on which the chapters of the strategy were drafted, making use of the various research and consultation methods applied within the DG Reform project and that were previously reported on in the following deliverables (which have been validated and approved by DG Reform and DWSE):

Chapter 1: Vision statement and objectives

The vision statement and objectives of the high-level strategy are developed based on the input obtained in the consultations with stakeholders (see Stakeholder consultation report: Deliverable 4). In particular, stakeholders were asked to provide their views on a number of broad directions that the strategy should take, which offers a blueprint for further development. For this purpose, a survey was designed in which the stakeholders were asked to indicate their preferred orientation related to two opposing options. In short, the suggestions from respondents indicate that the strategy should orient towards:

- Increasing green awareness broadly, but in doing so also looking at developing and using specific technical and professional green skills.
- Striving, in solving existing problems (short-term), to create sustainable frameworks to solve future problems (long-term).
- Showing ambition, setting concrete and achievable actions and goals, with freedom for sectoral and provincial / local interpretation.
- Being an interdepartmental strategy to which many different stakeholders can commit to, and in which existing silos that hamper cooperation, are broken down.

These orientations were then, by the Trinomics team, taken as starting point to develop a coherent vision statement, objectives and envisaged change process.
The glossary included in chapter 1 is derived from the report 'Report on Green Skills Need in Flanders'(Deliverable 2).

Chapter 2: The green transition as opportunity

This chapter forms together with chapter 3 the problem statement of the high-level strategy: seeing the green transition as opportunity for job creation, but at the same time acknowledging that the skills are missing to turn the transition into an opportunity. The text is inspired by the analyses included in the report 'Report on Green Skills Need in Flanders'(Deliverable 2, mainly section 2.1 and 2.2). Furthermore, additional desk research was conducted to highlight the European level developments related to the Green Deal and the societal development related to attention to greening and sustainability.

Chapter 3: The green skills challenge

This chapter is drafted on the basis of the analyses presented in the report 'Report on Green Skills Need in Flanders'(Deliverable 2, mainly chapter 3 and chapter 5). This chapter on the green skills challenge echoes the main conclusion of the report, namely that there is a skills gap in the Flemish working population and a lack of a lifelong learning culture in Flanders.

Chapter 4: Embeddedness of the high-level strategy in the policy context: presentation of related policy initiatives

The mapping of existing initiatives was conducted and presented in Report on Green Skills Need in Flanders'(Deliverable 2). When drafting the high-level strategy, this information was further updated with new information on green skills initiatives provided by DWSE.

Chapter 5: A call for action.

This chapter builds on the barriers as identified by the stakeholder consultation activities and presented in the Stakeholder consultation report: Deliverable 4. Further analysis is conducted on the extent to which these barriers are already somewhat covered in existing initiatives and what additional action needs to be taken to overcome the barriers. The Stakeholder consultation report: Deliverable 4 also already collected possible actions in response to the identified barriers. These actions were suggested by the stakeholders involved in the stakeholder consultation workshops. Furthermore, the Best Practices Report: Deliverable 3 highlights various initiatives in other countries that could be inspirational for solving some of the challenges identified. The results of the analysis of these inputs are presented in this chapter, linked to a broad outline of possible actions and identified good practices.

The team prioritised the stakeholders-suggested actions in the light of the ambition and vision for the strategy (in line with chapter 1 and the underlying sections in the Stakeholder consultation report: Deliverable 4). Furthermore, the actions do refer to the three different types of green skills (technical, professional and cross-cutting competences). The strategy is regarded as a framework strategy, providing a conducive environment for different sectors and stakeholders to work on green skills. The strategy is therefore open to any sector. While it does not provide a prioritisation in terms of sectors, the strategy does indicate which sectors could be targeted by specific actions.

Linking to roadmap for action – actions suggested by stakeholders

The following table provides an overview of barriers, suggested actions by stakeholders, and the proposed actions in the strategy. As separate deliverable to this strategy, the implementation roadmap for the Green Skills Strategy builds on these suggestions. Follow-up workshops and interactions with stakeholders have been organised to prioritise actions, further develop coherence and align as much as possible in line with the suggestions received.

Barriers prioritised for action	Suggested actions	Proposed actions
Employers and companies (particularly SMEs) do not reflect sufficiently on future green skills needed for their businesses, or do not see an economic advantage / business case	• The Flemish government could start a campaign towards companies (including SMEs) in which they are sensitised to reflect on future challenges. This can be accompanied by providing a Horizon-scan (a tool on a dedicated website) and can be linked to other initiatives included in the roadmap. Governments (at various levels of government) could also more explicitly emphasise the need for companies to invest in green skills of their employees, for instance in requirements for public procurement or in project-related work. • At sectoral level: opportunities can be offered to incentivise companies to conduct a Horizon-scan to identify key future challenges and discuss ways how these challenges affect the companies and the employees. Companies can use this to reflect on their own position and actions to take to face these challenges including on skills, through encouraging recurring training to employees on green skills, ensuring a green mindset and keeping up with developments, aligned with the priorities defined in Flanders' Action Plan on lifelong learning. The government can support this by bringing together different future-oriented documents and provide an online platform for the sectors to share their Horizon-scans. Sector-specific organisations could further clarify what sector-specific regulations and procedures mean for green-skills demands for employees in their sector, increasing the relevance of investing in green skills.	• Launch of a broad community-level awareness raising campaign on green skills. • Identifying and supporting front-runner companies and sectoral organisations.
Stakeholders do not perceive the urgency to actively support green skills development.	• Financial incentives can be provided by the government, possibly through intermediary organisations, to companies and sectors to develop green-skills strategies informing green-skills training of employees. This would have a short-term effect, creating a group of front-runners. Special attention should be given the SMEs and offering opportunities of peer learning. The intermediary organisations should not only provide financial support, but also serve as knowledge-hubs for companies to want to engage in developing green-skills. • The Flemish government will have to develop a coherent story-line on how investing in green skills and the green transition is of benefit for the individual, the company, the sector and society as a whole. This story-line should not be different per department. It should be fuelled with examples and good practices from companies, sectors and education and training programmes.	• Launch of a broad community-level awareness raising campaign on green skills.

Barriers prioritised for action	Suggested actions	Proposed actions
Insufficient opportunities exist to exchange learnings and (best) practices between the different sectors.	• Government can provide an online platform to bring together all information concerning the strategy, the commitments of key stakeholders and the implementation of the strategy and lessons learned. It should also contain examples of good practices. • Government could support peer learning activities within and between sectors facilitating that representatives of companies and sectors visit other companies to see how they deal with the green transition and supporting green skills development.	• Further build on sector / education covenants to solidify cooperation on matching supply and demand of green skills. • Identifying and supporting front-runner companies and sectoral organisations. • Setting up an online central hub with all information related to the campaign on green skills. • Setting up thematic networks between (VET) skills development providers and the world of work. • Promoting the use of existing information and knowledge.
The education system is not flexible enough to anticipate on changing skills needs in a timely manner.	• A first element that can be considered is to improve incentives for offering short training courses for adults. Such courses can respond more quickly to new demands, and also integrate new insights on green skills in a more effective and timely way than traditional education programmes can. An example is a recent VDAB-led initiative to offer short and targeted trainings to unemployed and inactive in specific sectors[79]. This would require improving the financial incentives for employers and training providers to offer training courses that integrate green skills in work-place learning. Such a measure could also integrate recent initiatives by the VDAB to offer courses with green skills components. • Apprenticeships are often mentioned by stakeholders as means to ensure relevance of educational programmes to ensure jobs, even when curricula are not regularly updated. Similarly, such flexibility can be increased through 'dual teaching' programmes, where VET teachers combine teaching with an industrial posting in an area of green skills. Increasing the attractiveness of such modalities would crucially depend on participation by VET providers	• Promote (vocational) education and training programmes for specific green occupations. • Further build on sector / education covenants to solidify cooperation on matching supply and demand of green skills. • Setting up thematic networks between (VET) skills development providers and the companies.

[79] See for instance https://www.vdab.be/opleidingspremies

Barriers prioritised for action	Suggested actions	Proposed actions
	(limiting the number of teaching hours), as well as buy-in from employers. A first attempt to operationalise this could be explored through a targeted government subsidy in a pilot sector with a focus on green skills, where staff exchanges can be organised at a small scale, thus reducing the impacts on teaching (in the VET provider) and productivity (in participating enterprises).	• Integrate green skills in existing (vocational) education and training programmes and future revisions.
A lack of time, knowledge and resources for teachers to develop competences and skills regarding sustainability topics which are rapidly evolving.	• Addressing the limited time available for continuous professional development of teachers is one of the main bottlenecks of the activities in this area. It depends on the active buy-in of VET providers, as well as staff representatives to revise internal processes that allow prioritising additional training of green skills and competences. This could be achieved through (additional) targeted subsidies targeted at the institution, possibly in combination with personal (financial) incentives to teachers themselves to engage in parts of the training also outside workhours. • Providing the content: Kenniscentra (sectoral knowledge centres) for specific sectors already play a role in informing enterprises about sectoral developments, which can include green skills. Public financial support can help to open doors and actively encourage knowledge centres to offer dedicated sessions to (VET) teachers in that sector as well. To reduce the direct burden on such kenniscentra, such training can be organised through a 'train the trainer' approach, through which master trainers follow up with additional training to their peer-teachers within their institutions. As such, success depends on the active buy-in of VET providers as well. • There is scope for designing a short Continuing Professional Development (CPD) training course for VET teachers on incorporating transversal green skills in competency-based teaching and training. Such a course could build on inputs from public and private stakeholders, such as Circular Flanders, sectors, and providers responsible for continuing professional development and teacher representatives, brought together under the framework of this strategy. With support from the Flemish government, such a course can be integrated in CPD programmes, as well as in initial teacher education programmes.	• Set up a public financial support scheme for skills development providers.
Insufficient cooperation between the education & training system and the labour market to develop lifelong learning initiatives to anticipate on green skills development.	• Setting up thematic networks between (VET) schools and industry around the area of green skills can increase interactions between industry representatives, teaching staff and VET provider management. Green skills can be used as the thematic focus around which such interactions can be set up. Such networks can offer the infrastructure to facilitate other activities suggested in	• Further build on sector / education covenants to solidify cooperation on matching supply and demand of green skills.

Barriers prioritised for action	Suggested actions	Proposed actions
	this strategy, incentivise reflections on the meaning and operationalisation of green skills in specific sectors and defining a response to that. • For the longer-term, joint work of all involved stakeholders on the revision of professional qualifications and curricula to better and more structurally embed green skills by representatives from industry and the VET sector can positively contribute to the positioning of green skills. This requires a more active role of specific sectors in the assessment of future skill needs and translation thereof into concrete educational learning outcomes. The extent to which education programmes include attention for green skills could be made visible by a third party, thus increasing the visibility of green skills for learners (and their parents, in the case of initial education) and prospective employers. • More short-term, such cooperation can be kick-started by (financial) support for education providers and sectoral representatives or individual companies to work on concrete common project. Stakeholders for instance suggested a pilot project of 'challenge-based learning', in which participating VET institution encourage students to select a regional challenge to address in an interdisciplinary way. Consider for instance how increasing the sustainability of houses in a city or region would involve the construction sector, as well as electricians and plumbers, to name a few. Through such a project-based approach, representatives of relevant economic sectors can be offered concrete means to interact with participating education provider(s).	• Set up a public financial support scheme for skills development providers.
Insufficient financing for innovative initiatives of skills development providers to develop green skills for learners and workers.	• The government, through intermediary organisations, can develop a funding scheme to develop/adjust and promote training programmes on specific green skills that are in need on the labour market and integrate the learners in the labour market. The funding scheme is available for sector organisations and groups of companies willing to invest in green skills and can be implemented through organisations that are directly cooperating with companies on the ground (e.g., NGOs, social enterprises and sector associations). It specifically targets SMEs. Also, some form of co-financing from companies is required and cooperation with education providers / Public Employment Services (PES) is a prerequisite.	• Set up a public financial support scheme for skills development providers.
A lack of visibility of the advantages of required green skills and jobs, particularly for youth, jobseekers and the 'inactive' working population.	• More attention could be given to green skills by more visibly integrating these in Vocational Education and Training (VET) programmes. The importance and relevance of green skills is further highlighted when VET programmes integrate both broad and job-specific green skills in learning outcomes. This would highlight explicitly that students will be expected to reflect on	• Launch of a broad community-level awareness raising campaign on green skills.

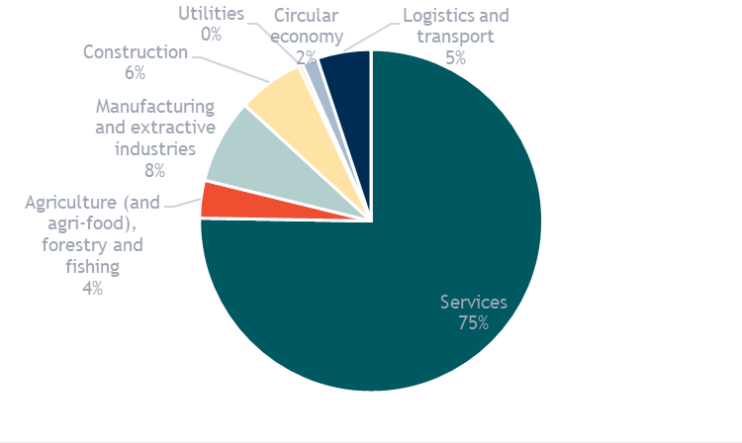
Barriers prioritised for action	Suggested actions	Proposed actions
	sustainability issues in the occupation and work more broadly (green awareness). Doing so will require working with the education providers (umbrella associations), who can take the lead in this, possibly supported by the government. • VET programmes training for specific green occupations that are in high demand can be better advertised and promoted among different target groups, also for instance by addressing the parents of potential VET learners. This could be picked up as a joint responsibility of the government, education providers and specific sectors. • Aspects of green skills and green awareness in an occupational context can also be better reflected upon in training programmes for unemployed and inactive persons. Such trainings are offered by the Public Employment Services (PES), the VDAB (Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding), who is therefore a central partner to work on this area. The content of existing programmes could be reviewed, also in close collaboration with the sectors involved. • Companies can strengthen their ecological branding by investing in green skills of their employees and emphasising how this supports the sustainability of the company and the societal challenge to become more environmentally sustainable. Companies and sectoral organisations could stimulate this. Even though some companies may not feel the need to invest in green skills, their client might do so. This argument can help to convince the 'laggard' companies that do not prioritise sustainability.	• Highlighting and promoting VET programmes for specific green occupations.
The role that the unemployed and inactive could play in the green transition is overlooked.	• Companies, together with the PES (VDAB) can develop training programmes leading to labour market insertion of those with a distance to the labour market. This can be supported by the previously mentioned funding scheme to develop/adjust and promote training programmes on specific green skills that are in need on the labour market and integrate the learners in the labour market.	• Set up a public financial support scheme for skills development providers.

Barriers prioritised for action	Suggested actions	Proposed actions
Political uncertainties due to fragmented and limited attention for green skills development in Flanders.	• Establish by the Flemish government a governance structure to coordinate the actions and implement the strategy and communicate the vision on green skills in an integrated way on behalf of the entire Flemish government. It can be imagined that multiple departments are involved to ensure buy-in from all relevant stakeholders. The governance structure should aim at bringing together relevant governmental stakeholders together and represent stakeholders from the world of work and the world of education and training to facilitate cooperation and coordination of actions. • The governance structure put in place would benefit from positioning the work of participating organisations (unions, employers' organisations, sectoral funds, learning providers) and other key civil society stakeholders into its vision and strategy development. • Specific attention could be given to supporting the interaction between industry (employers, including SMEs) and education providers in terms of matching supply and demand of green skills. This both in terms of developing and revising learning outcomes of qualifications and the provision of skills development (strengthening dual learning). The 'sectorconvenanten' could play a significant role in defining the cooperation between industry and education providers.	• Further build on sector / education covenants to solidify cooperation on matching supply and demand of green skills. • Establish a governance structure to coordinate the actions, implement and communicate the strategy. • Providing coherent and clear targets so that actors in the skills development field can be assured that the investments they make will pay-off in the long term.

Annex B: Summary dashboard of impacts of the green transition - Flemish employment and green skills needs per sector 2022-2030

In the report on the Flemish employment and green skills needs (deliverable 2), we used a forecasting tool to estimate the total employment in Flanders by 2030 for different sectors and the expected evolution in green jobs in each sector. The dashboard below presents an overview of the expected general changes in each sector such as retiring and job switching as well as the specific green jobs changes. The types of green jobs used are based on the glossary detailed in Chapter 1. However, first Figure 0-1 gives the overview of the expected division of employment between the different sectors. This is important to keep in mind when analysing the gravity of changes in certain sectors. For instance, when a sector is expected to undergo a significant increase in green jobs, but the sector represents only a very small share of employment in Flanders, the overall impact of the increased green jobs will be negligible.

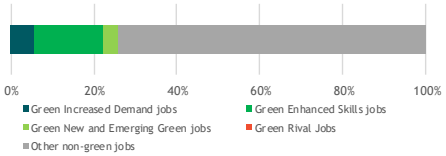
Figure 0-1 Estimated total employment in Flanders per sector by 2030



Total employment

2022	Change		2030
2 927 334 employed	154 230	5.3%	3 081 564 employed

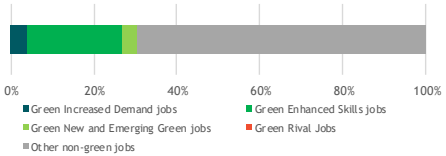
Also including:		Of which:		
Replacement demand (retirees)	741 228	Green Increased Demand jobs	173 901	5.6%
Replacement demand (job switching)	3 950 210	Green Enhanced Skills jobs	509 014	16.5%
		Green New and Emerging Green jobs	110 262	3.6%
		Total Green	793 177	25.7%



Agriculture (and agri-food), forestry and fishing

2022	Change		2030
111 877 employed	-1 880	-1.7%	109 997 employed

Also including:		Of which:		
Replacement demand (retirees)	32 232	Green Increased Demand jobs	4 225	3.8%
Replacement demand (job switching)	205 687	Green Enhanced Skills jobs	25 460	23.1%
		Green New and Emerging Green jobs	3 976	3.6%
		Total Green	33 660	30.6%



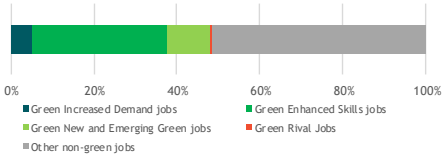
Key impacts of green transition:

- Impacted by climate change
- Not new jobs or skills - but increased complexity of existing jobs
- Awareness of green transition needs can be improved
- Increased need for transversal skills (problem solving, analytical, etc;)

Manufacturing and extractive industries

2022	Change		2030
264 598 employed	-18 429	-7.0%	246 169 employed

Also including:		Of which:		
Replacement demand (retirees)	62 768	Green Increased Demand jobs	12 825	5.2%
Replacement demand (job switching)	158 688	Green Enhanced Skills jobs	80 162	32.6%
		Green New and Emerging Green jobs	25 270	10.3%
		Total Green	118 257	48.0%



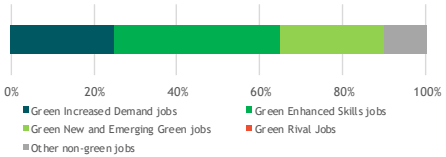
Key impacts of green transition:

- Highly impacted by green transition, risks for energy intensive indu
- Large upskilling needs across sector, especially for design and engineering, green business models, renewable energy, circular production
- Existing structural skills shortages, especially STEM, these needs will intensify

Construction

2022	Change		2030
186 274 employed	4 923	2.6%	191 198 employed

Also including:		Of which:		
Replacement demand (retirees)	44 519	Green Increased Demand jobs	47 799	25.0%
Replacement demand (job switching)	251 096	Green Enhanced Skills jobs	76 479	40.0%
		Green New and Emerging Green jobs	47 799	25.0%
		Total Green	172 078	90.0%

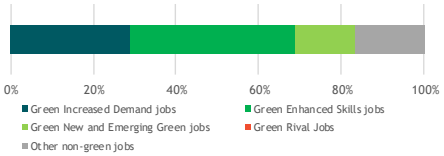


Key impacts of green transition:

- Highly relevant to green transition - major improvements to built environment needed
- Level of skills required increased across sector - more complex technical and green skills needed
- Existing structural skills shortages, large need for additional workers

Utilities

2022	Change		2030	
12 450 employed	-84	-0.7%	12 367 employed	
Also including:			Of which:	
Replacement demand (retirees)	3 206		Green Increased Demand jobs	3 574 28.9%
Replacement demand (job switching)	3 622		Green Enhanced Skills jobs	4 947 40.0%
			Green New and Emerging Green jobs	1 787 14.5%
			Total Green	10 308 83.4%

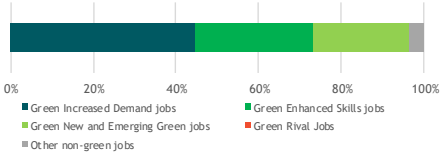


Key impacts of green transition:

- Crucial to green transition - heavily impacted
- Skills needs both technology specific and broader professional skills
- Job growth in certain parts of sector e.g. renewable energy, energy networks

Circular economy

2022	Change		2030	
37 611 employed	8 091	21.5%	45 702 employed	
Also including:			Of which:	
Replacement demand (retirees)	9 183		Green Increased Demand jobs	20 396 44.6%
Replacement demand (job switching)	35 822		Green Enhanced Skills jobs	13 062 28.6%
			Green New and Emerging Green jobs	10 607 23.2%
			Total Green	44 065 96.4%

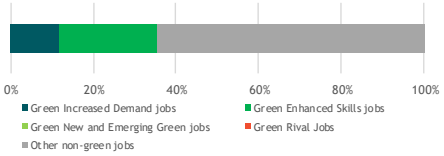


Key impacts of green transition:

- Significant positive impact on sector from green transition - largest grov
- Need for new skills combining traditional, novel, soft and hard skills
- Job creation and improved quality jobs expected

Logistics and transport

2022	Change		2030	
161 062 employed	-4 294	-2.7%	156 767 employed	
Also including:			Of which:	
Replacement demand (retirees)	49 256		Green Increased Demand jobs	18 443 11.8%
Replacement demand (job switching)	171 682		Green Enhanced Skills jobs	37 133 23.7%
			Green New and Emerging Green jobs	0 0.0%
			Total Green	55 576 35.5%

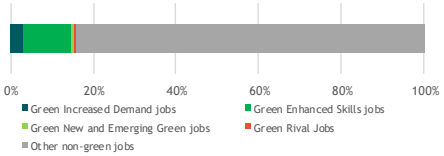


Key impacts of green transition:

- Transition will significantly impact vehicles, transport modes, infrastructure and behaviours
- Increased demand for existing skills profiles, highest technical skills demand amongst vehicle operators
- Existing labour shortages, ageing workforce and low influx of new workers

Services

2022	Change		2030	
2 153 461 employed	165 902	7.7%	2 319 364 employed	
Also including:			Of which:	
Replacement demand (retirees)	540 065		Green Increased Demand jobs	66 639 2.9%
Replacement demand (job switching)	3 123 613		Green Enhanced Skills jobs	271 771 11.7%
			Green New and Emerging Green jobs	20 823 0.9%
			Total Green	359 233 15.5%



Key impacts of green transition:

- Sector is largest, but least impacted by green transition
- Some specific occupations will see important impacts, especially in professional services e.g. finance, law, architecture, science, technical and engineering services
- Many high employment sectors will see minimal impact e.g. education, retail, healthcare

Trinomics B.V.
Westersingel 34
3014 GS Rotterdam
The Netherlands

T +31 (0) 10 3414 592
www.trinomics.eu

KvK n°: 56028016
VAT n°: NL8519.48.662.B01