European Energy Network

A voluntary network of European energy agencies

Green Jobs & Skills Challenges and Opportunities for Energy Agencies

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About the Study

This publication is an EnR study produced under the 2022 Presidency by ADENE, the Portuguese Energy Agency. It aims at providing the best available knowledge based on policy implementation across EnR member countries. The expressed conclusions do not imply policy positions of individual countries. The European Energy Network (EnR) or any person acting on behalf of EnR is not responsible for the use that might be made of this publication.

Contact information: EnR Regular Member: Luís Silva, Director of Cooperation and Institutional Relations (enr.presidency@adene.pt); Filipa Newton, Coordinator of New Systems (filipa.newton@adene.pt).

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Rapporteurs: Hélder Rodrigues[1], Mariana Simões[1], Vanessa Faia[1], Bruna Morais[1], Sofia Cordeiro[1], Filipa Newton[1]

[1]ADENE – Portuguese Energy Agency

Study Lead

ADENE, Portuguese Energy Agency

Steering Committee

ADEME, French Agency for Ecological Transition

CRES, Centre for Renewable Energy Sources and Saving, Greece

dena, German Energy Agency

EWA, The Energy and Water Agency

RVO, Netherlands Enterprise Agency

Surveys

AEA, Austrian Energy Agency

EST, Energy Saving Trust, United Kingdom

Institute for the Diversification and Saving of Energy, Spain

Motiva, Sustainable Development Company, Finland

Slovak Innovation and Energy Agency

Sustainable Energy Development Agency, Bulgaria

Swiss Federal Office of Energy

1 EXECUTIVE SUMMARY

The need to deliver energy transition and decarbonization at an unprecedented speed, as stated in emergency policy packages such as REPowerEU, leads to increasing disruptions in the job market, where the gap between the existing workforce skills and desired skills is widening, particularly regarding green jobs & skills. The European Commission Skills Agenda acknowledges this as an obstacle to overcome, towards EU's environmental, economic and social goals for the coming decades. This was also highlighted by President Ursula von der Leyen in her announcement of 2023 as the European Year of Skills**.** The present study makes a case for national Energy Agencies to get involved in the topic, in order to help other stakeholders, but also to better fulfill their own mission.

Literature research shows the growing importance of the topics of green jobs and green skills, as well as opportunities for national Energy Agencies to be more active as stakeholders, but also key players and enablers, working together with public and private sector. The current experience of the EnR member agencies and their inputs were collected through a survey, that allowed to depict the current involvement of the agencies on green jobs & skills development: their perceived opportunities, challenges and, in some cases, attributed responsibilities. A diverse set of case studies from Switzerland, Malta, Greece, Netherlands and France are reported, ranging from training programs designed for students or for life-long learning and vocational educational training in the construction sector, new professional profile creation, to national green job observatories. Parallel to these examples, a set of green job profiles that agencies are aware of, or have defined themselves in recent projects, are reported, also demonstrating the need for multidisciplinary approaches to tackle climate change mitigation and adaptation goals, including the water-energy nexus. These profiles have the potential to be implemented in several European countries (e.g., Water Efficiency Technician - WET, and Water Efficiency Expert - WEE, or burner installation and maintenance technician/specialist), fostering an accelerated transformation of the EU job market.

Despite of these successful examples, in a broader sense, national Energy Agencies and the main economic sectors involved in energy and climate transition, often overlook the skills and competences essential to completely fulfill their mission and to achieve energy and decarbonization targets. Nevertheless, Energy Agencies have a privileged position to ensure coherence between green skills' development & training and public policies or market instruments regarding energy efficiency, resource efficiency and water-energy nexus. This position allows them to facilitate articulation between stakeholders in the framework of existing networks and bring valuable contributions to the energy and other involved and/or impacted sectors. Amongst other things, this proactivity of Energy Agencies could allow to anticipate reskilling and upskilling needs, energy market trends, climate change impacts or legislative requirements that could otherwise harm public policy implementation and cause disruptions

in the job market. Energy Agencies shall contribute to ensure coherence across all EU and other European countries, enabling labour mobility in EU, through recognition of professionals in the European market.

To ensure that green jobs and skills are in the agenda of the European Energy Network (EnR) and all Energy Agencies, potential actionable recommendations are put forward, in different scopes (national, EnR or European), and aligned in five interlinked axes:

- **Anticipate** market needs
- **Develop** public policy fostering green jobs
- **Attract** talent and **Recognize** green skills
- **Monitor** and **Update** green skills & jobs
- **Promote** cross sectorial knowledge

Examples of the suggested actions include: carrying out or promoting monitoring surveys in the energy sector and other key sectors; stimulate public procurement rules that consider environmental criteria; encourage job offering platforms and employers to label green jobs or green areas/sectors; promote cross-sectorial stakeholder meetings on the topic; monitor the development of relevant professions and profiles.

2 FRAMEWORK AND OBJECTIVES

The Green and Digital transition must be socially just and anchored in new professional skills. The European Commission is placing skills at the heart of the EU policy agenda, steering investment to people and their skills for a sustainable recovery after the recent crises that struck the world and Europe in particular. Businesses need workers with the skills required to master the green and digital transitions, and people need to be able to get the right education and training to thrive in life. In July 2020, the European Commission launched the new European Skills Agenda for sustainable competitiveness, social fairness and resilience. It sets ambitious, quantitative objectives for upskilling (improving existing skills) and reskilling (training in new skills) to be achieved within the next 5 years. The aim is to help citizens and businesses to develop more and better skills, to strengthen sustainable competitiveness, ensure social fairness and build our resilience in the face of crises (such as the ones resulting from the COVID-19 pandemic, Russia-Ukraine war, or climate change).

The investments in professional competences foreseen in the European Skills Agenda are to be supported through the long-term budget, reinforced by the Next Generation EU. The European Energy Agencies should participate in this process, contributing and assuring coherence of green skills with public policies and market instruments on energy efficiency, resource efficiency and water-energy nexus. This alignment is key to fully address the challenges and seize the opportunities within the energy transition and climate adaptation, including multidisciplinary approaches beyond energy, such as the water-energy nexus. An important contribution to this alignment can be found in the results of the several projects developed by European Energy Agencies focused on new and necesssary skills for energy and water-energy nexus, particularly in buildings and cities. One of those projects – the WATTer Skills project – addressed, for the first time, new water-energy nexus skills needed in Building Construction and Retrofit, proposing two new green jobs applicable at a European level: Water Efficiency Technician (WET) and Water Efficiency Expert (WEE). These new profiles have the potential to strengthen climate transition within the European Skills Agenda.

This study aims at contributing to strengthening sustainable competitiveness, as set out in the European Green Deal and reinforced by the challenging ambitions set out in RePowerEU. The study highlights new green jobs needs, opportunities and challenges, building on the results of the several European Energy Agencies projects focused on training, upskilling and reskilling the labor market to enable energy transition and water-energy nexus, particularly in buildings and cities. One of the main goals is to foster dissemination of results and implementation, at the European level, of new initiatives, green jobs and green skills profiles, namely the ones developed by European Energy Agencies, such as the WATTer Skills roadmap, fostering new water-energy nexus skills to strengthen climate transition within the European Skills Agenda.

3 DEFINITIONS

Green Jobs

According to the International Labour Organization (ILO), “Green Jobs” are decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency.

Green Skills

According to the new European Skills Agenda, the European Commission adopts the terminology of “occupations”, based on the International Standard Classification of Occupations of the ILO, thus following the Green Jobs concept referred above.

The green transition requires investments in skills of people to increase the number of professionals who build and master green technologies, including digital, develop green products, services and business models, create innovative nature-based solutions and help minimise the environmental footprint of activities.

NACE System

NACE System is the “statistical classification of economic activities in the European Community” and is the subject of legislation at the European Union level, which imposes the use of the classification uniformly within all the Member States. It is a basic element of the international integrated system of economic classifications, which is based on classifications of the UN Statistical Commission (UNSTAT), Eurostat as well as national classifications; all of them strongly related each to the others, allowing the comparability of economic statistics produced worldwide by different institutions.

Green transversal skills

According to European Skills, Competences, Qualifications and Occupations (ESCO), the European Commission has published a taxonomy (classification system) of skills for the green transition in European Skills, Competences, Qualifications and Occupations (ESCO). It includes 381 skills, 185 knowledge concepts and 5 transversal skills, namely:

1) Adopt ways to foster biodiversity and animal welfare
2) Adopt ways to reduce negative impact of consumption
3) Adopt ways to reduce pollution
4) Engage others in environment friendly behaviours
5) Evaluate environmental impact of personal behaviour

ECVET

According to CEFEDOP, t'he European credit system for vocational education and training (ECVET) allows learners to accumulate, transfer and use their learning in units as these units are achieved. This enables building a qualification at learners' own pace from learning outcomes acquired in formal, non-formal and informal contexts, in their own country and abroad. The system is based on units of learning outcomes as part of qualifications that can be assessed and validated.

4 METHODOLOGY

The Steering Committee, composed of 6 EnR agencies (ADENE, Portugal; ADEME, France; CRES, Greece; dena, Germany; EWA, Malta; RVO, Netherlands), developed the Terms of Reference for this study, identifying scope and objectives.

A literature and technical information review was carried out in order to design a survey for EnR Energy Agencies, addressing current market gaps and how agencies envision the solutions to address them. This survey also aimed to gather information on existing studies or projects that are linked with the creation of new green job profiles or impact assessment on sectors that are within the scope of action of Energy Agencies, providing information on needs, expertise, and barriers.

The responses gathered in the survey (and also the information provided by agencies that declined to respond for lack of information or because the topic is outside its scope of action), allowed for an analysis of the current Energy Agencies' role in connecting energy and water efficiency market needs to the existing job market and its prospective development.

From this analysis, a set of strategic objectives and suggested actions were drawn, which can be adopted by different stakeholders, from Energy Agencies to national or European actors.

The recommendations were discussed at the EnR Thinking Group Meeting (TGM), held in Malta, on the 17th of October, 2022, under the motto "ReSkill to RePower". The discussion results were incorporated into the present final report. The TGM opened the discussion to relevant stakeholders, namely the European Commission (DG-EMPL and DG-ENER), the International Labour Organization, trade union representatives, and the local governments' perspective through the association Energy Cities. These different perspectives offer new light onto Energy Agencies' potential roles, and how they can better enable stakeholder engagement to meet the identified needs. From the discussion at the TGM, the set of conclusions and recommendations proposed in the study was updated.

5 ALIGNMENT WITH EUROPEAN POLICY PACKAGES

5.1 European Skills Agenda

The European Skills Agenda is firmly anchored in the European Green Deal, new Digital Strategy, and the new Industrial and SME Strategies, as skills are key to the success of these policy packages. The New Circular Economy Action Plan also highlights the key role of skills in the transition to a green economy. The green transition requires investments in skills, upskilling and reskilling people to increase the number of professionals who build and master green technologies (including digital), develop green products, services and business models, create innovative nature-based solutions and help minimize the environmental footprint of activities. In addition, as stated by the European Skills Agenda, Europe will only become a climate neutral continent, a resource efficient society and a circular economy, if it can promote an informed population and workforce that understands how to think and act green. Hence, Action 6 of the new European Skills Agenda aims at developing skills to support the twin transitions (green and digital), with a set of measures to be fostered by the European Commission, including:

- A definition of a taxonomy of skills for a green transition, allowing statistical monitoring of the development of relevant professions;
- The definition, with the Member States, of a set of indicators to monitor the evolution of green skills;
- The development of the European competence framework in education for environmental change, environmental issues, clean energy transition and sustainable development, which will define the different levels of green competence;
- Support for the development of a set of green skills essential for the labor market;
- Support for the integration of environmental and training aspects into the different levels of education and vocational training.

With these measures in mind, Energy Agencies have an important role to play, especially in regard to an active participation in the elaboration of guidelines to define each stakeholder's action, but also to profiling/skilling of green jobs and to promote the discussion between the stakeholders.

5.2 REPowerEU

In response to global energy market disruption caused by Russia's invasion to Ukraine, the European Commission presented the 'REPowerEU' plan. By taking action to end the EU's dependence on Russian fossil fuels, an opportunity arises to accelerate the energy transition and to tackle the climate crisis. To do so, the EU must join forces to achieve a more resilient energy system and a true Energy Union.

The measures in the 'REPowerEU' plan will boost the energy transition through energy savings, diversification of energy supplies, and accelerated roll-out of renewable energy to replace fossil fuels. Besides strengthening economic growth, security and climate action for Europe, these measures will create a huge opportunity to the creation and expansion of green jobs.

The Recovery and Resilience Facility (RRF) is at the heart of the 'REPowerEU' Plan, by supporting and financing cross-border and national infrastructures as well as energy projects and reforms. The Recovery and Resilience Plans (RRPs) of each Member State will also contemplate dedicated 'REPowerEU' reforms and investments to guarantee the achievement of goals, that are more ambitious than the ones set out in the earlier 'Fit for 55' package, which aims to reduce net greenhouse gas emissions by at least 55% by 2030.

The Commission proposes to enhance long-term energy efficiency measures, including an increase from 9% to 13% of the binding energy efficiency target under the 'Fit for 55' package of the European Green Deal. Regarding the production of energy from renewable sources, 'REPowerEU' predicts a massive scaling-up and speeding-up of renewable energy in power generation, industry, buildings and transport to accelerate EU energy independence, and to give a boost to the green transition. The Commission proposes to increase the headline 2030 target for renewables from 40% to 45% under the 'Fit for 55' package (Figure 1).

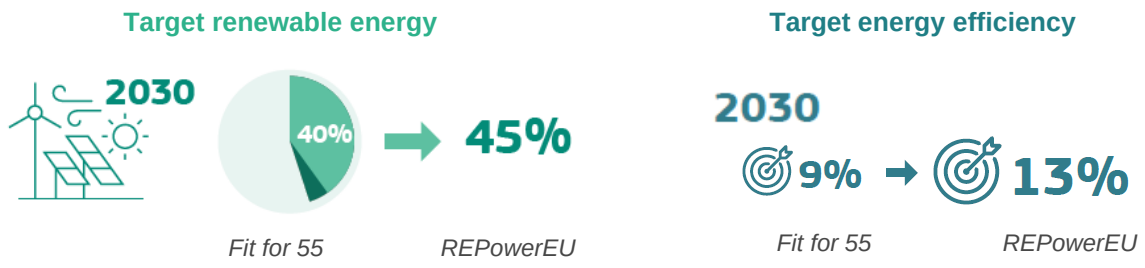

Figure 1 – Comparison of Fit for 55 and REPowerEU targets scheme

The medium-term objectives of 'REPowerEU' are aligned with the green transition and will therefore contribute to the creation and development of green skills and green jobs.

- New national ‘REPowerEU’ plans under the Recovery and Resilience Fund
- Encouraging industrial decarbonization from projects anticipated under the Innovation Fund
- New legislation and recommendations to accelerate and facilitate the licensing of renewable energy projects
- Investments in an integrated and adapted gas and electricity grid infrastructure
- Increase energy efficiency and renewable energy targets at EU for 2030
- New EU proposals to ensure industry's access to key raw materials
- Regulatory measures to increase energy efficiency in the transport sector
- Hydrogen accelerator to manufacture electrolyzers to provide the EU industry with the internal production of renewable hydrogen
- Modernization of the regulatory framework for hydrogen

The acceleration of such transition, if ill planned, will generate asymmetries between supply and demand of certain job profiles and ultimately endanger the desired timings for the transitions. The emerging job profiles and skills are vast and diversified, which entails a cross-sectorial approach to the problem, not only by public and private sectors, but also within different sectors of the economy in order to anticipate *winners & losers* and adopt mitigation measures early on.

The boost of both climate action and energy transition mandates the creation and expansion of green jobs, and Energy Agencies must play a role ensuring adequate and effective policies and actions towards effective implementation.

6 SURVEY RESULTS

To limit the scope of this study, an overlap between the economic sectors where Energy Agencies have a role and sectors where most green value has been added was made. By NACE activity, 40% of the green value added was generated in energy and water supply, sewerage and waste services (NACE D, E), 21% in construction, 19% in services, 12% in mining, quarrying and manufacturing and 7% in agriculture, forestry and fishing in 2017. By environmental domain (across NACE), 39% of the total green value added relates to energy management (doubling share since 2000), 27% to waste-, 13% to wastewater and 17% to other environmental protection. Thus, the sectors comprised in this study are four, accounting for the majority for the current green value added:

- Electricity, gas, steam and air conditioning supply
- Water supply, sewerage, waste management and remediation activities
- Construction
- Transportation and storage

The Survey aimed at accessing, not only ongoing projects regarding the topic, but also their, perceived challenges and opportunities at the national and European levels. To do so a qualitative analysis was used, mixing close-ended and open-ended questions. The obtained results are presented in the following sections.

6.1 Opportunities and solutions for green job and green skill training/upskilling stimulus

Energy agencies showed concern about the social fairness of the energy transition, about social challenges that may arise with it, indicating the need to predict and mitigate these effects. Nevertheless, they are confident that most sectors will show a net benefit from job greening, being transportation and storage the only sector of this study where concerns are visible (Figure 2).

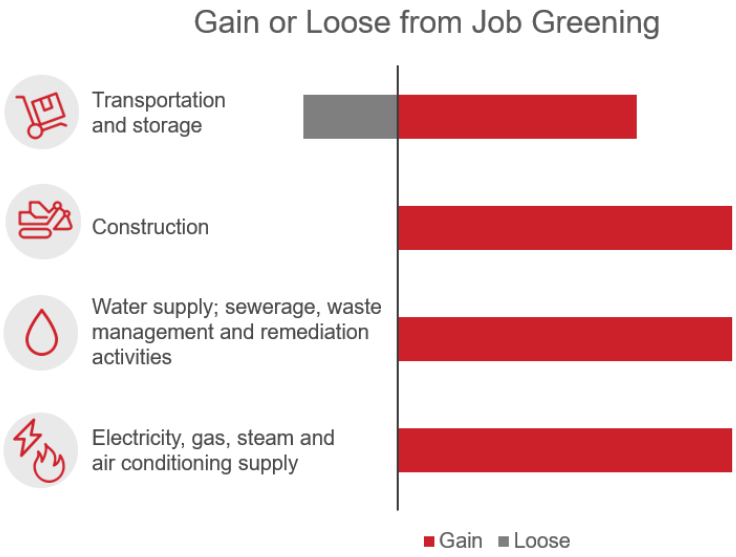

Figure 2 - Energy Agencies expected net effect of job greening on jobs for each sector

In general, agencies see space, and benefits for their own mission, for action in the green jobs topic, mainly as facilitators, guaranteeing and adequate portrait, for other stakeholders, of the energy and water-energy nexus sector challenges regarding green jobs. Specific opportunities are put forward by the agencies:

- Develop and implement training of identified green job profiles or skills
- Monitor current public policies and stakeholder initiatives, as well as providing input for improvement
- Create and operate assessment frameworks that stimulate job greening and accelerate the sharing of good practices
- Nudge existing networks, or create new ones, in order to support the necessary activities and articulation of stakeholders on the topic

6.2 Agency's role and other relevant stakeholders

Currently, a minority of the agencies have sporadic involvement in the topic or no involvement at all (Figure 3). However, most agencies easily identify other agencies or similar national bodies that play a central role in green job stimulus, be it by training, monitoring, financing or other.

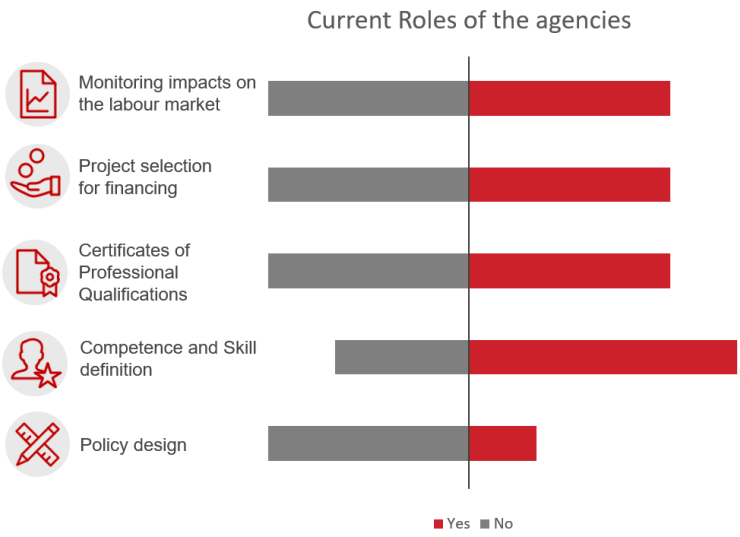

Figure 3 - Current roles of energy agencies

6.3 Green Jobs and Green Skills

Concerning recent progress and the outlook in the short terms for green jobs and skills, some Energy Agencies reported that their respective countries have: started a plan for monitoring green jobs and skills (e.g., Spain, France, Greece), are currently building such monitoring systems (e.g., Switzerland) or do not have such observatories in place (e.g., Finland, Portugal).

In the sectors comprised in this study, the perceived importance of green skills is generally high. Nevertheless, these are seen as very important for "Electricity, gas, steam and air conditioning supply", "Transportation and storage" had an average importance rate slightlybelow other the other sectors.

Agencies also reported that a minority of the countries have councils, or sectorial or regional organizations, for green jobs training, but when these exist Energy Agencies usually are part of them, showing that indeed their inputs are seen as valuable to ensure a coherent response.

6.4 Challenges and barriers for green job and green upskilling stimulus

The agencies report on their country stakeholders' action regarding Green Jobs varies, from a positive outlook of the global action to nonexistent or inadequate action concerning green job stimulus.

The global workforce shortage and inadequate vocational and/or professional training are apparent obstacles in all evaluated sectors by most agencies. The lack of cross-sectorial knowledge to build more efficient and sustainable value chains is considered a challenge, which in turn is also regarded as an opportunity for action by some.

The early funding and support for projects of national interest in the bioeconomy, renewable energy sources, renewable gases, building energy efficiency are crucial for green jobs' development, if coordinated with appropriated legislation.

7 RESKILLING NEEDS, OPPORTUNITIES AND CHALLENGES

7.1 Green job opportunities

According to the International Monetary Fund (IMF) recent analysis in Chapter 3 of the IMF's World Economic Outlook, both greener and more polluting jobs are concentrated among small subsets of workers. Individual workers face tough challenges in moving to greener jobs from more pollution-intensive jobs, complicating labor reallocation. These reported trends are aligned with perceived challenges reported by the agencies, confirming the need for action.

Steps towards a strong green job market have been taken in the last decade, and according to EU Commission's DG Environment, although the green economy in the member states is still a small part of the overall economy, 2.2% of GDP in 2017, it is growing, outperforming the overall economy, 3.2% annual growth vs. 1.4% in 2000-2017.

These trends signal that, despite the challenges, the groundwork to scale green job profiles at the desired pace was made, in part with contributions by the Energy Agencies, for example, by identifying and creating new green job profiles.

These challenges require knowledge about how the economy and workforce are evolving, which can only be done by closely monitoring them. This is the mission of the **National Observatory of Jobs and Trades in the Green Economy** in **France** (Observatóire National des Emplois et Métiers de l'Économie Verte), which exemplifies a multisectoral approach that is a good practice to follow, joining monitoring, economic, energy, R&D, and education stakeholders. This observatory was set up to identify and better understand jobs in the green economy in a context of reorientation of the economic model. It provides a diagnosis of jobs, trades and training in the green economy, by gathering information and developing methods for the quantification of the green economy on. the labour market, recruitment and mobility, and, with this data, identifying skills and the labour-training relationships needed in the context of a green economy. To do that, it is tasked with analysing economic activities, trades and professions linked to the green economy and associated jobs, performing statistical monitoring, examining the socio-demographic changes in the workforce, how recruitment is changing. This will assist in the identification of the skills required and the training needed to meet the needs of employers and support the people affected by these changes and also how these are behaving in different regions.

This knowledge build-up can assist in the decision-making process for employment and education/training policies, which need to consubstantiate the identified and recognized needs. One good example is the deployment in **Portugal** of a multistakeholder **Training Centre for the Energy Transition**. The Centre is a non-profit driven public organisation, which results from a partnership between the Employment and Professional Training Institute,

the Portuguese Association for Renewable Energies and ADENE, the Portuguese Energy Agency. It will work on diagnosing and defining strategies regarding professional training in energy transition and climate action, relevant for economic activity, namely related to renewable energies, green hydrogen, synthetic fuels, energy and water efficiency and sustainable mobility. It aims to value people (training, qualifying, certifying skills, particularly in the young and unemployed) and to value organisations (consultancy and technical support for companies, business associations, other economic agents and social partners), promoting the planning and implementation of actions needed to develop skills but also for workforce upskilling and reskilling.

These two initiatives - the National Observatory of Jobs and Trades in the Green Economy from France and the Training Centre for Energy Transition in Portugal - exemplify the type of multi-sectoral and multi-stakeholder approaches that are necessary to be able to keep up with a changing economy and labour market. Such approaches enable constant adapting to meet the challenge of the energy transition that will bring Europe to its ambitious decarbonisation targets.

7.2 Green Skills & Green job profiles

The contributions of Energy Agencies to the creation and identification of green job profiles in the last years was structured to reenforce their dissemination, access the transferability of profiles at European level and link these to the European Skills Agenda (see profile boxes below). This allowed also to understand the importance of normalization of skills, training requirements and job profiles at a European level, ensuring better access to job opportunities by qualified professionals. A framework for a growing harmonization of national qualification profiles already exists – the European qualification framework (EQF) – allowing for increased transferability and labor mobility within EU market when based on ECVET training credits, which should be considered for current and new identified green job profiles.

Profile boxes of proposed green job profiles (summary)

Profile: Water efficiency technician (WET)	**Sectors:** Water efficiency
Description: A Water efficiency technician is a person certified to install, maintain, repair and replace water systems in buildings in compliance with water efficiency requirements, addressing water efficiency and water-energy nexus measures in buildings, considering site conditions, building type and the most adequate systems and layouts, including water and energy efficient home appliances, equipment and devices, water efficiency in green areas and outdoor environment, water network performance and retrofit, and installation systems for rainwater harvesting and greywater reuse in line with legislation or standards. The water efficiency technicians envisaged by this new qualification scheme can be upskilled plumbers, equipment installers, water supply and drainage maintenance technicians and energy systems installers.	
Agency or source of profile: WATTerSkills, ADENE and CRES, with FLC and FORMEDIL	
For more information: WatterSkills – https://watterskills.eu/	

Profile: Water efficiency expert (WEE)	**Sectors:** Water efficiency
Description: A Water efficiency expert is a person certified to design, select, propose and inspect water systems in buildings considering water efficiency requirements, addressing the water efficiency and water-energy nexus measures in buildings, considering site conditions and building type and the most adequate systems and designs, including water and energy efficient home appliances, equipment and devices, planning for water efficiency in green areas and site based passive measures design, water network performance and retrofit, systems for rainwater harvesting and greywater reuse, in line with legislation or standards. The water efficiency expert envisaged by this new qualification includes upskilled water systems designers, engineers, architects, technical engineers, technical agents, energy and environmental performance auditors.	
Agency or source of profile: WATTerSkills, ADENE and CRES, with FLC and FORMEDIL	
For more information: WatterSkills – https://watterskills.eu/	

Profile: Insulation efficiency technicians	**Sectors:** Construction, Energy efficiency
Description: An Insulation efficiency technician should be capable of applying of insulation in external walls, roofs and rooftops, and the waterproofing with – according to ELOT (Hellenic Organization for Standardization) specifications – asphaltic and synthetic thermoplastic films (for the installation of thermal insulation in external walls, roofs and rooftops and for the waterproofing of roofs and rooftops)	
Agency or source of profile: BUILD UP Skills UPSWING, CRES	
For more information: https://wayback.archive-it.org/12090/20210201201250/https:/ec.europa.eu/energy/intelligent/projects/en/projects/upswing#results	

Profile: Aluminum & metal construction craftsmen	**Sectors:** Construction, Energy efficiency
Description: The Aluminum & metal construction craftsmen should be able to select the most energy efficient type of construction, according to the special feature of the opening and the project's specifications, but also the suitable aluminum architectural profiles, glazing panes and aluminum rollers boxes, following the type of the constructions and the energy saving demands. He or she should also be able to install and tight the aluminum constructions by an energy efficient manner, as well as to understand the concept of "thermal bridge" and the phenomena leading to its appearance.	
Agency or source of profile: BUILD UP Skills UPSWING, CRES	
For more information: https://wayback.archive-it.org/12090/20210201201250/https:/ec.europa.eu/energy/intelligent/projects/en/projects/upswing#results	

Profile: Installers-maintainers of burners	**Sectors:** Energy efficiency
Description: The Installer-maintainer of burners should have the capacity to choose and install energy efficient systems, to implement the current technology focusing on energy saving and on the coupling with other heating sources, and, in parallel, to possess the necessary knowledge as far as energy saving techniques, materials and equipment recommendations and installations regulations, are concerned. He or she should also be able to offer proper advice and guidelines to his/her clients, in order for the proper and efficient operation of the installation to be assured.	
Agency or source of profile: BUILD UP Skills UPSWING, CRES	
For more information: https://wayback.archive-it.org/12090/20210201201250/https:/ec.europa.eu/energy/intelligent/projects/en/projects/upswing#results	

Profile: Energy auditor	**Sectors:** Energy efficiency; Electricity, gas, steam and air conditioning supply; Water supply; sewerage, waste management and remediation activities; Construction
Description: An Energy Auditor receives training and is skilled to identify operational changes that may yield significant savings at zero cost in buildings and is also able to identify significant savings through minimal interventions with a short rate of return, as well as new and more energy efficient technology for the respective enterprise	
Agency or source of profile: Energy audit training, EWA	
For more information: Energy Audits, EWA – https://energywateragency.gov.mt/energyaudits/	

7.3 How to overcome barriers and bottlenecks

Parallel to the job profiles' description, agencies were also asked to share their experience on job profile implementation at a national level, particularly the main barriers and bottlenecks and how they were overcome (Figure 4).

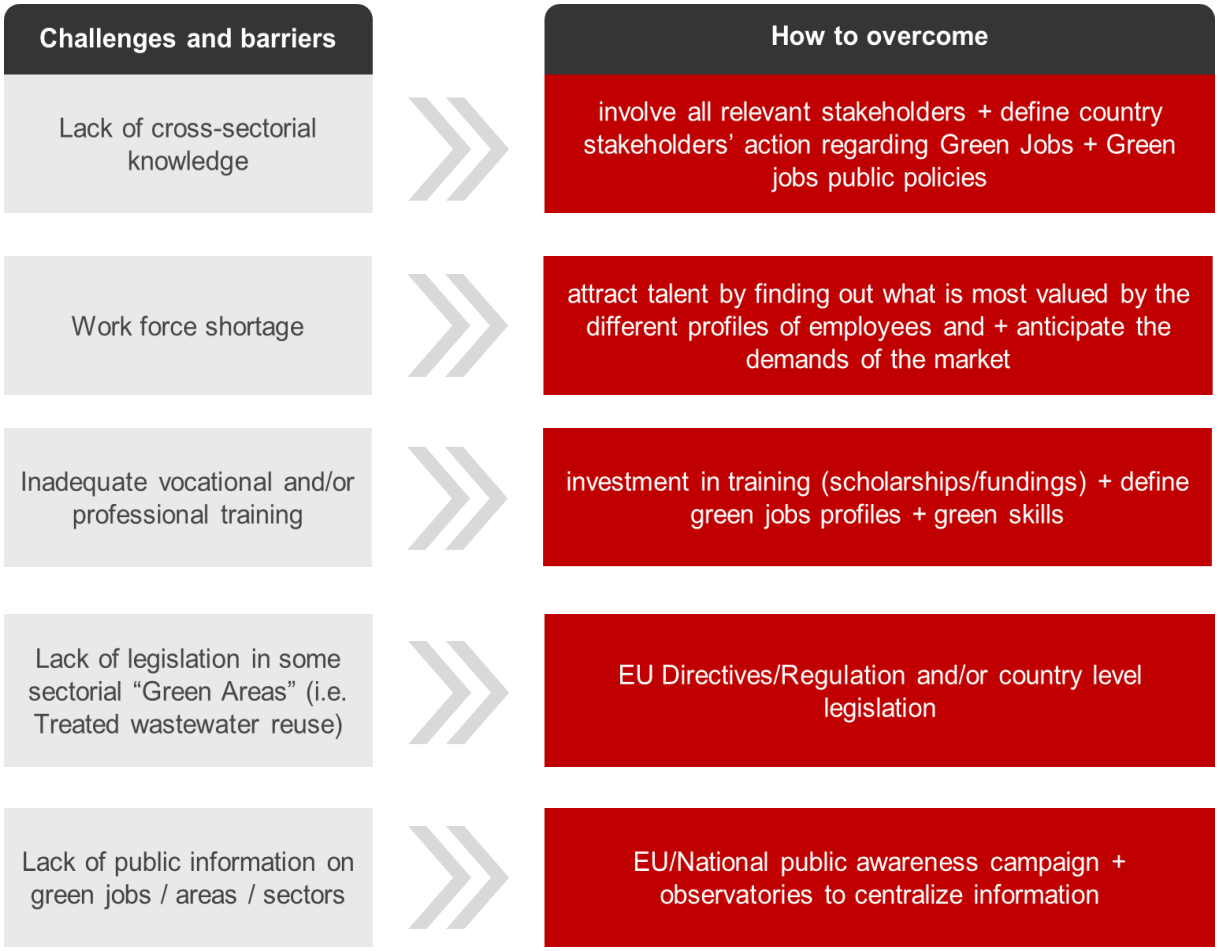

Figure 4 - Challenges and Barriers and how to overcome them

8 ENERGY AGENCIES' ROLE

In the context of the current energy crisis, there is a demand for acceleration of the energy efficiency and energy transition targets across Europe, laid out in policy instruments such as, as previously stated, REPowerEU. This is creating pressure on the job market and currently, workforce shortages combined with lack of skilled workers are seen as major bottlenecks hindering the ability of public and private sectors to meet the goals set out.

The national Energy Agencies which are part of EnR, are at the center of the energy and climate transition, but many times overlook issues related to skills & competences, since they are not at the core of their mission statements. However, Energy Agencies have a privileged position to ensure coherence between the development and training for green skills and the public policies or market instruments regarding energy efficiency, resource efficiency and water-energy nexus. According to the ILO, green jobs help:

- Improve energy and raw materials efficiency (including water efficiency)
- Limit greenhouse gas emissions
- Support adaptation to the effects of climate change
- Minimize waste and pollution
- Protect and restore ecosystems

At least the first three of these are directly linked with the mission of Energy Agencies.

Hence, Energy Agencies actions should be aligned with the European Skills Agenda, which recognizes in Action 6 that it is crucial to develop skills to support both the green and digital transitions. Energy Agencies can particularly contribute to the definition of a set of indicators to monitor green skills' needs and green job development, as well as to develop or co-develop training for set of essential green skills for several sectors such as construction, transports, energy, water, sewerage, and others.

Keeping this in mind, a set of suggested actions is proposed, organized within 5 key axes that respond to the basic bottlenecks identified by the Agencies (Figure 5).

The proposed actions and recommendations in this document are based on the analysis of Energy Agencies' response to the survey launched in June 2022. Out of the 24 EnR agencies, 12 set out to provide answers to the survey and 8 provided additional information. The lack of information available, highlights the fact that the topic is not a high-level priority for most Energy Agencies. Regardless, Energy Agencies agree that workforce shortages and a skills' gap are hindering their ability to meet targets and policies being deployed, which offers the basis for a joint reflection, starting at the annual 2022 Thinking Group Meeting of EnR, devoted to this topic, held on the 17th of October.

The recommendations and proposed actions resulting from this study are designed in 5 axes of action, as outlined in the following scheme.

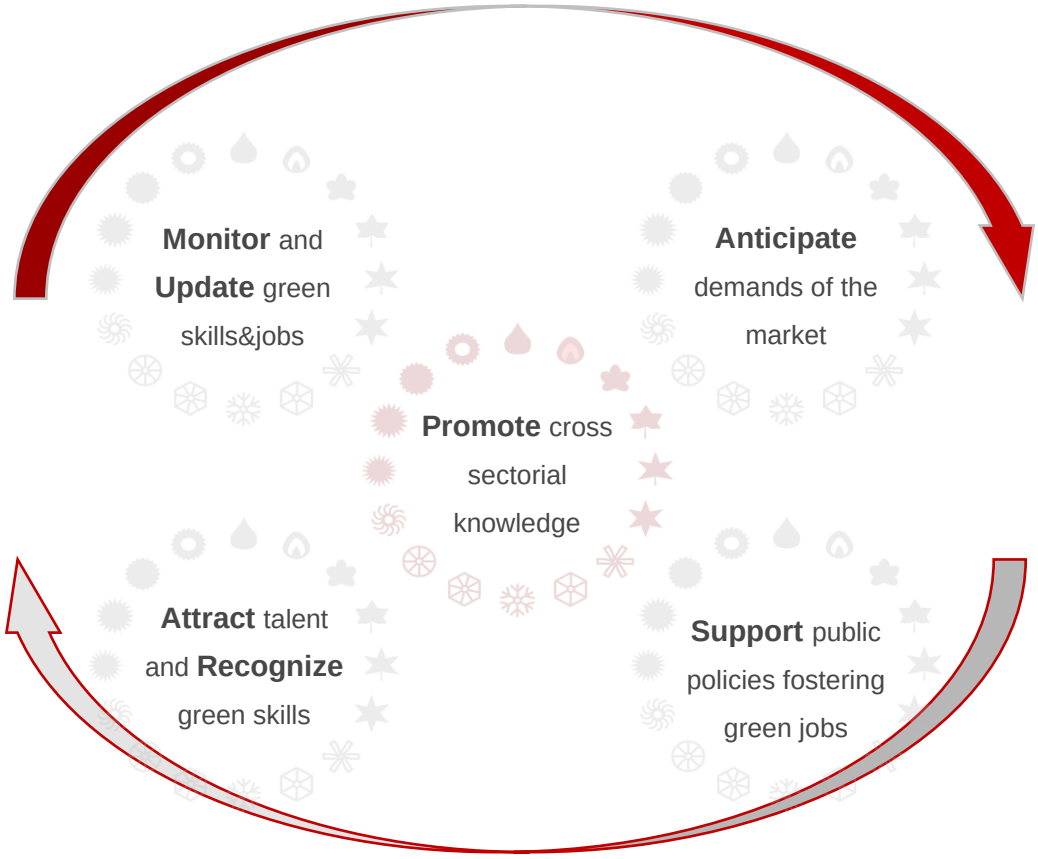

Figure 5 - 5 axes of ciclical action

9 THINKING GROUP MEETING CONCLUSIONS

To discuss the findings of this report, a Thinking Group Meeting (TGM) was held on the 17th of October 2022 in Malta. All presentations and supporting documentation are available at the EnR website.

After the short context on the topic, the study and its results, four EnR members shared case studies from previous and ongoing projects:

- **Antonio Buhagiar**, from JobsPlus, Malta | Intercept Project
- **Charalampos Malamatenios**, from CRES, Greece | BUILD UP Skills UPSWING
- **Rebecca van Leeuwen**, from RVO, Netherlands | Groenpact
- **Barbara Schäfli**, from BFE, Switzerland | Joint campaign with building sector

These case studies, which brought to light different angles on how Energy Agencies can act regarding Green Jobs, also allowed for a broader number of members to understand the subject is within the scope of their work, and that some have been collecting experience throughout the last decade or so in this topic.

To follow, the discussion with external stakeholders was opened, both to have a critical assessment of the work done and also to understand what these organizations have been doing on the topic. This session was moderated by Filipa Newton | ADENE, Portugal and included:

- **Felix Rohn** from DG-EMPL European Commission
- **Olga Strietska-Ilina** from International Labour Organization (ILO)
- **Philippe Masset** from ADEME, France
- **Mélanie Bourgeois** from Energy Cities

The feedback about the study was overall positive, especially regarding the recommendations put forward for the different stakeholders to stimulate green jobs growth. From this session it was also concluded that the Energy Agencies are welcomed by the more traditional job and training market stakeholders, since their expertise on energy and related topics is seen as valuable, among other things. The participants also highlighted opportunities and topics to be addressed in future work.

Felix Rohn, from the European Commission, shed light on two initiatives that could be good frameworks for the fulfilment of some of the suggested actions: the Pact for Skills and the Blueprint Alliances. Olga Strietska-Ilina, from ILO, mentioned that there should be a focus on a just transition, since it is forecasted that the energy transition will cause the loss of 7 million jobs. To ensure this job shift occurs in the smoothest way possible, ILO launched a practical guidance tool: “Greening TVET and skills development: A practical guidance tool”. Philippe Masset, sharing experience from the French “National Observatory of Jobs and Skills in the Green Economy”, emphasized green jobs growth in the last 15 years and also the need to

pivot the narrative on decarbonization from a negative one to a positive one. Mélanie Bourgeois, from Energy Cities, reinforced the Local Staff 4 Climate Manifesto and study results that local staff is crucial for energy transition and this demands better and more broad training programs, where Energy Agencies could help.

The TGM was central in the elaboration of this study since it allowed EnR to ensure that the study, guided by the Steering Committee and with inputs from a broad number of members, was aligned with other relevant stakeholders' agendas. This was accomplished, since both EnR members and stakeholder guests confirmed the basis for this study and the relevance of the suggested actions, even more so in the current context that lead the EU Commission to propose the RePower EU legislative package.

10 SUGGESTED ACTIONS

It is proposed an approach of actions and recommendations directed to all Energy Agencies, included in the **5 central axes of action** (Figure 5**,** page 22). The 5 axes of action are composed by a cycle of actions, as previously presented, that complement each other. For each action, scope is proposed, identifying at which level (EnR agencies, National or European level) they are most suitable to be implemented.

Axes of action	Actions	Scope		
		EnR	National	European
1. Anticipate demands of the market	1.1. Promote campaigns to raise awareness in technical staff & businesses about the importance of continuous updating of skills and on-the-job training		X	
	1.2. Carry out surveys to identify challenges and needs of the market in different sectors (transportation, energy production, construction, etc.)	X		
	1.3. Facilitate local and regional networks to deepen knowledge about training needs (e.g. Local Staff 4 Climate study and manifesto)		X	

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Axes of action	Actions	Scope		
		EnR	National	European
2. Support public policies development that foster green job creation	2.1 Stimulate public procurement rules that consider environmental, social and justice criteria, fostering engagement of green jobs & skills in bidding companies		X	
	2.2 Propose public policies and legislative packages for climate action targets, integrating well-designed training programs required to meet them (e.g. EU Pact for Skills and the Blueprint Alliances)			X
	2.3 Cooperate with training agencies in the elaboration of guidelines for the creation of new green job profiles, namely for vocational education, on the job training and certification, etc. (e.g. WATTer Skills, BuildUp Skills Upswing)	X		
	2.4 Collaborate with social partners to ensure reskilling of workers affected by job destruction associated with climate action/energy transition, and upskilling of workers from sectors at risk of being impacted by climate change (e.g. Cambio Climático y mundo laboral and other projects identified by ETUC), as well as directing inactive workforce towards green jobs (e.g. Intercept Project). This can be done through individual initiatives/projects or by creating permanent structures to analyse and address market needs, providing training for up-and reskilling, like the Training Centre for Energy Transition in Portugal (Section 7.1).		X	
	2.5. Be involved in the design of financing mechanisms, to promote training, reskilling and upskilling of the workforce	X	X	

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Axes of action	Actions	Scope		
		EnR	National	European
3. Attract talent by recognizing and valuing green skills (specific labor public policies and business good practices)	3.1 Skills & competences national certification for new professions and roles, with new job profiles designed (and redesigning existing ones) according to the European qualification framework (EQF), based on ECVET training credits, fostering mobility and recognition of professionals in the European market		X	
	3.2 Propose fiscal and social security policies to support companies that invest in a greener workforce: skill development for existing workers and integration of new skilled workers		X	X
	3.3 Encourage job offering platforms to label green jobs or green areas/sectors			X
	3.4 Cooperate with job creating and training agencies to set guidelines and good practices to help companies improve talent retention, namely understanding what is most valued by the different profiles of employees		X	

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Axes of action	Actions	Scope		
		EnR	National	European
4. Promote cross sectorial knowledge	4.1 Governance: Define each stakeholders' role and actions of regarding green jobs (public, private, national, local, sectorial, etc.)	X	X	
	4.2 Promote stakeholder regular meetings to discuss green jobs challenges and opportunities		X	X
	4.3 Promote cross sectorial networks, connecting the market to education for initial education, as well as life-long learning (e.g. Groenpact, Netherlands).		X	
	4.4 Develop or widen scope of observatories that centralize information on market needs, green jobs&skills requirements and training (e.g., L'observatoire national des emplois et métiers de l'économie verte)		X	X
5. Monitor and update green jobs&skills to meet market needs	5.1 Setting a common assessment framework (defining common KPIs), taking into account existing targets (e.g. European Skills Agenda)			X
	5.2 Monitor evolving tendencies of economic sectors to calibrate profiles and green skills	X	X	
	5.3 Monitor the development of relevant professions			X