



The impact of climate change and environmental change on the labour market

Thierry Huort: October 2023

Thierry

Introduction

We can no longer deny that dealing with climate change is the greatest challenge of our century. Every day we witness the effects of climate change, often with a sense of dismay.

Our economies and societies are directly affected by this climate change, which we know is now irreversible. Labour markets and employment are undergoing a double transformation: the first is the decarbonisation of the economy that many countries have already embarked on, and the second is all the consequences of climate disasters, which are becoming more frequent and more intense by the day.

To address the issue of the impact of climate change on the labour market in the most comprehensive way possible, and to reflect on the measures needed to prevent or support such major effects, it is first and foremost necessary to take a systematic look at the various dimensions of this phenomenon. That's the main aim of this report, which has been compiled from a variety of sources and perspectives.

A wake-up call for a paradigm shift

3.3 to 3.6 billion people,

or almost half of humanity, live in "**environments that are highly vulnerable to climate change**".

Although global awareness of the challenges posed by climate change grew throughout the 20th century, it was not until the **Paris Climate Agreement**, the first legally binding international treaty on climate change, that the world really began to take concrete action. It was adopted by 196 nations at COP 21 in Paris on 12 December 2015 and entered into force on 4 November 2016.

Its goal was to limit global warming to well below 2 degrees Celsius, rather than 1.5 degrees Celsius, to try to return to pre-industrial levels. To achieve this long-term temperature goal, countries are aiming for a global peak in greenhouse gas emissions as soon as possible, with the aim of achieving a climate-neutral planet by mid-century.

But reconciling environmental and socio-economic imperatives is proving difficult for most countries as they struggle to meet their commitments.

Half the world's population is already "highly vulnerable" to the growing impacts of climate change, the UN's climate experts (IPCC) have warned in a new publication, published on 28 February 2022, and failure by governments to act could jeopardise the planet's slim chances of a "sustainable future". **An estimated 3.3 to 3.6 billion people are already in a situation of "very high vulnerability"**, according to the Summary for Policymakers, which was hammered out in detail by the IPCC's 195 member states during a two-week online session behind closed doors.

The Sharm el-Sheikh Conference on Climate Change in 2022, known as COP 27, is the follow-up to the Glasgow Conference in 2021, which was undoubtedly the most important event since the Paris Agreement in 2015. The conference paved the way for COP 28, which will be held in Dubai in 2023 and will provide the opportunity for the first global assessment of all countries' efforts to combat climate change.

The main challenges of COP 27, chaired by Egypt, were to remobilise countries' commitments to mitigate greenhouse gas emissions, to adapt to climate change and to finance climate action, as well as to protect the African continent and to finance the loss and damage that will primarily affect the countries of the South.

Far from being a simple crisis, we are facing a major paradigm shift. This means that we need to anticipate, to develop scenarios for the future and to prepare our responses, considering the differences between the different timeframes required by each actor to implement measures effectively: indeed, the time required for "political" change is different from that required for "territorial" change... the first has a short time horizon, the second a long one.

Climate change: The impact on employment around the world

8% of uncultivated land...

Assuming that the Earth warms by 1.6°C by 2100, 8% of current arable land will be unsuitable for crops by the end of the century.

For several years now, the impacts of climate change have been severely affecting economies, labour markets and employment.

Worsening and prolonged droughts, heat waves, major fires, heavy rainfall, flooding and coastal inundation, intensification of tropical cyclones, rising sea levels and higher temperatures are all phenomena that damage facilities and infrastructure, severely disrupt mining, industrial and commercial activities, and cause temporary or permanent population displacement, with a generally negative impact on employment and working conditions, health and safety at work, and productivity.

Nor should we forget that climate change can and will also directly or indirectly trigger armed conflicts, which will affect the global economy at various levels.

According to a 2015 report by the International Labour Organization (ILO), these impacts are very heterogeneous across regions, sectors of the economy and civil society, but the most affected or vulnerable countries tend to be the least developed countries (LDCs) and small island developing states (SIDS), due to their low adaptive capacity or economic resilience.

In addition, sectors dependent on weather and natural resources, such as agriculture, fisheries and tourism, will be more directly affected and will have to make major changes immediately, and may even be forced to anticipate irreversible changes. Workers who are already vulnerable are the most at risk: the working poor, the self-employed, workers in the informal sector, seasonal

and temporary workers, not forgetting micro and small enterprises, most of whom have little access to adequate social protection or economic support systems. Their alternative income opportunities are often limited and highly dependent on climate-related resources such as water and food.

Finally, women are generally more affected than men because of persistent gender gaps in access to employment and income.

Climate change is already damaging people's livelihoods and making highly exposed areas uninhabitable, leading to strong internal migration flows.

216 million people

in developing countries will migrate within their own country

According to the World Bank's 2021 Groundswell report, **some 216 million people in developing countries will migrate within their own country** by 2050 in search of work, food and water security: There could be as many as 86 million internal climate migrants in sub-Saharan Africa; 49 million in East Asia and the Pacific; 40 million in South Asia; 19 million in North Africa; 17 million in Latin America; and 5 million in Eastern Europe and Central Asia.

Many countries have therefore, out of necessity and driven by international and local policies (climate commitments), undertaken a series of transformative measures to try to limit global warming and its impacts.

However, the scenarios developed by the IPCC indicate that, in the best case, if drastic measures are taken to reduce our production of greenhouse gases, the average global temperature would continue to rise by +2.5°C for several years, considering climate inertia, before returning to a more favourable situation.

How can we anticipate the impact of these changes on jobs and the labour market?

78 million full-time jobs lost...

According to research by the International Labour Office (ILO), a global temperature rise of 1.5 degrees by 2030 would result in a loss of 2.2% of working hours, equivalent to 78 million full-time jobs.

As public employment services, we will therefore inevitably be at the forefront of managing the changes associated with the decarbonisation of our economies, as well as dealing with some of the consequences of global warming on population migration and employment in the wake of meteorological or health disasters.

Failure to act on climate change is the world's biggest threat to employment, with an estimated loss of nearly 80 million jobs, according to the ILO. However, according to the same study, if appropriate policies and actions are effectively implemented, the environmental transition could create 100 million jobs - an overall positive balance. If we want these job losses to be transformed into new jobs, we need to put in place concrete strategies to support these occupational

transitions in terms of skills, retraining and training, involving the social partners in the process. We need to anticipate and support:

- Deep and far-reaching changes in the energy sector,
- Major adjustments to our industrial and agricultural production systems,
- and irreversible consumer trends ("trade and services" evolution).

And, at the same time, like all other businesses, our organisations now must incorporate risk management, as we also must anticipate and "master" our resilience capacities.

Jobs and professions are evolving:

- with radical changes to be implemented for some (new skills, new knowledge, new processes, etc.),
- With the experience of a sharp downturn for others, in some cases leading to their disappearance in a more or less long term,
- With, finally, the emergence of new jobs.

These "emerging" or "transforming" jobs mainly related to the emerging sectors of the green economy, but also to the implementation of green practices in all other sectors.

Like any major economic or technological revolution, we have experienced, climate change will have both short-term effects (such as the destruction caused by meteorological disasters, droughts, etc.) and structural effects (such as the transformation of trades, the development of new sectors, the gradual disappearance of certain other industries, etc.).

To limit the impact of these changes and adapt to them, we need to develop new technologies and products and transform our agriculture, industry, services and infrastructure. This will inevitably lead to the creation of new jobs that can offset the losses caused by these changes.

Two complementary scenarios are considered, based on different ILO studies (2018 reports, 2019 joint publication with IRENA and **2022 guide on "How to work in the green economy"**):

- **A scenario focusing on an energy transition** from fossil fuels to renewable energy sources that would create 25 million new jobs, compared to the 7 million jobs that would be lost because of the use of fossil fuels.
In other words, a positive balance of +18 million jobs
- **A scenario based on the circular economy**, in which resources are used in a sustainable and recyclable way, thus creating 78 million jobs, compared to the 71 million destroyed, for a positive balance of +7 million jobs.

By 2030, 103 million jobs worldwide

could be created by a strong commitment to green transition policies, with a net positive balance of 25 million jobs.

The table below, taken from the ILO's guide "Working in the Green Economy" published in November 2022, shows that these transitions, if properly supported, could create a positive balance of almost 25 million jobs by 2030, with more than 103 million new jobs created worldwide.

Horizon 2030 in million jobs	Job destruction risk	Employment creation potential	Balance
Energy Transition Scenario	-7	+25	+18
Circular economy scenario	+71	+78	+7
Total	+78	+103	+25

This encouraging outlook will only be achieved if we meet two major challenges:

- Providing support and training to people whose jobs could disappear (" as a result of the green transition process ") so that they can develop the required skills and retrain in the new occupations available.
- Providing training for jobseekers and young people entering the labour market, so that they can seize these new opportunities.

In addition to upgrading the skills needed to position themselves and adapt to new professions, all employees will have to develop and strengthen their skills to manage their "career path" as effectively as possible. The ability to anticipate changes and their consequences, and act to integrate them, must be mastered both at a collective level (through political measures, reform of the education and vocational training systems, etc.) and at an individual level, for every one of us. Knowing how to manage one's skills and career path is becoming a " meta-competence " for all working people.

On the other, more political side, we as citizens, together with our governments, must decide today what kind of society we want to build. The main international organisations are mobilising to ensure that the responses to these various challenges for the planet and its people are based on an economy of solidarity and social progress.

In June 2022, the 110th session (June 2022) of the International Labour Conference adopted a resolution on decent work and on the Social and Solidarity Economy.

Three recent international labour standards directly refer to this Social and Solidarity economy:

- Recommendation n°193 on the promotion of co-operatives (2002) emphasises that a balanced society relies on strong public and private sectors, as well as a robust co-operative and mutual sector plus other social and non-governmental organisations.
- Recommendation N°204 on the transition from the informal to the formal economy (of 2015), acknowledges that cooperatives and units of the social and solidarity economy constitute appropriate levers that can facilitate the transition to the formal economy, while noting that they may fall within the scope of the informal economy.
- Recommendation n°205 on employment and decent work for peace and resilience (of 2017), recognises the role of cooperatives and other social economy initiatives in contributing to recovery and resilience.

On 10 June 2022, an OECD Council Recommendation on the Social and Solidarity Economy and on Social Innovation was adopted on the 10th of June 2022 to guide governments (national and local) in creating a policy environment and conditions conducive to the development of the SSE.

A UN resolution on the social/solidarity-based economy could be presented to the UN General Assembly later this year (April 2023).

Social entrepreneurship can provide a sustainable response to the various challenges we are facing together. The "green" transformation and the ecological transition provide us with an excellent opportunity to promote social inclusion and innovation.

What are the challenges and role for public employment services?

It goes without saying that the PES play and will increasingly play a crucial role in addressing the two challenges mentioned in the previous paragraph.

But the other challenge for the PES will be to deal with the various consequences of climate change, for example by contributing to the active management of climate migration. What's more, over and above our own efforts to reduce carbon emissions and save energy, we will have to maintain our services under new and often unpredictable conditions.

To meet these challenges, we invite you to reflect and work together on 5 operational priorities:

- Anticipate change and develop " territorial scenarios " .
- Keep supporting the development of "green jobs".
- Promote and support the emergence of social and solidarity-based entrepreneurship
- Prepare for disruptive events affecting the functioning of our institutions and the labour market.
- Develop more educational approaches in our actions.

A. Anticipate changes and develop " regional scenarios " .

One of the key functions of public employment services is to improve the labour and employment market visibility.

Firstly, in the short term, by improving the readability of available job vacancies, major market trends and workforce requirements, to ensure a more fluid match between supply and demand. Then, through a range of measures facilitating the matching of available skills to the immediate needs of employers.

Secondly, it is also the responsibility of the PES to provide a forward-looking vision, to build scenarios of possible medium- and long-term evolution, to enable the relevant authorities and players to develop training and education systems and courses to meet these future challenges.

The PES therefore plays a key role in mobilising all these stakeholders and the public authorities to jointly imagine the different scenarios, measure their feasibility, identify the risks and opportunities they each present and implement the appropriate preventive and/or corrective action policies to address them.

To this end, we propose that today's monitoring and diagnosis of employment and the labour market should combine an alternative data structure to identify and characterise changes in sectors of activity and occupations with a cross-referencing criterion based on "sectoral trends" with four variables: degrowth, transformation, growth and creation, and a criterion based on the type of change with two variables: cyclical or structural.

Example of observation matrix:

Sectoral trends Nature of change ↓	Degrowth	Transformation	Growth	Creation
Conjunctural/ Cyclical				
Structural				

These trends must then be considered and analysed within the given territory context. By "territory" we mean the relevant and coherent area in which these trends can be assessed and acted upon, with a view to subsidiarity between the various levels of intervention.

B. Keep supporting the development of "green jobs".

According to the International Labour Organisation, 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 jobs are jobs that help:

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

At the enterprise level, green jobs can produce goods or services that benefit the environment, such as green buildings or clean transport. However, these green outputs (products and services) are not always based on green production processes and technologies. Therefore, green jobs can also be characterised by their contribution to greener processes. For example, green jobs may reduce water consumption or improve recycling systems. However, green jobs defined in terms of production processes do not necessarily produce environmental goods or services.

Public employment services have an essential role to play in informing, advising and guiding job seekers and the working population towards these jobs, but also in helping enterprises and local actors to cope better with these changes.

Education and training systems will also have a key role to play in developing the skills needed to meet the new needs of the economy. But in addition to the "technical" skills required for these new jobs, we will also need to incorporate into our training frameworks individual change management and learning skills, what some people are already calling "knowing how to become", the latter of which you will find described in Part 2 of this document.

C. Promote and support the emergence of social and solidarity-based entrepreneurship

Local actors, including local PES representatives, have a key role to play in creating ecosystems geared towards a greener, more inclusive, and sustainable economy, through new organisations that, together with communities, provide responses to the current crises while ensuring equal

opportunities, protecting the environment, promoting access to decent work, and boosting the local economy.

The term Social and Solidarity Economy (SSE) covers a wide range of structures based on common values and principles: social benefit, cooperation, local foundations adapted to the needs of each region and its inhabitants.

From the point of view of employment development, the SSE is characterised by two main aspects:

- In general, this "third sector", for some of the companies that make it up, offers opportunities for integration through career paths for people who are excluded or discriminated against in the labour market. This is particularly true for "integration companies", which usually work very closely with the PES. Many experiments have shown that cooperation and coordination between the PES and these insertion structures produce concrete results in the fight against exclusion and informal work. For many people, these structures or social enterprises represent a gateway to the labour market and a decisive step in their professional and social career.
- But the second aspect is that the SSE also offers intermediary solutions to help shape and test collective projects and economic solutions for transition. As such, through their knowledge of the region and its resources, the PES play an active role in supporting local initiatives as part of their partnership policy. The cooperative movement has often successfully provided solutions for business takeovers and the sustainability of the economic environment in regions affected by sectoral transformations, the ups and downs of the free-market economy and the effects of globalisation. The post-pandemic relocation phenomenon of certain activities provides opportunities for the creation of local businesses based on cooperation, solidarity and sharing.
- In rural areas or areas with low economic development, the SSE can often be the first (and sometimes only) source of income, the first step towards decent work, and the first foundation for a more structured economy.

D. Prepare ourselves to deal with disruptive events impacting the functioning of our institutions and labour markets

From our reflections on the various scenarios and from observing the current state of global warming, it is clear that a number of causes (burning of fossil fuels, deforestation, increased livestock farming, use of nitrogen fertilisers, equipment and products containing fluorinated gases, etc.) have a number of consequences (drought, climatic disasters, fires, famine, migration, armed conflicts, etc.). Our governments' priorities are both to address the causes and to "prevent" the consequences as much as possible.

In this respect, the global pandemic of COVID 19 was a very instructive period for all of us. We had to take measures to protect our workers and at the same time we (all PES) were mobilised to provide support services to the economy and workers in a very short time. We had to deal with a real downturn in the labour market, with a sudden increase in tensions in the health and logistics sectors, with many workers being made temporarily or permanently unemployed, with companies going bankrupt, and so on.

New social divisions have emerged. Working conditions, which remained basically the same in many sectors during the health crisis, have evolved significantly over the period: overnight many workers were confined to their homes and had to telework. Others have been forced to work in

difficult conditions to compensate for staff cuts. Others have lost their jobs and had to redefine their career paths.

This crisis and the conditions of the economic recovery seem to have accelerated a fundamental change in people's spirit about their relationship with work, removing the inhibitions they had to change jobs when unemployment was at its highest. Young people have also become more demanding than ever before. Companies have not been flexible enough and have suffered from these new skills drain, having become accustomed over the years to a certain degree of competition for jobs among the working population.

E. Develop more educational approaches in our actions

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn". Alvin Toffler .Futur Shock (1970).

This famous quote by the American writer and futurist Alvin Toffler has become even more relevant in recent years, describing what each of us needs to do today to adapt to change. The ability to manage change, especially personal career transitions, is becoming an essential skill.

Today, educational guidance professionals in France agree on the concept of "**knowing how to become**" and have identified 3 main components:

Keep informed and navigate the information society	<ul style="list-style-type: none"> Find and process information
	<ul style="list-style-type: none"> Know, identify and consult the people, places and resources that can help you with your career guidance and counselling
	<ul style="list-style-type: none"> Research and navigate diplomas and training courses
	<ul style="list-style-type: none"> Explore and navigate careers, occupational fields and the world of work
Discover yourself and nurture your ambitions	<ul style="list-style-type: none"> Get to know yourself
	<ul style="list-style-type: none"> Link what you know about yourself to your ambitions.
	<ul style="list-style-type: none"> Allow yourself to dream
	<ul style="list-style-type: none"> Knowing how to present yourself and control your image
Build and project yourself in an uncertain world	<ul style="list-style-type: none"> Convert personal, academic and professional experience into skills
	<ul style="list-style-type: none"> Embrace the unexpected and seize opportunities
	<ul style="list-style-type: none"> Build, develop and mobilise your networks
	<ul style="list-style-type: none"> Manage and anticipate transitions
	<ul style="list-style-type: none"> Identify your strengths and weaknesses. Use them to achieve your goals.
	<ul style="list-style-type: none"> Project yourself and understand the implications of your choices

Reading this reference guide, intended to provide educational support for secondary school students, we can easily make 2 observations:

- The first is that when we support working people and job seekers in their career transition, we (PES or employment actors) are working on the same skills;
- The second is that we have a role to play, a more preventive role, a more proactive role, in preventing situations of career disruption, whether it is when young people enter the labour market, when they must retrain because of their lack of foresight in the course of their career, or when they end their career prematurely.

Conclusion:

Faced with the global challenge of climate change, public employment services have a dual role to play: as public institutions, they must be exemplary organisations in terms of social and environmental responsibility (SER).

Anticipate, to be able to react as early as possible to jobs and skills changes,

We therefore believe that our PES needs to move in three directions

- Building or rebuilding bridges and cooperation with the educational world (schools and universities) to provide a concrete and open vision of the world of work, starting as early as possible to actively contribute to the fight against school drop-out.
- Moving away from an overly compartmentalised and monocentric vision of services focused only on the unemployed by extending it to the whole workforce, because even if the fight against exclusion and the return to employment will remain priorities, we also need to develop more preventive approaches integrating the long term, together with a more curative (re-)action that tends to focus on the short or medium term.
- Becoming an actor in social innovation by encouraging the search for local solutions based on inclusive economic approaches and by developing our partnerships with the SSE stakeholders.

Your contact person at WAPES: Thierry HUORT - Thierry.huort@wapes.org

Sources

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