ENERGY-INTENSIVE INDUSTRIES IN SPAIN ON DECARBONISATION PATH – WHAT DOES THIS MEAN FOR JOBS?

« DECARBONISING ENERGY-INTENSIVE INDUSTRIES 2021: COUNTRY STUDY SPAIN »

PRESENTATION FOR THE ETUI'S FINAL WORKSHOP

02 JUNE 2022

#1 MAPPING OF THE ENERGY-INTENSIVE INDUSTRIES IN SPAIN

Steel, chemical, cement and non-ferrous metal sectors: main challenges and decarbonisation pathways

THE ROYAL DECREE 1106/2020 OF 15 DECEMBER 2020 REGULATES THE *"ESTATUTO DE LOS CONSUMIDORES ELECTROINTENSIVOS"*, WHICH DEFINES THE CONCEPT OF ENERGY-INTENSIVE INDUSTRY

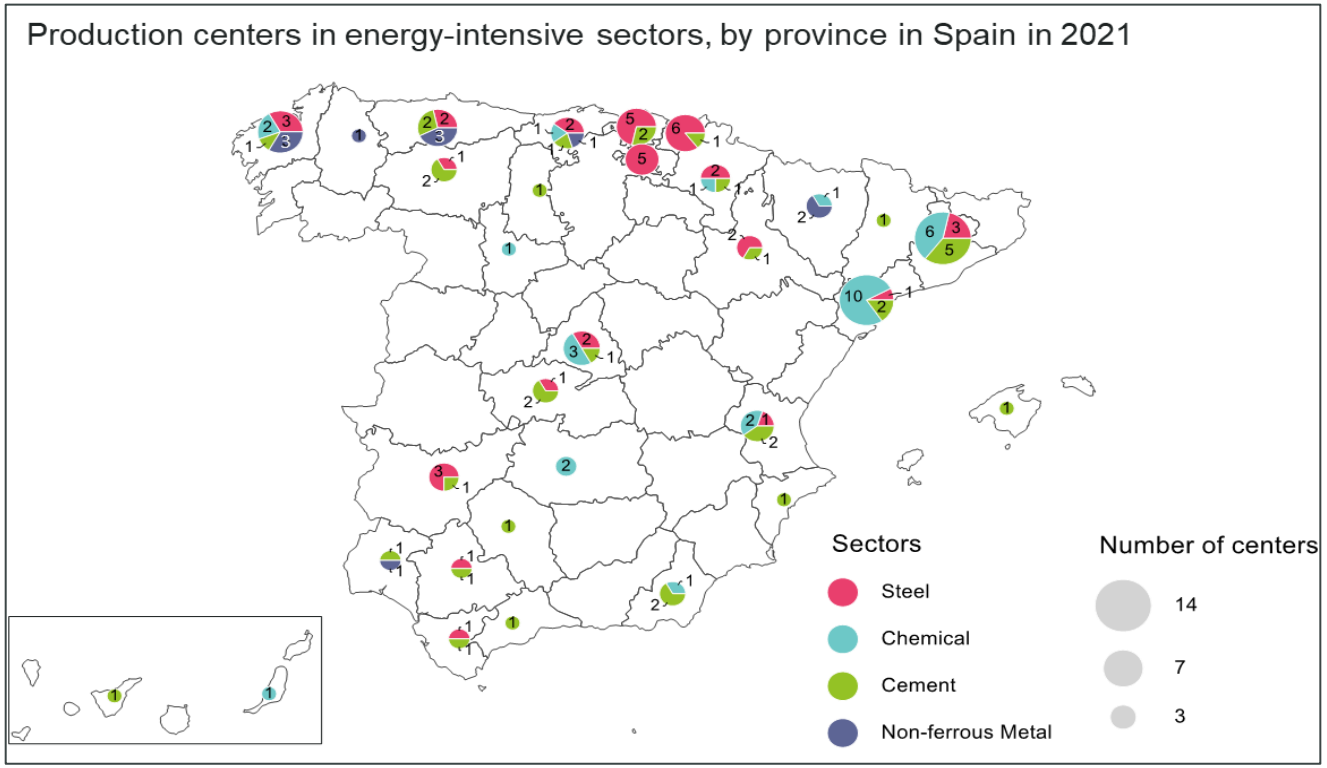


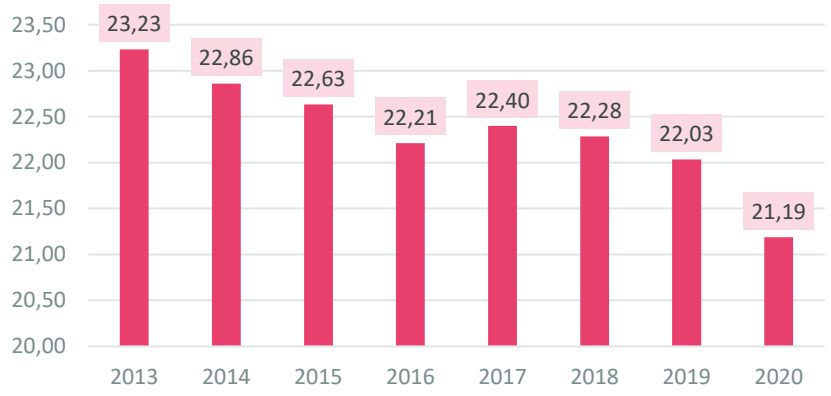
Table 1. Companies and production plants by sector in Spain in 2021

	COMPANIES	PRODUCTION PLANTS
STEEL	8	41
CHEMICAL	11	31
CEMENT	10	36
NON-FERROUS METALS	6	11

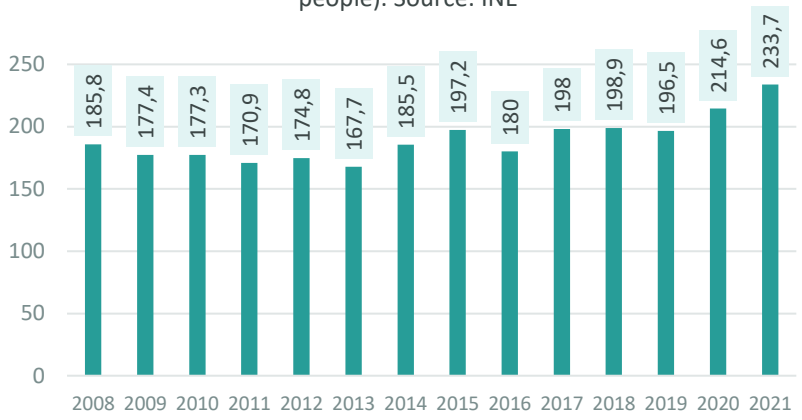
Source: Syndex based on data from AEGE, UNESID, FEIQUE, OFICEMEN, AEA & MITECO.

QUITE DIVERGENT EMPLOYMENT FIGURES BETWEEN THESE SECTORS…

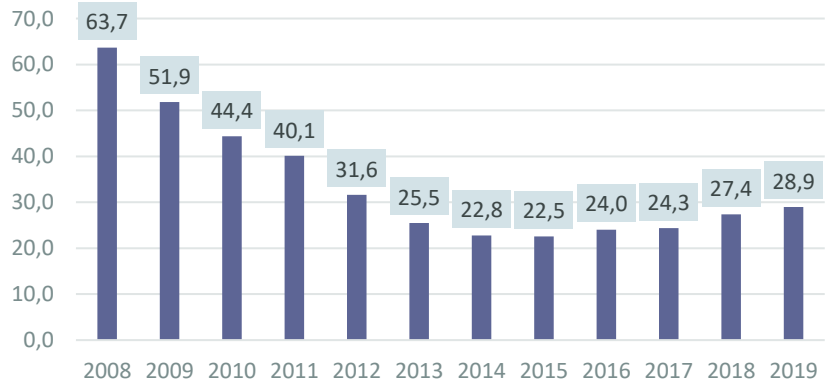
Employment of **steel** and primary processing (thousands of people). Source: UNESID



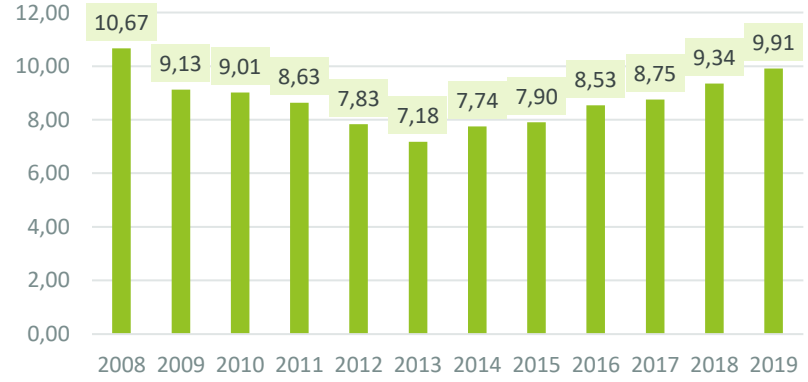
Direct employment in **chemical** sector. (thousand of people). Source: INE



Employees in FTE in manufacture and articles of **cement**, lime and plaster in Spain (thousands of people). Source: Eurostat



Employment of **aluminium** (thousands of people). Source: Eurostat



"It is also important to point out that while this desk research presents available information from official sources, the information is hardly homogeneous and varies greatly from one company to another and from one source to another, mainly from a timely point of view in both cases".

…AS WELL AS DIFFERENT PROGRESS IN EMISSION REDUCTIONS

Spain follows the European emission reduction targets, it has only one target of its own: by 2030, -23% (compared to 1990). There are no sectoral targets either and only the cement sector has a decarbonisation roadmap.

Table 5. GHG emissions in Spain and EU 27

(tCO2eq)	1990	2005	2019	% var. 1990-2019	% var. 2005-2019
SPAIN					
STEEL	8.354.093	6.763.520	5.649.906	-32,4%	-16,5%
CHEMICAL	5.391.350	9.165.677	9.645.655	78,9%	5,2%
CEMENT	12.279.006	16.791.774	9.064.168	-26,2%	-46,0%
NON-FERROUS METALS	1.195.746	3.563.611	1.618.932	35,4%	-54,6%
TOTAL SPAIN	**290.001.467**	**442.075.010**	**314.528.511**	**8,5%**	**-28,9%**
UE 27					
STEEL	153.323.255	105.471.633	77.439.549	-49,5%	-26,6%
CHEMICAL	102.228.347	84.231.919	66.980.669	-34,5%	-20,5%
CEMENT	95.351.543	96.026.450	75.537.822	-20,8%	-21,3%
NON-FERROUS METALS	11.697.989	11.478.234	9.116.025	-22,1%	-20,6%
TOTAL EU 27	**4.870.956.024**	**4.542.902.367**	**3.610.051.758**	**-25,9%**	**-20,5%**

Source: Syndex based on data from EEA.

MAIN CHALLENGES FACING ENERGY-INTENSIVE INDUSTRIES IN SPAIN

NATIONAL ENERGY MIX AND THE PATH TOWARDS RENEWABLE ENERGIES

Despite the advantages in renewables in Spain, and its favourable geography for their development, **the green energy used in the EII is practically insignificant.**

A structural change is needed in the design of the Spanish electricity market so that EII are no longer affected by high electricity costs, which have rising significantly since 2021 (many companies had to stop production this year because they argued that could not meet their electricity bills).

REGIONAL CONCENTRATION OF POLLUTING ACTIVITIES

The impact of an energy transition will be particularly significant in areas dependent on polluting sectors, **which will have to be offered accompanying measures.**

Table 6. Consumption of renewable and total energy by sector in 2019 (% of total energy consumption). Source: IDEA (2020).

CONSUMPTION OF ENERGY BY SECTOR (2019)		
(% of total)	Of industry consumption	Of final energy consumption
Iron and steel	12.6%	3%
Chemical	17.6%	4.2%
Non-ferrous metal	6.1%	1.4%
Cement	-	-
CONSUMPTION OF RENEWABLE ENERGY BY SECTOR (2019)		
(% of total)	Of industry consumption	Of final energy consumption
Iron and steel	0.002%	0.0005%
Chemical	0.4%	0.09%
Non-ferrous metal	0.02%	0.005%
Cement	-	-

CIRCULAR ECONOMY AND RENEWABLE HYDROGEN, THE MAIN DECARBONISATION PATHWAYS OF THE SPANISH EIIS

CIRCULAR ECONOMY – Short term

- ***« España circular 2030 »,*** the government document that lays the foundations for promoting a new model of circular production and consumption.

- **2030 targets relevant to the EIIs:**
  - - 30% in national consumption of materials in relation to GPD (base 2010).
  - - 15% of waste generation (base 2010).
  - + 10% of reuse and preparation for reuse of municipal waste generated.

- Existence of **regional circular economy strategies.**

RENEWABLE HYDROGEN – Long term

- *« Hoja de Ruta del Hidrógeno »,* focuses on **green hydrogen as a fundamental and transversal tool** for decarbonisation and emissions reduction in Spain.

- **Its objectives are ambitious:** to make Spain an exporter of green hydrogen during the 2040s.

- In December 2021, the *« PERTE de Energías Renovables, Hidrógeno Renovable y Almacenamiento »* was approved, which **aims to generate more than 280,000 jobs in the renewables sector.**
  - Green hydrogen will receive one of the highest amounts (+ €4 billion).

#2 WHAT DOES THIS MEANS FOR JOBS?

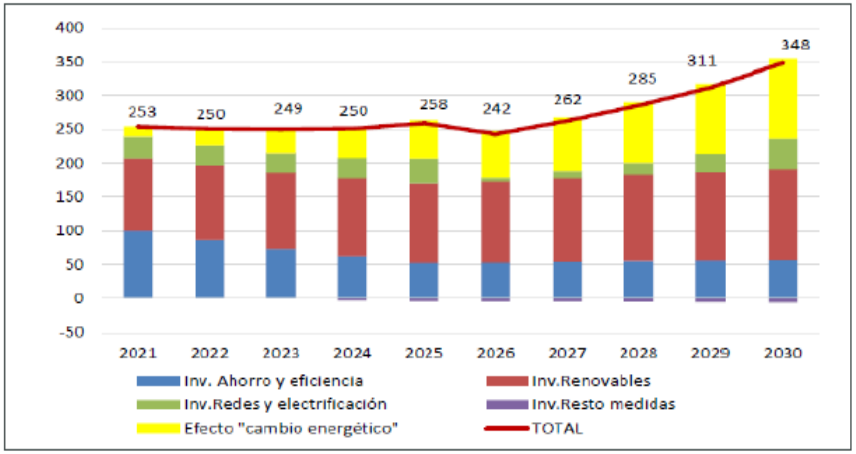
Cualitative analysis

THE OFFICIAL FORECASTS OF THE SPANISH GOVERNMENT ARE HIGHLY AMBITIOUS

In its « *Estrategia de Transición Justa* », it points out that the energy transition and decarbonisation present great opportunities for the industrial sector and that, if the necessary accompanying measures are taken, there need not be a negative impact on employment.

- **Just Transition** must be built:
  - From the point of view of workers: enabling them to **adapt their competencies and skills** to the new market demands through active labour market policies;
  - From the point of view of companies and public administrations: adapting business culture to the principles of **corporate social responsibility and guaranteeing health and safety** conditions in workplaces affected by the change.
- **Public procurement** represents a significant volume of expenditure and is therefore considered **a key tool for taking advantage** of opportunities and mitigating any negative effects that may arise during the transition process.
- According to another Spanish government document, the proposed measures would generate a **net increase in employment of** between 253,000 and 348,000 people per year.

Figure 24. Employment impact by type of measure (thousands of people/year). Source: PNIEC 2021-2030.



However, these forecasts are generic. **There is no official analysis in Spain of the impact on employment of EIIs at a quantitative level.** For the time being, priority is given to projects related to studying industrial investment or technical issues, without taking social issues into account.

ON THE CONTRARY, WITH REGARDS TO THE IMPACT OF DECARBONISATION ON EMPLOYMENT, TASKS, SKILLS AND JOB PROFILES THERE IS A WIDESPREAD CONSENSUS ON SEVERAL FACTS

There is still a long way to go and hopefully the recent announcement (February 2022) of the posible upcoming issue of a national PERTE for the EIIs could give an answer to these challenges faced by EIIs and more specifically to the social question.

The transition holds the potential to retain the existing workforce, but **abrupt disruption in the manufacturing processes may affect employment**, most of the cases in remote areas affecting mainly blue collars.

The transition will require a major and sustained **reallocation of labor across sectors, occupations and regions** as well as significant investment in **re- and up-skilling, retention of existing workers and attracting new workers.**

Skills development will be a particularly important challenge as **new capacities will be necessary**, mainly in **digitalisation, decarbonisation, innovation, internationalisation and resilience.**

High demand is forecast for **engineers, specialists** and business professionals who have **emerging technology expertise.**

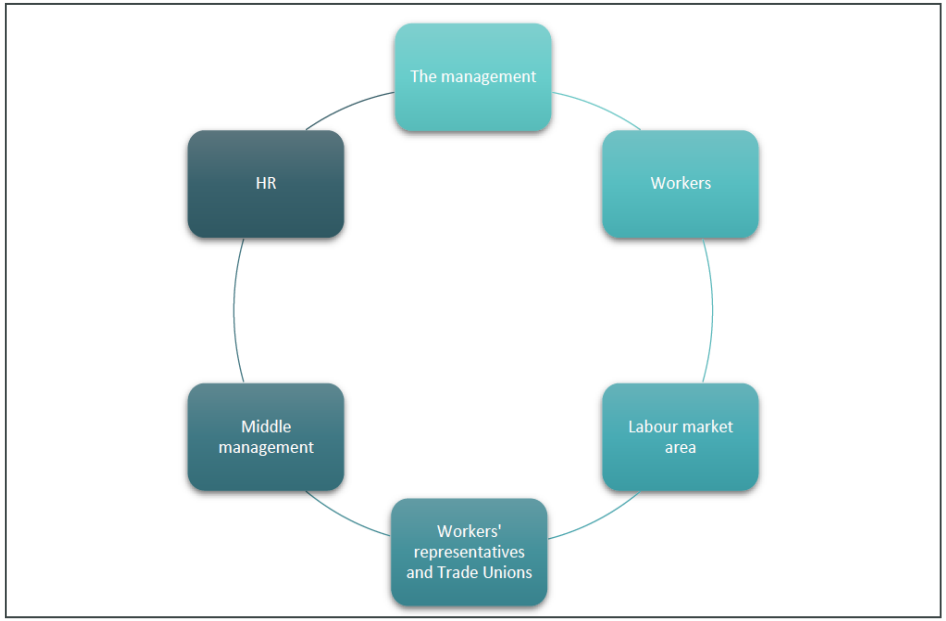
New job opportunities can be expected in design, innovation and product development, disassembling, remanufacturing, repair, administrative handling of new service contracts, resource scouting and information management.

AN EXAMPLE OF METHODOLOGY TO BE IMPLEMENTED TO MITIGATE THE POTENTIAL NEGATIVE IMPACTS OF THE DECARBONISATION TRANSITION

This work should be done collectively by all the potential stakeholders.

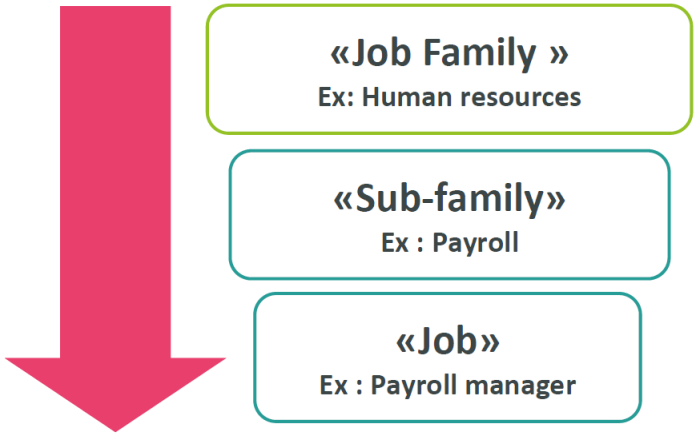
- Identification of the **actual jobs** and of the **actual skills.**
- Identification of **tomorrow's jobs** and the related **required skills.**
- Building **career paths** between today's and tomorrow's jobs.
- Identifying **pathways that will lead to defining the needs** for successful transition/mobility/up-skilling/re-skilling.

Figure 29. Potential stakeholders of business mechanisms to mitigate potential negative decarbonisation effects



AN EXAMPLE OF METHODOLOGY TO BE IMPLEMENTED TO MITIGATE THE POTENTIAL NEGATIVE IMPACTS OF THE DECARBONISATION TRANSITION: **IDENTIFICATION OF THE ACTUAL JOBS AND OF THE ACTUAL SKILLS**

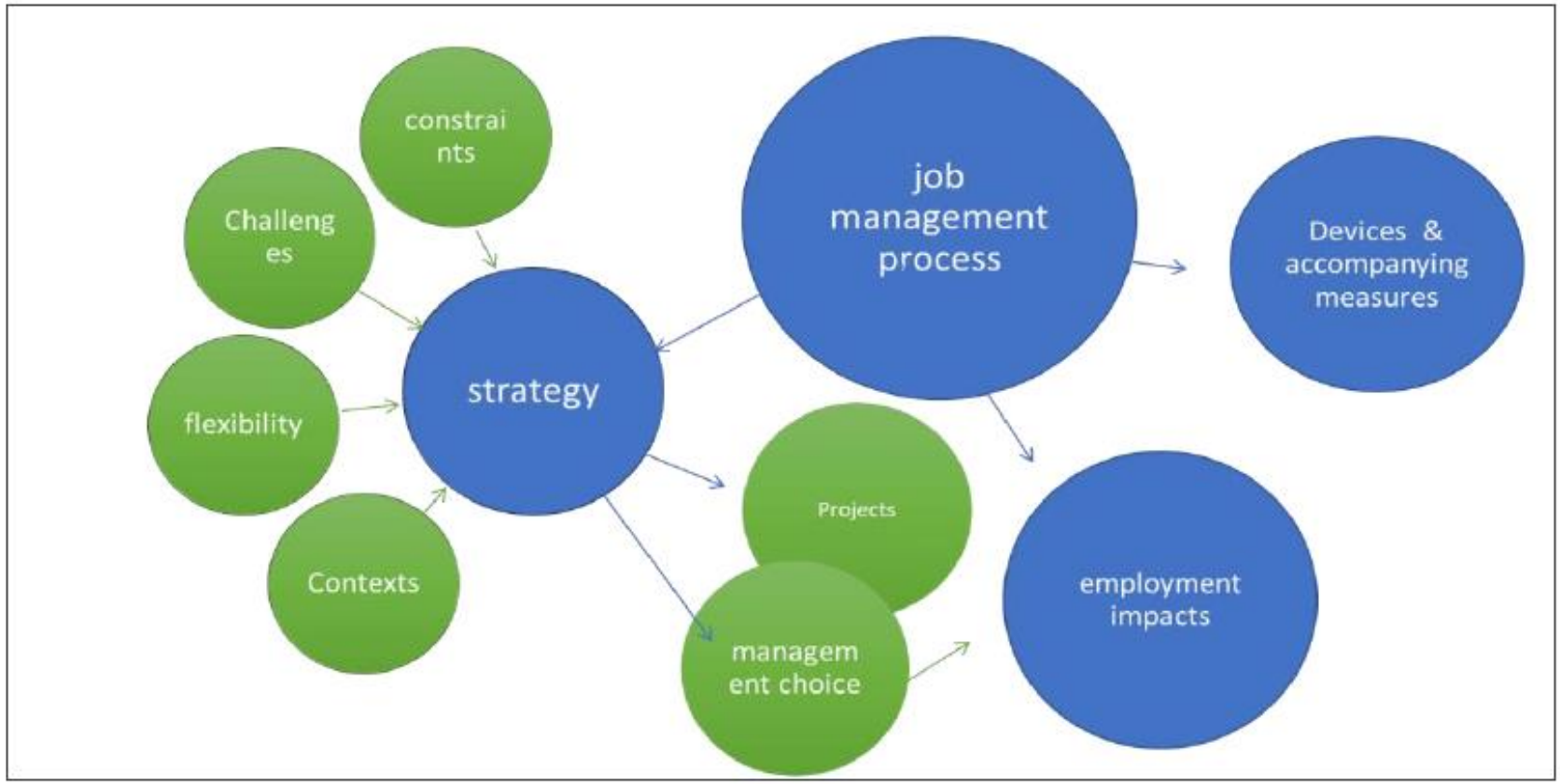
The first stage of the work is to detail all the existing jobs in the company or sector. These rules may allow jobs to be grouped into broader families containing several jobs, which may be broken down into sub-families. With these grouping it will be possible to identify the trends to which the jobs are exposed.



- **IN TENSION:** requiring strategic and rare skills. Need to recruit very specific profiles.
- **UNDERGOING TRANSFORMATION:** the work content or methods require new skills (digitalisation of work content, changes in the way the activity is carried out).
- **EMERGING OR GROWING:** requiring the creation of new jobs in the short or medium term.
- **IN DECLINE:** exposed to a reduction in the number of employees or to disappearance.
- **STABLE:** no particular changes expected.

AN EXAMPLE OF METHODOLOGY TO BE IMPLEMENTED TO MITIGATE THE POTENTIAL NEGATIVE IMPACTS OF THE DECARBONISATION TRANSITION: **IDENTIFICATION OF TOMORROW'S JOBS AND THE RELATED REQUIRED SKILLS**

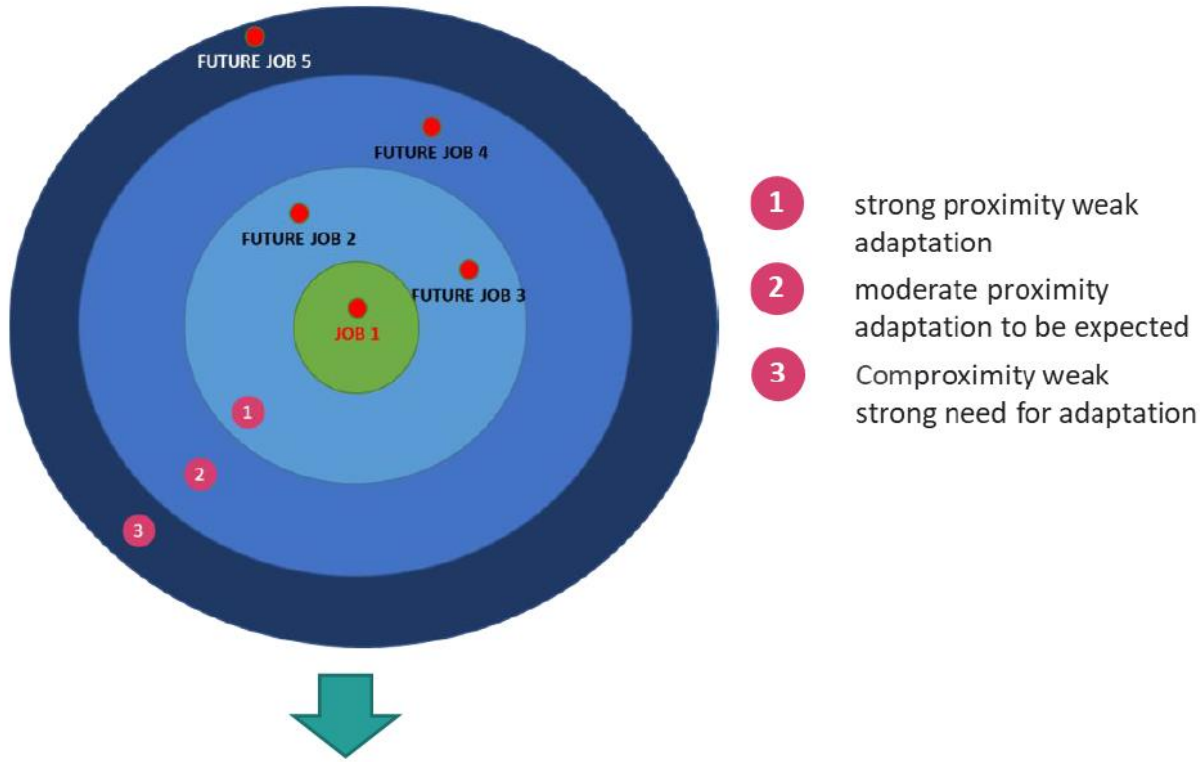
An analysis of the company's strategy in the mid-long term to determine the volumes of jobs requires and the needs in terms of skills, knowledge or know-how.



AN EXAMPLE OF METHODOLOGY TO BE IMPLEMENTED TO MITIGATE THE POTENTIAL NEGATIVE IMPACTS OF THE DECARBONISATION TRANSITION: **BUILDING CAREER PATHS BETWEEN TODAY'S AND TOMORROW'S JOBS**

Step three aims to identify the bridges between today's job and those of tomorrow. The most traditional method is to identify jobs that are professionally close and to define the feasibility of functional mobility between these two jobs.

Figure 30. Illustration of a mobility area for a given job (job 1). The four future jobs are positioned according to the degree of difficulty of the transition.



AN EXAMPLE OF METHODOLOGY TO BE IMPLEMENTED TO MITIGATE THE POTENTIAL NEGATIVE IMPACTS OF THE DECARBONISATION TRANSITION: **IDENTIFYING PATHWAYS THAT WILL LEAD TO DEFINING THE NEEDS FOR SUCCESSFUL TRANSITION/MOBILITY/UP-SKILLING/RE-SKILLING**

Vocational training: the main lever for transition.

Public aid for upskilling/re-skilling and geographical mobility.

Securing career paths: key to a successful transition.

Regular monitoring and follow-up of upskilling/re-skilling programs to ensure their success and to develop efficient mechanism.

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KNOWLEDGE FOR ACTION