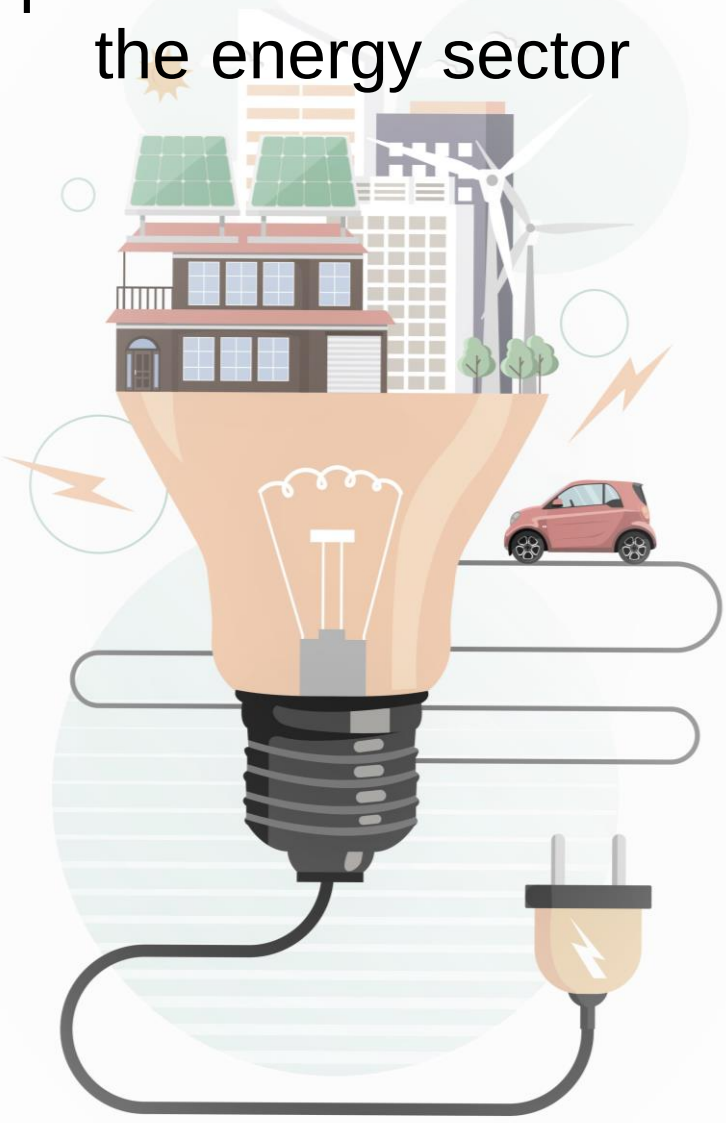
ASSET Study:

Collection of gender-disaggregated data on the employment and participation of women and men in the energy sector



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EUROPEAN COMMISSION

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Luxembourg: Publications Office of the European Union, 2021

EN PDF ISBN 978-92-76-40104-9 doi: 10.2833/888421 MJ-02-21-890-EN-N

About the ASSET

The ASSET Project (Advanced System Studies for Energy Transition) aims at providing studies in support to EU policy making, research and innovation in the field of energy. Studies are in general focussed on the large-scale integration of renewable energy sources in the EU electricity system and consider, in particular, aspects related to consumer choices, demand-response, energy efficiency, smart meters and grids, storage, RES technologies, etc. Furthermore, connections between the electricity grid and other networks (gas, heating and cooling) as well as synergies between these networks are assessed.

The ASSET studies not only summarize the state-of-the-art in these domains, but also comprise detailed qualitative and quantitative analyses on the basis of recognized techniques in view of offering insights from a technology, policy (regulation, market design) and business point of view.

Disclaimer

Authors

This study has been developed as part of the ASSET project by a consortium of Tractebel Impact and E3 Modelling.

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Executive Summary

In the fight for gender equality, the EU has made a considerable progress in the last decades by integrating gender perspectives in the policy-making. Substantial advancements were made in order to encourage women empowerment and guarantee equal treatment by legislation. The EU is determined to continue developing gender-oriented policies. The New Gender Equality Strategy[1] expressed the ambition to create a gender-equal Europe, where all people have an opportunity to develop their capacities and enhance prosperity of the society.

Gender equality can be attained in various ways, such as by enabling women's participation in decision-making, ensuring a level-playing field in the labour market and combating gender violence. Despite many improvements, some economic sectors remain unequal, in particular the energy. In order to promote gender-oriented strategies in the energy sector, collection and monitoring of gender-disaggregated data is an essential point.

First, this study performed an overview of the existing gender data on employment in the energy sector. The main source of the data was mobilized from the European Labour Force Survey (EU LFS) and Eurostat. According to the collected information, the energy sector remains dominated by male workers who represented 80% of total workforce in 2019. Nevertheless, **a slight progress has been registered between 2008 and 2019, where the share of women increased from 20% to 23%.** Data also reveals geographical differences, showing Northern and Western Europe Member States with higher women participation in comparison to Southern and Eastern Europe Member States. Further differences are noticeable between the energy sub-sectors (NACE two-level digit classification). The participation of women is lowest in the traditional coal mining sector ("Mining of coal and lignite") reflecting only 11%, while the electricity and gas sector ("Electricity, gas, steam and air conditioning supply") registered a 25% share in 2019. In general, the energy sector exhibits a very low female employment, representing only 0.5% of total female workers (1.3% for men) in the EU28 in 2019. Fewer women attain senior positions in the energy sector, which deepens the gender gap.

Second, complementary data has been collected from the EU Member States' energy-related ministries, regulators and gas and electricity transmission system operators (TSOs). The objective was to gather the information on women employment, education, ethnic origin, family status, citizenship and disabilities, to widen the database provided at the initial stage. This allowed for a more thorough analysis in a third step.

In general, the results reveal an important gap in data availability and reliability in the EU Member States, especially for NACE three-level digit code under EU LFS. Moreover, the data for some cross-categories are missing in EU LFS for the period before 2018.

The results indicate that **the share of women working part-time is higher than for men in the energy sector**, what is in line with the general trend in the whole industry. With regards to the age, the category 25-49 has the highest percentage of women representation.

[1] https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en

In the public sector, women participation in energy is higher, **reaching 44% share at the level of the EU Member States' Ministries of Energy**. Gender equality is almost achieved with 49% share at the lower hierarchical level (that is reflected by Directorate-General for Energy or equivalent level). Slightly above 25% of Ministers of Energy (or equivalent) are female, indicating that the gender parity is still difficult to achieve at the higher level of seniority. **In the case of regulators, gender equality represents an average of 32% of the total share** at EU level. Compared to the public sector, average women participation **in gas and electricity transmission system operators falls down to 28%.**

This study has to be understood as a starting point for gender-specific data gathering in the energy sector at level 2 or 3 NACE codes. Continuity in investigations in the coming years is the key element to have a possibility to extend gender analysis and comparison in the energy sub-sectors.

As the first of the kind in terms of gathering gender-disaggregated information in the energy sector across private sector and administration, this study led to the conclusion that further investigations are needed. The existing difficulties related to the data collection showed that there is still a long journey to go. To facilitate future gender-disaggregated data collection, each organization needs to understand the benefits of tracking and monitoring such indicators to create a balanced workforce.

We therefore plead for **continuing this type of study with structured data collection and analysis process in the energy sector** for supporting appropriate policy measures. Among the remaining gaps, we would suggest to deep dive on the following topics :

- Difference of the percentage of women in the private sector with regards to their representation in public administrations. In order to assess the specificity of the "attractiveness" of the public sector, it ought to be assessed against other sectors.
- Qualitative study of the policies implemented to promote diversity and inclusion and their impact on the recruitment of women
- With regards to employment of women, how does it relate to their representation in the student community of energy related subjects (e.g. STEM careers)
- Questions on topics such as education, family status or ethnic origins were only addressed towards the women population. In order to derive some meaningful conclusions on how each situation is expressed differently depending on the gender, their equivalent should have also been addressed to the men population

If we would have only one suggestion to make, it would be to re-conduct yearly this survey on gender equality in the energy sector to create within each organization the practice of collecting information at all levels and shed the light on their importance, and trigger well-informed decision process.

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Context

Equality is a core value of the European Union, a fundamental right and a key driver of economic growth and social well-being. The EU energy supply sector remains unequal as regards employment, remuneration and opportunities for women. The gathering and reporting of gender-disaggregated data for energy-related sectors is crucial in order to monitor progress and mainstream gender equality in EU policy makers, who need to understand and address women's needs and abilities to be active in the energy sector. Although some data is already available on gender division in the energy sector, today it originates from reduced samples or scattered geographical scopes, without a structured data collection methodology at EU level. The collection of gender-disaggregated data will not only inform energy policy, but also feed into the overall gender equality strategy, as data-informed policies are needed to achieve gender equality.

The energy sector remains one of the most gender unequal sectors and closing this gender gap will be vital as women are key drivers of innovative and inclusive solutions (IEA, 2020). Despite making up 48% of global labour force, women only account for 22% of the workforce in the traditional energy sector. For management levels the numbers are even lower (IEA, 2020). The barriers women face in the energy sector are similar to those they face elsewhere in other sectors of the economy. However, the challenges of the energy sector are more pressing since the sector is going through a process of clean transition, requiring innovative solutions to be adopted and greater participation from a diverse talent pool. A recent survey of IRENA (2019) showed that women account for 22% of the labour force in the oil and gas sector and 32% in renewable energy. However, the participation in this survey was voluntary, with potential implications for sample bias, which underscores the need for a systematic data collection effort for gender-related data in the energy sector.

In this context, the study aims to create and analyse a gender-disaggregated dataset on employment of women in the energy sectors, which will form an objective basis for the design of gender-aware policies in the sector.
The goal is to quantify as accurately as possible the current status in gender equality in the specific energy sector, where no such study currently exists. The interests reside in understanding the women share and its historical trends, but also the influence of cross-categories, such as energy subsector, employment status, education level, etc.
The project has been described in 3 phases. Task 1 had for objective to create a common database from existing databases, and to draw a first analysis of the main trends of this gender-disaggregated economic database. In addition, as no data was available regarding to the ministries, TSOs and regulators, Task 2 aimed at collecting gender-disaggregated data in those entities for the first time at the European Union level. Task 3 goes further in the study of the data gathered in both previous Tasks, as will be described in Chapter 3.

1 First analysis on existing databases (Task 1)

1.1 Databases used

In Task 1 of the study, we perform a detailed scoping of available datasets including reliable gender-disaggregated data on employment in the energy sectors. The most important source of employment data is the European Labour Force Survey (EU LFS), including Micro data from official statistics produced by Eurostat. The Gender Statistics

Database of EIGE also uses the same data as Eurostat LFS dataset. In addition to Eurostat LFS, which provides gender-disaggregated employment data on the two-level digit of detail in NACE Rev.2 classification, DG ENER has provided some gender-disaggregated data at NACE three-digit detail, aiming to include more granular information on gender equality at the sub-sector level in EU Member States. Based on the LFS data, the women's share of employment in EU energy sectors is significantly lower compared with both the overall EU labour force (46%) and with other industrial sub-sectors. The lowest performing sub-sector, which is also energy related, is mining of coal and lignite (Figure 1).

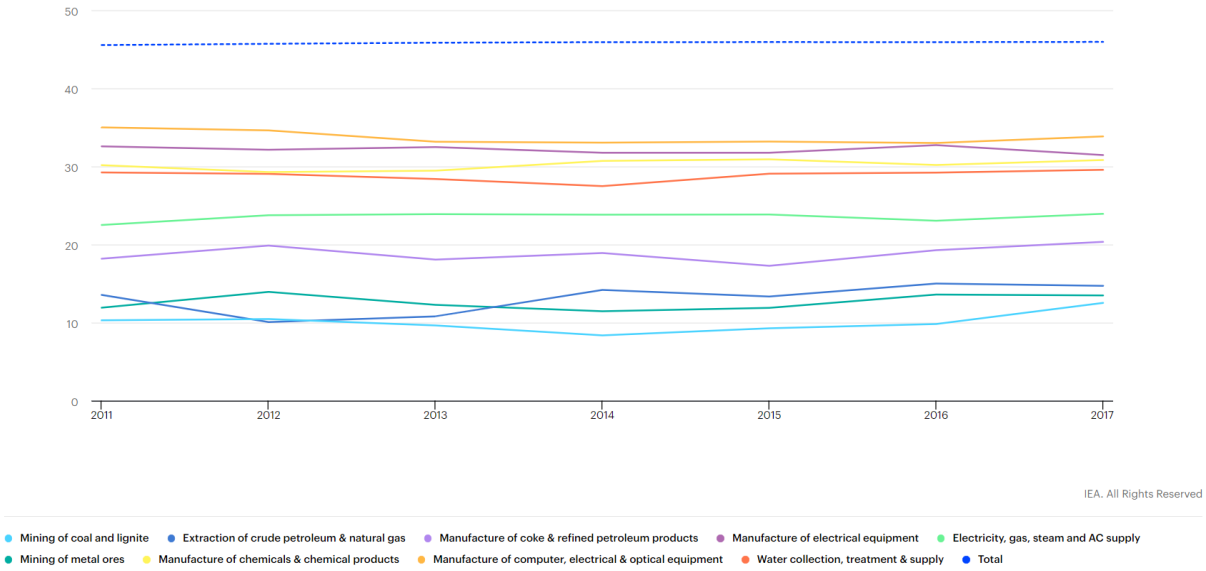

Figure 1 : Percentage of female employees in various EU sectors 2011-2017, Source: IEA, Paris

The above data sources have been gathered and used to develop a comprehensive dataset including gender-disaggregated data for EU countries, focusing on energy sectors, in the period 2000 to 2019, depending on data availability. The dataset is provided in easy-to-use and transparent Excel-based format and includes various gender-related indicators derived from Eurostat LFS database, including:

- Employment by sex, age and detailed economic activity (NACE Rev. 2 two digit level)
- Employment by sex, age and professional status
- Employment by sex, age and educational attainment level
- Unemployment rates by sex, age and citizenship (%)
- Employment by sex, age, professional status and full-time/part-time
- Full-time and part-time employment by sex and economic activity
- Employment rates by sex, age and citizenship
- Employment by sex, age and NACE rev.2 3 digit (provided by DG ENER)

We should notice that the EU LFS data does not allow to explore further gender-relevant intersections and indicators, such as ethnic origin, country of birth, educational attainment, number of children, age of youngest child, household composition etc. Recently, Eurostat released a new database on "Employment in the environmental goods and services sector" (env_ac_egss1), but this does not include gender-disaggregated data and thus it is not useful for our study.

The Eurostat LFS data is analysed at the highest possible granularity to identify the emerging trends in gender equality in the energy sector in EU Member States. The analysis focuses on conventional energy-related sectors as included in official Eurostat statistics and in particular:

- Mining of coal and lignite (B05),
- Extraction of crude petroleum and natural gas (B06),
- Manufacture of coke and refined petroleum products (C19),
- Electricity, gas, steam and air conditioning supply, manufacture and distribution (D35)

Using data from DGENER providing a more granular split across sectors at three-digit level of detail, the D35 sector can be split into: electric power generation, transmission and distribution (D35.1), manufacture and distribution of gaseous fuels (D35.2), steam and air conditioning supply (D35.3). Eurostat statistics do not include gender-disaggregated data for renewable energy and energy efficiency technologies, thus limiting the potential for gender analysis in these sectors. As agreed with the EC at the project kick-off, the gender equality analysis expands to other sectors, which are highly-relevant for the low-carbon transition (e.g. construction).

1.2 Results 1: The electricity sector

As a starting point, Figure 2 shows employment by gender in the electricity and gas sector (D35) across EU countries in 2019, highlighting that women account for only 25% of the EU employees in the sector. There are relatively limited differences across EU countries, as the share of women ranges between 20% and 30% in most Member States. Women account for more than 35% of sectoral workforce in countries such as Denmark, Sweden and Belgium, reflecting their pro-active gender and social policies. On the other hand, in Romania, Luxembourg and Cyprus, the share of women in the sector is lower than 15%, illustrating the high gender inequality in these countries.

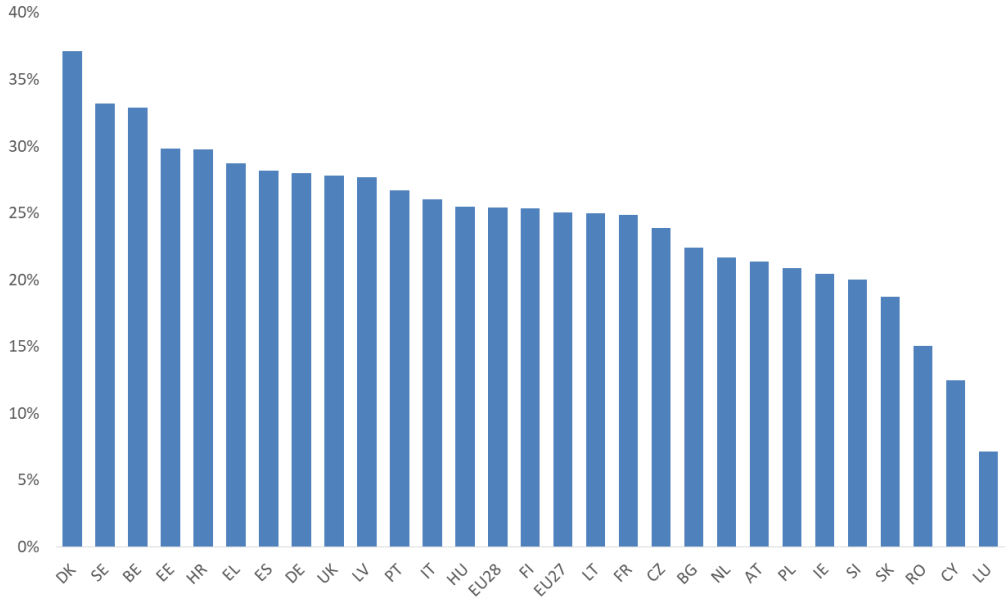

Figure 2 : Share of women in employment in D35 sector across EU countries in 2019, Source: Eurostat LFS database

There are limited data gaps in gender-disaggregated data in the D35 sector, as data exists for all EU countries with the exception of Malta, where employment data stops in 2014. However, when we consider higher sectoral granularity (i.e. to three-digit level),

there are large data gaps in most EU countries. The accompanying database includes all relevant data at both two- and three-digit level of sectoral detail, but the report focuses on the two-digit granularity, where data is more reliable and gaps are limited. As the study aims to identify potential gaps in available data, we do not attempt to approximate missing values or impute any data; the only exception is when LFS provide employment data for the categories "total" and "males", and thus the "female" data can be easily calculated (e.g. for Cyprus, Ireland, Lithuania, Portugal). It should be noted that the reliability of Eurostat LFS data is lower in small countries like Luxembourg and Cyprus, due to the small number of people working in the energy sector in these countries and the potential confidentiality standards.

1.3 Results 2: Fossil fuel industries

As several EU Member States do not extract fossil fuels, employment in the sectors B05 and B06 is zero in these countries. In these sectors, the Eurostat figures for aggregate regions (EU28 or EU27) are often different from the sum of figures reported at country level. The main reason is that the sample at country level might be too small to comply with confidentiality standards. This can also occur for aggregations where Eurostat sometimes reports missing values for more disaggregated figures. In the current study, we directly use the figures provided by Eurostat LFS database, without trying to ensure consistency or impute data for missing values for specific countries and sectors, using approximations or other methods. As mentioned above, the reliability of LFS data is lower in small countries, where a small number of people work in the energy sector[2].

The sector "Mining of coal and lignite" (B05) is characterized by the dominance of male workers who account for about 90% of the total workforce, while the share of women in the sector ranges between 9%-11% in the last decade, showing no signs of progress towards improved equality. As shown above, the "mining of coal and lignite" is the lowest performing sector in terms of gender equality in the EU across all sectors classified in NACE Rev 2. The analysis shows some differences in the share of women in the sector workforce across EU countries, with Bulgaria having by far the highest share of female workers (at about 30% in 2019), with countries like Slovakia, Greece and the UK having very low participation of women in the sectoral workforce (less than 5%). Figure 3 below illustrates the women participation in the coal mining sector in the ten EU Member States that continue to domestically produce coal and/or lignite[3]. Like above, data exists for all coal-producing countries until 2019, with "female" data either included in LFS database, or calculated directly as the difference between "total" and "male" jobs (e.g. for Germany, Spain, Greece, Romania, Slovakia, UK).

[2] In countries that do not produce fossil fuels, the number of workers in relevant sectors can be zero.

[3] For remaining countries, data analysis cannot be performed as there is no workforce in this sector

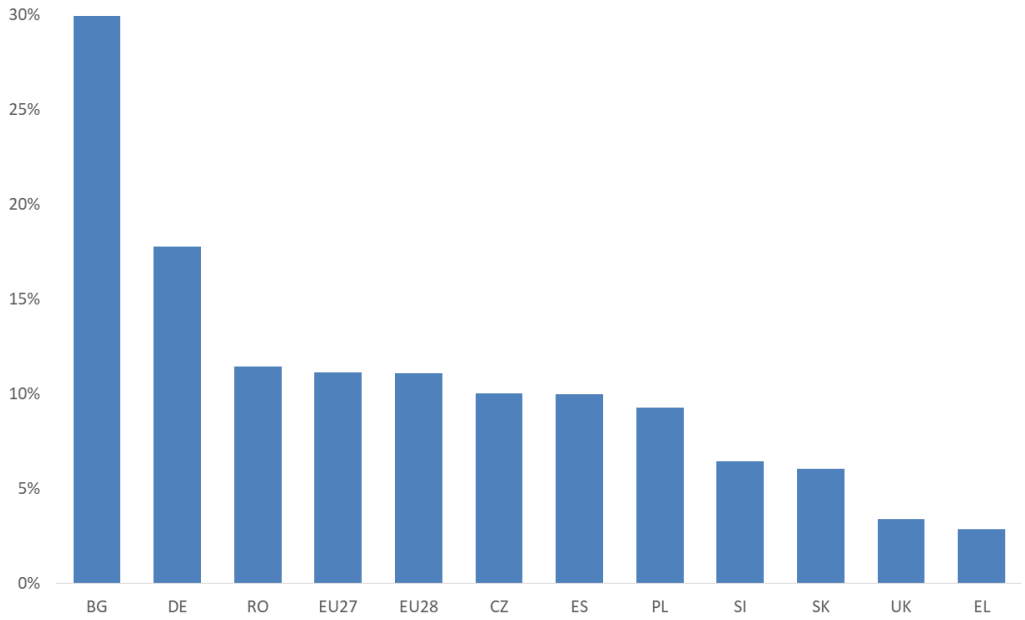

Figure 3: Share of women in employment in coal mining (B05 sector) across EU countries in 2019, Source: Eurostat LFS database

The picture is relatively similar in the "Extraction of crude petroleum and natural gas" (B06 sector), which is also characterized by the dominance of male workers (Figure 4). However, there are clear signs of progress in gender equality in the sector with the share of women increasing from 14% in 2008 to about 20% in 2019 (as shown in next section). The analysis shows some differences across EU countries, with Spain having the highest share of female workers of 40% in 2019 (but with limited total jobs in the sector), with countries like Croatia and Estonia having very low participation of women in the sectoral workforce (less than 15%). It should be noted that the reliability of LFS data is lower in small countries, where a small number of people work in the energy sector.

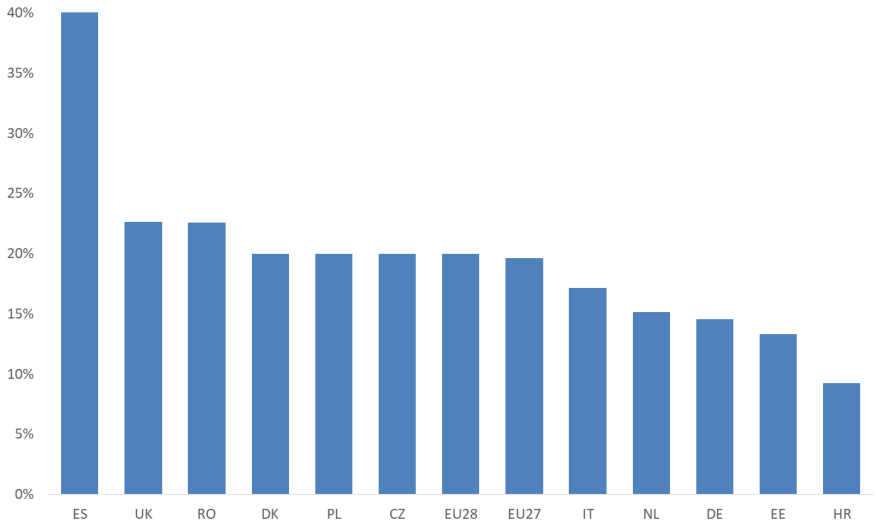

Figure 4: Share of women in employment in oil and gas extraction (B06 sector) across EU countries in 2019, Source: Eurostat LFS database[4]

[4] Data are presented only for EU countries that domestically produce crude oil and/or natural gas.

The share of women in the workforce of the sector C19: "Manufacture of coke and refined petroleum products" ranges between 18% and 21% in the period 2008-2019, with limited signs of progress in terms of gender equality (see next section for a detailed discussion). The analysis shows some differences across EU countries (Figure 5), with women accounting for more than 25% of the sectoral workforce in Ireland, Czech, Finland, Romania and Estonia in 2019. On the other hand, the share of women is lower than 10% in countries such as the Netherlands, Croatia and Hungary, indicating very low participation rate of women in the workforce of the C19 sector. As Eurostat LFS does not include gender-disaggregated data for 2019 in countries like Bulgaria, Estonia, Ireland and Romania, Figure 5 includes the respective values from previous recent years to ensure comparability across countries.

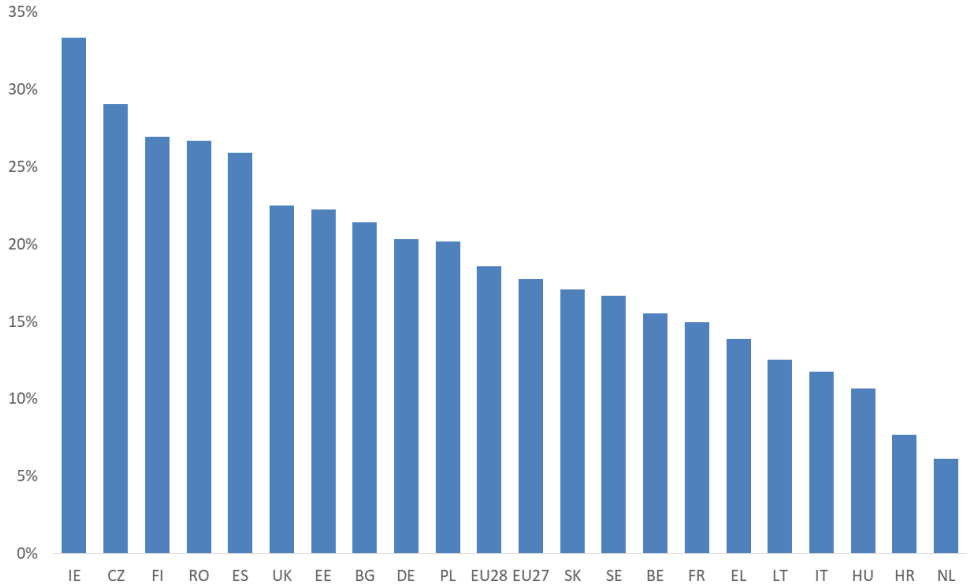

Figure 5: Share of women in employment in Manufacture of coke and refined petroleum products (C19 sector) across EU countries in 2019, Source: Eurostat LFS database

As analyzed above, the conventional EU energy sector is largely dominated by male workers, who account for about 80% of the total workforce. The share of women in the EU energy sector (including the sectors B05, B06, C19 and D35 in the NACE Rev.2 sectoral classification) has increased slowly from 20% in 2008 to 23% in 2019, indicating limited signs of progress towards improved gender equality (Figure 6). Thus, the energy sector remains one of the least gender diverse sectors of the EU economy. The data analysis shows some differences in the share of women in the energy workforce across EU countries, reflecting differences across countries with respect to the structure of the energy sector (as e.g. the participation of women in coal mining is lower than in the electricity sector) and their broad gender and societal policies and behavioural stances. Overall, the data analysis shows that the participation of women in the energy sector is higher in North-Western EU countries relative to South-East Member States that joined the EU after 2004, with Estonia, Slovakia, Czech, Poland, Romania, Slovenia and Cyprus having considerably lower participation of women relative to the EU average. This finding is consistent with the economy-wide gender equality differences across EU countries and reflects their cultural and socio-economic differences. The highest shares of women in the energy sector workforce (higher than 30%) are registered in countries such as Denmark, Sweden and Belgium, which overall have a high gender diversity in their economies. On the other hand, Romania, Poland, Luxembourg and Cyprus have very low

participation rate of women in the energy sector workforce (less than 15%). However, the reliability of Eurostat LFS data is lower in small countries like Luxembourg, Malta[5] and Cyprus, due to the small number of people working in the energy sector (especially as there are no jobs in fossil fuel supply sectors in these countries) and the potential confidentiality issues. There are limited data gaps as gender-disaggregated data are provided by LFS database at the required sectoral, country and temporal resolution, with data for "female" energy jobs commonly included directly in the dataset, while in some cases[6] these can be directly calculated as the difference between "total" and "male" jobs in the specific sector.

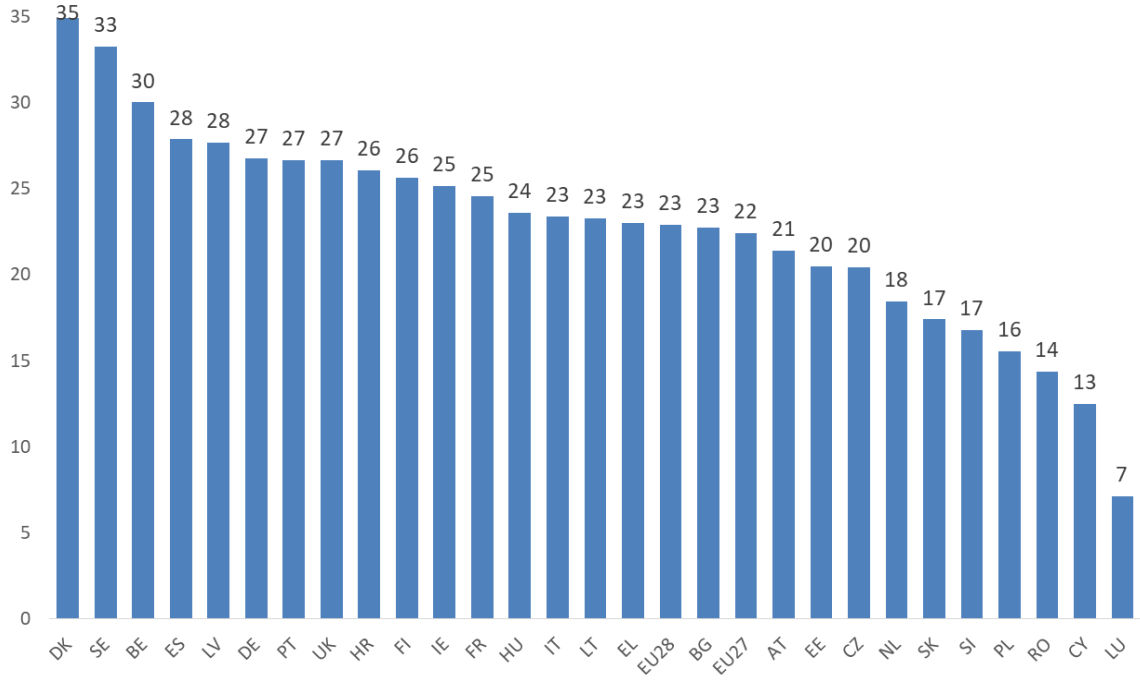

Figure 6: Share of women in employment in energy sector (the sum of D35+C19+B05+B06) across EU countries in 2019, Source: Eurostat LFS database

1.4 Results 3: Historical trends

The current section provides an overview of the historic trends on gender equality in the EU energy sectors in the period 2008-2019. As Eurostat changed the sectoral classification to NACE Rev.2, the analysis cannot expand in the period before 2008, as data comparability is not ensured. As analyzed before, when moving to the three-digit level of sectoral detail, there are large data gaps in most countries and sectors. Thus, here we focus on gender-disaggregated data at the two-digit level of detail using the Eurostat LFS database. The data analysis shows that there are limited improvements in gender equality in the European energy sector, with the share of women in sectoral workforce increasing from 20% in 2008 to 23% in 2019. The picture differs among sectors, with improved gender diversity in the sectors of electricity and oil and gas extraction, but no changes in coal mining and the C19 sector "Manufacture of coke and refined petroleum products". Among energy sectors, the most gender diverse over 2008-2019 is D35 ("Electricity, gas, steam and air conditioning supply") with women

[5] Due to the lack of gender-disaggregated data, Malta is not included in the Figures.
[6] E.g. for D35 sector in Cyprus, Ireland, Lithuania, Portugal and B05 sector in Germany, Spain, Greece, Romania, Slovakia and the UK.

accounting for 25% of its workforce in 2019, while the least gender diverse sector is B05 "Mining of coal and lignite", but also F41[7] (Construction of buildings), where the share of women is about 11% in 2019 (Figure 7). As the electricity sector accounts for about 75% of total EU energy-related jobs (LFS, 2019), the gender equality in the energy sector is massively influenced by developments in the sector D35 "Electricity, gas, steam and air conditioning supply".

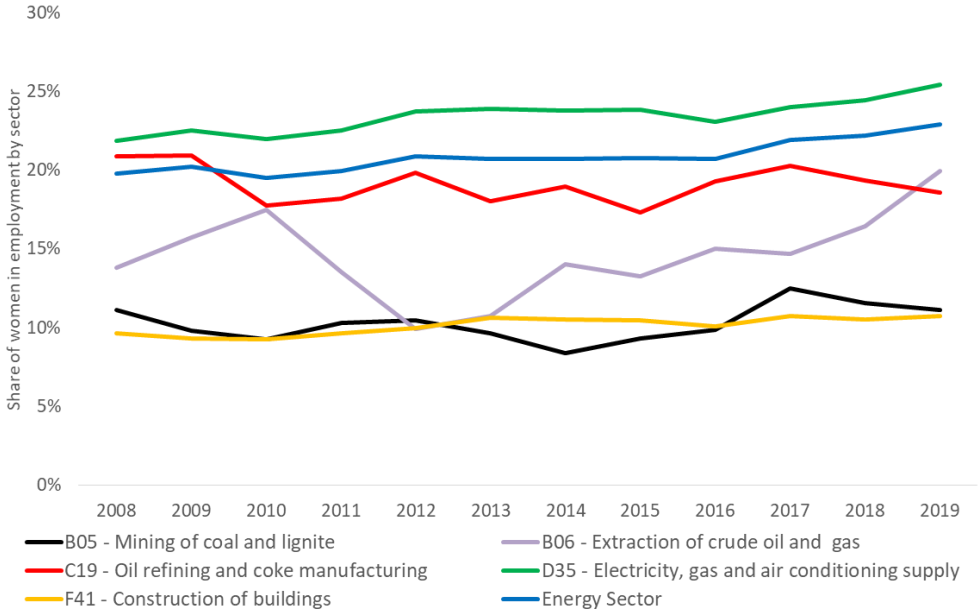

Figure 7: Share of women in employment in EU energy sectors over 2008-2019, Source: Eurostat LFS database

The growing share of women in energy industries is also demonstrated by the increase in the number of women employed in the energy sector (from 442k in 2008 to 491k in EU-28), despite the slight drop in overall energy-related jobs in EU-28 over the same period. If the UK is excluded from the analysis, the female labour force in the EU energy sector increased from 395k in 2008 to 425k in 2019. Most female jobs in the EU energy sector are created in Germany, the UK, France, Italy and Spain, reflecting their large size in terms of population and economic activity, while Poland is also high in the ranking, mostly as a result of women employed in the coal mining and electricity sectors. These six countries jointly account for about 70% of women energy-related jobs in the EU28 in 2019 (Figure 8). On the other hand, the number of female jobs in the energy sector is less than 1,000 for Luxembourg and Cyprus, reflecting their small size overall and the fact that there are no coal mining and petroleum refining activities in these countries. Figure 9 presents the number of female jobs in the period 2008- 2019 in each energy sector, illustrating the key role of the electricity sector, which accounts for more than 84% of total women energy-related jobs in the EU creating about 412,000 jobs for women in 2019. The participation of women and the number of female workers is significantly lower in fossil fuel supply industries (e.g. coal mining, oil and gas extraction) which are predominantly dominated by male workers (LFS, 2019).

[7] The sector F41 is not classified as an energy sector, but it is included in the analysis as it is expected to be extensively influenced by the low-carbon economic transition

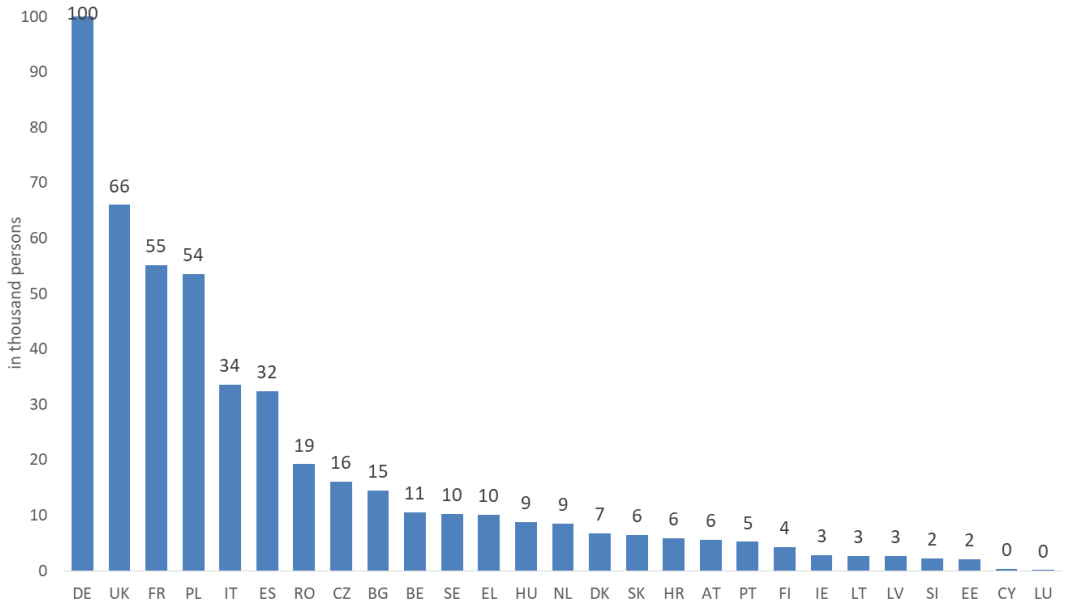

Figure 8: Number of women employed in the energy sector (the sum of D35+C19+B05+B06 sectors) across EU countries in 2019, Source: Eurostat LFS database

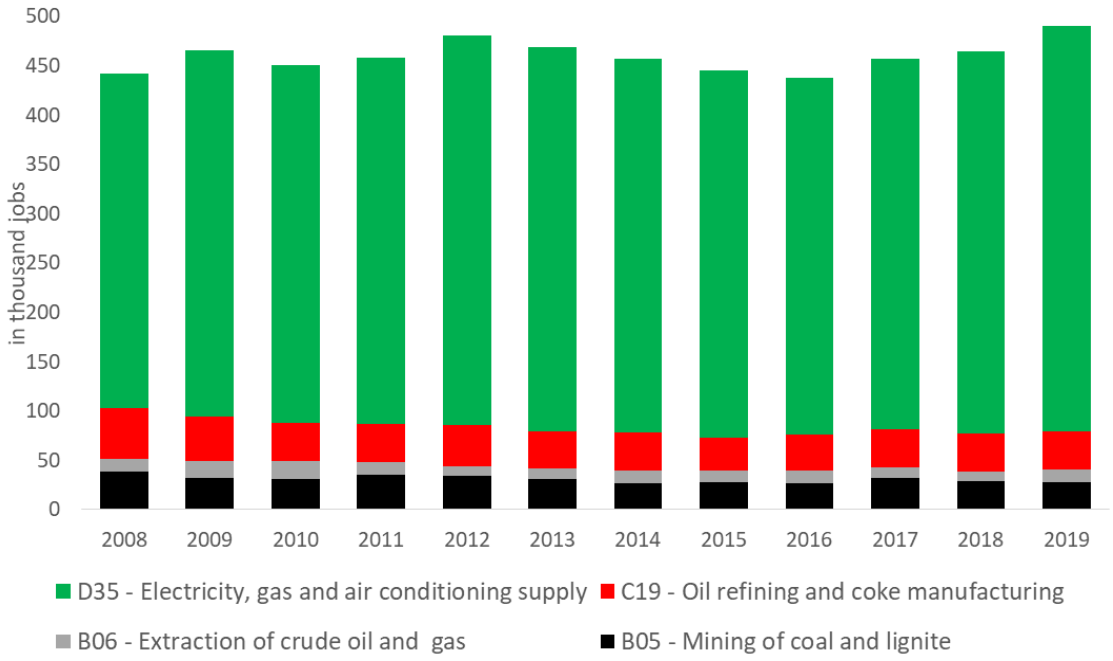

Figure 9: Number of women employed in the EU28 energy sectors over 2008-2019, Source: Eurostat LFS database

In order to evaluate the importance of the energy sector for gender equality, Figure 10 presents the share of the energy sector in women jobs by EU Member State in 2019. The data analysis indicates that the energy sector has a relatively small contribution in female employment, as it accounts for only 0.5% of total female workers in the EU28 region in 2019 (while the respective share for men is estimated at 1.3%). There are some notable differences among EU counties, largely reflecting the size of conventional energy sector and the degree of gender equality. Consequently, the energy sector represents more than 0.7% of total female workforce in countries like Bulgaria, Poland

and Croatia, whose energy sectors have a relatively high contribution in their GDP. In contrast, countries with limited production of fossil fuels and developed economies (such as Portugal, Finland, Austria, Ireland) register very low contribution of the energy sector in total female workforce (about 0.3%), while data reliability issues for Cyprus and Luxembourg do not allow for comprehensive analysis.

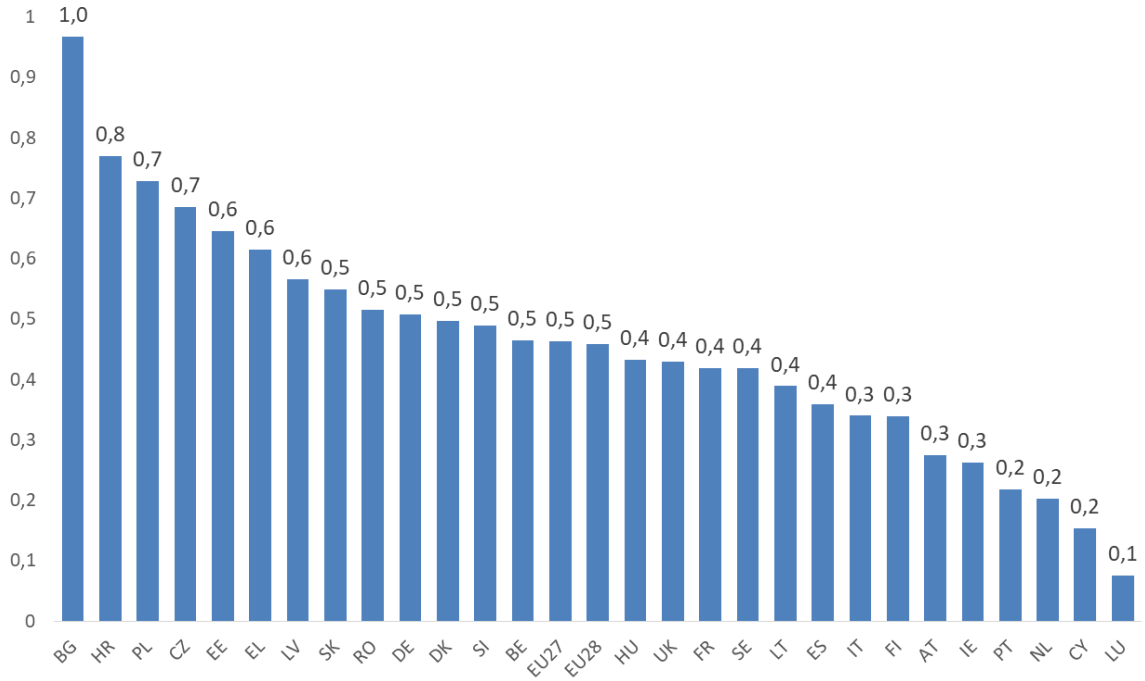

Figure 10: Share of the energy sector in total women employment in EU countries in 2019 (in %), Source: Eurostat LFS database

Women face several barriers when trying to enter and advance in the conventional and renewable energy sectors (Czako, 2020). The perception of gender roles and industry-wide workplace culture remain the most important barriers for women in the energy sectors (BCG & WONY, 2018). Besides recruitment, other areas where women face challenges include retention, promotion, advancement, and leadership (BCG & WONY, 2018; IEA, 2017). Data shows that fewer women reach senior roles in the energy sector than in the broader economy, with notable variations between sectors. In the European Union, these differences are evident (Figure 11), with more senior roles held by women (>20%) in the sub-sectors of water, mining of metal ores and manufacture of chemicals, compared with the sub-sectors of extractive industries, mining of coal and lignite and the manufacture of coke and refined petroleum products (<15%).

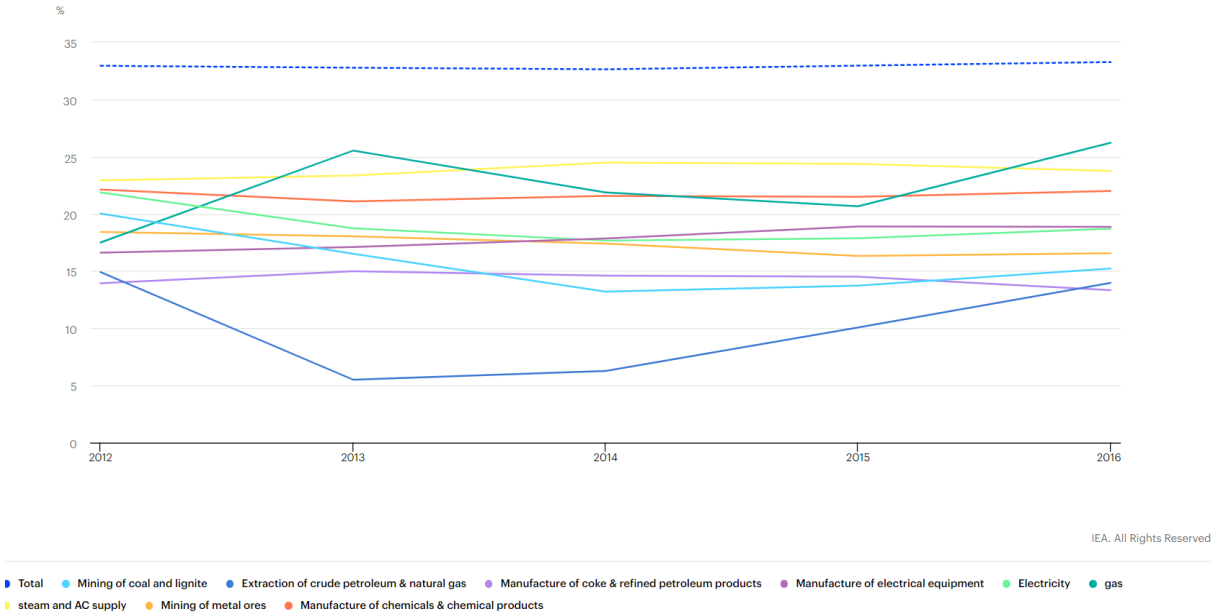

Figure 11: Percentage of female senior officials and managers in the energy sector in the European Union, 2012-2016, Source: IEA, Paris

1.5 Conclusion of the preliminary data analysis

Gender diversity in the energy sector is vital for driving more innovative and inclusive solutions for clean energy transitions (IEA, 2020). The energy sector is one of the least gender diverse parts of the economy, as women's participation is below that of the broader economy and varies widely across energy sub-sectors. Despite making up 48% of the global labour force, women only account for 22% of the labour force in the oil and gas sector and 32% in renewables (IRENA, 2019a). The energy industry, especially conventional energy sectors are male dominated globally and in EU countries. Renewable energy industries are more appealing to the female workforce due to their multi-disciplinary dimension, as well as the holistic, democratized energy future that they represent (IRENA, 2019b). The low-carbon transition will require innovative solutions and business models and greater participation from a diverse talent pool (IEA, 2020), thus the energy sector should provide equal opportunities to both genders.

Through detailed data analysis, we assess historical trends of gender equality in the energy sector in EU Member States and identify data gaps in specific countries and sectors, which inform tasks 2 and 3 of the study. The analysis showed that there is a clear lack of structured gender-disaggregated data for the energy sector across EU countries; some relevant gender-disaggregated data is included in Eurostat LFS dataset for conventional energy supply sectors, but these do not provide estimates at granular sector level (e.g. at three-digit level of detail). In addition, no gender-disaggregated data exists for renewable energy technologies, energy efficiency, and other options required for the low-carbon transition. The accompanying database provides a comprehensive picture on data gaps and limitations in specific sectors and EU Member States.

The data analysis shows that the energy sector is largely male-dominated in all EU countries, with limited signs of progress in the last decade, demonstrated by the modestly increasing share of women in sector workforce (from 20% in 2008 to 23% in 2019). The participation of women in the labour force is strongly influenced by cultural and social norms (IRENA, 2019a), and thus the gender gap in labour force participation varies according to the region and sector, with coal mining being the least gender diverse

sector in the EU economy. The analysis shows that the participation of women in the energy sector is higher in North-Western EU countries relative to South-East Member States that joined the EU after 2004, reflecting their socio-economic and cultural differences (LFS, 2019) and the sectoral composition of their energy systems. The data analysis reveals also large differences across energy sub-sectors, with coal mining being the least gender diverse sector of the European economy, while the participation of women is higher in the electricity sector. Understanding industry- and company-level dynamics is required to ensure gender balance in the EU energy supply sector, as some energy-related industries already recognise that the lack of gender diversity is a competitive constraint and are moving to address the imbalance (Czako, 2020). Further analysis is required to analyse if and how companies are lowering the barriers for women's entry and career progression, and what actions matter for supporting productivity and performance to ensure the benefits of gender diversity can be realised across the EU energy sector.

2 Complementary Data Collection (Task2)

Upon the identification of available data in the Task 1, Task 2 aimed at performing complementary data collection on the employment of women in the energy sector.
In this task, the EU Member States' energy-related ministries, regulators as well as gas and electricity transmission system operators (TSOs) were asked to answer the questionnaire that aimed to collect gender-disaggregated data on women employment and participation in the energy sector. Furthermore, an additional desk research was performed when necessary to fill potential data gaps and identify supplementary databases.
This section details the methodology used, the results achieved, difficulties encountered and best practices for Task 2.

2.1 Methodology

Task 2 consisted of two main activities, which ran in parallel during the realization of the study, as observed in Figure 12. These involved an online questionnaire and simultaneously, desk research for the collection of additional databases and organigrams of analyzed stakeholders in the energy sector.

A. Online questionnaire
B. Desk research

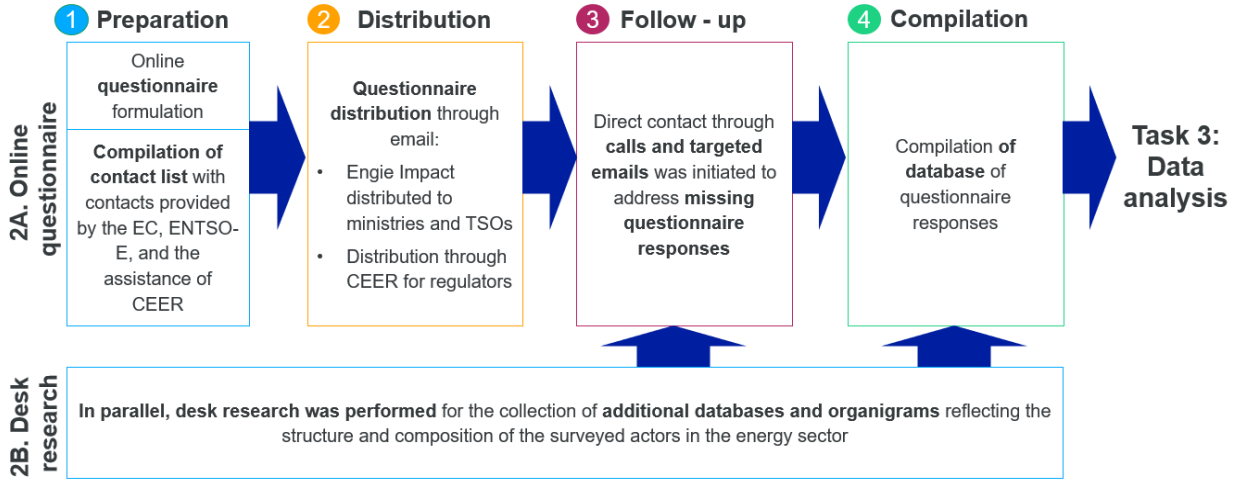

Figure 12 Methodology in Task

To fulfill Task 2.A Online questionnaire, 4 steps took place:

1. Preparation

The questionnaire for data collection was prepared considering gaps identified in Task 1, as well as the European Commission's expectations and suggestions. When formulating the questionnaire, the following datapoints were targeted:

- Employment at hierarchical different levels
- Different educational levels
- Employment in full or part time working schedules
- Caring responsibilities of children and adults

- Ethnic origin
- Disabilities
- EU and Non-EU citizenship status

Since one of the main gaps was found in the employment of women in key decision-making positions, the standard corporate governance frameworks were identified to classify the hierarchical levels in the public and corporate sectors. In the case of ministries, the European Institute for Gender Equality (EIGE)'s methodology[8] was employed to classify the different hierarchical levels. At the same time, for TSOs and regulators, which share typically a corporate sector style structure, the framework presented in the literature was used[9].
The following corporate governance frameworks can be observed below:

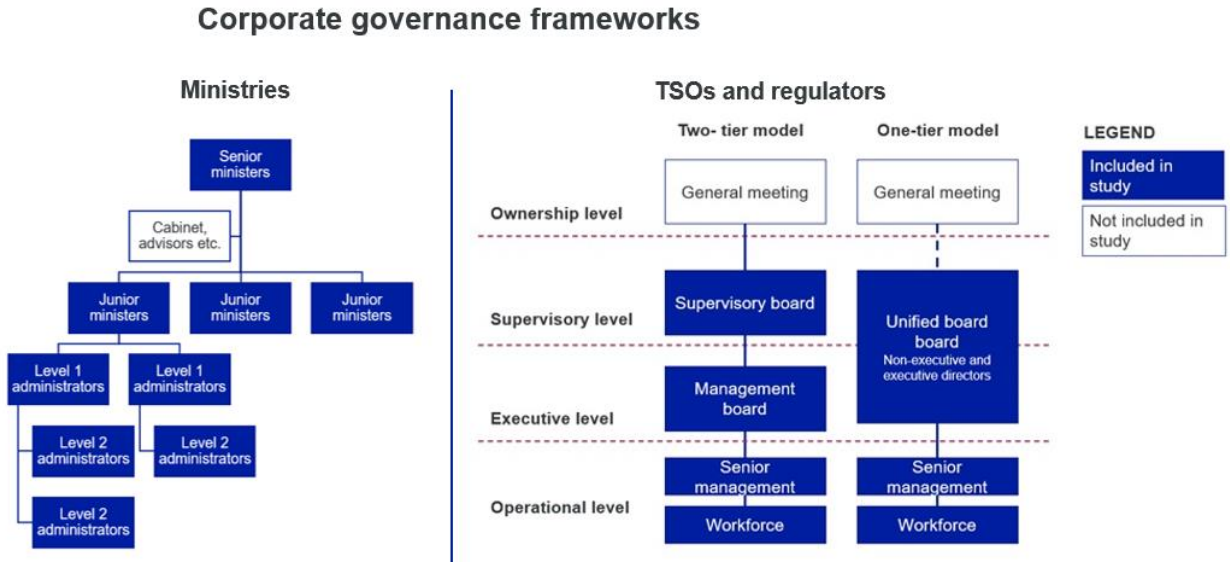

Figure 13 : Corporate governance frameworks for ministries, TSOs and regulators. Note: the option to select "other" type of corporate structure was provided to TSOs and regulators

The final questionnaires sent to ministries, TSOs and regulators can be found in the Annex 3.6 and 3.7
In parallel with this activity, a contact list was compiled for a distribution of the questionnaire. For this purpose, the European Commission provided a contact list of representatives of energy-related ministries[10] and TSOs.
Moreover, sectorial associations for the electricity TSOs and regulators collaborated closely with the data collection team. They actively contributed to setting up a contact list and to accelerating a distribution of the questionnaire. The European Network of Transmission Systems Operators for Electricity (ENTSO-E) provided electricity TSOs

[8] EIGE Gender statistics database methodology: https://eige.europa.eu/gender-statistics/dgs/indicator/wmidm_env_nat__wmid_env_nat_envadm/metadata
[9] Gender equality in the workplace questionnaire (EQUILEAP, 2019): https://equileap.com/wp-content/uploads/2019/05/Equileap-Questionnaire-2019.pdf
[10] It must be noted that the ministry in charge of the energy sector differs from country to country. While in some cases a dedicated energy ministry exists, the sector is represented at the secretariat, directorate, or other levels.
In the case where no dedicated energy ministry exists, the intention of the questionnaire was to collect only statistics from the energy-related hierarchical levels.

contacts, while the Council of European Energy Regulators (CEER) kindly assisted in distributing the questionnaire to its members.

2. Distribution

The questionnaire designed during the first step was initially distributed through an email campaign, providing an online link to each of the identified representatives of ministries, TSOs and regulators. This phase comprised multiple reminders and allowed representatives to rise questions or request clarifications during approximately 1.5 months.

3. Follow – up

Upon a review of the response rate of the initial distribution campaign, the team followed up directly with respondents who had not provided their reply to the questionnaire by proposed deadline. This was done through dedicated phone interviews with representatives, as well as targeted emails. Whenever phone contacts were available or retrievable, efforts were made to contact representatives directly.
At this stage, in the case of ministries, the data collection team analyzed the websites and organigrams of the concerned ministries and sent a 'tailored' mail. In a mail, a general structure of a ministry has been pre-fulfilled (such as a position of Senior minister, Junior minister, Level 1 and Level 2 administrators). An official confirmation of the organizational structure has been requested to validate the publicly available information.
Furthermore, in the case of unreachable representatives, desk research was used to retrieve updated contact information. When potential changes in the respondent's organizational structure were identified, additional research was performed to obtain a contact information of the relevant representative.
This follow-up phase took approximately 1.5 months to collect replies from additional representatives.

4. Compilation

During this phase, the information collected from the online questionnaires, phone calls, targeted emails, organigrams and additional desk research was compiled into an excel database. This database served as the basis of the analysis performed in Task 3.

2.2 Results and recommendations

The results of Task 2 are composed of an excel database, which was used as a direct input to Task 3. Thus, a detailed analysis of responses obtained is shown in the dedicated section for Task 3.
Nevertheless, this section highlights the achieved response rate of the Task 2 questionnaire, while shedding light to the difficulties encountered in the data collection process and providing recommendations on best practices to mitigate such difficulties in future studies.

2.2.1 Results of Data Collection

Overall, 27 ministries, 27 regulators and 55 TSOs in the energy sector were invited to fill out the questionnaire. The list of surveyed organizations can be found in Annex 0. Collected links to code of conducts and legal policies of Member States are summarized in the Annex 3.5.

The questionnaire received an overall response rate of 73%. However, when looking at the different types of respondents, various response rates were achieved (see Table 1).

Table 1 Response rate to online questionnaire

Respondent organization	Response rate
Ministries	93 %
Regulators	85 %
Electricity network TSOs	59 %
Gas network TSOs	57 %

A response map illustrates how ministries of energy (or equivalent) of EU Member States have preferred to respond to the survey. At the first stage the most proactive ministries have replied ('early respondents'). Once the data collection team contacted by phone the rest of ministries, a quarter of the respondents replied online ('standard respondents'), a second quarter answered on targeted mail and five ministries replied directly by phone. Only two member states have not responded on the survey.

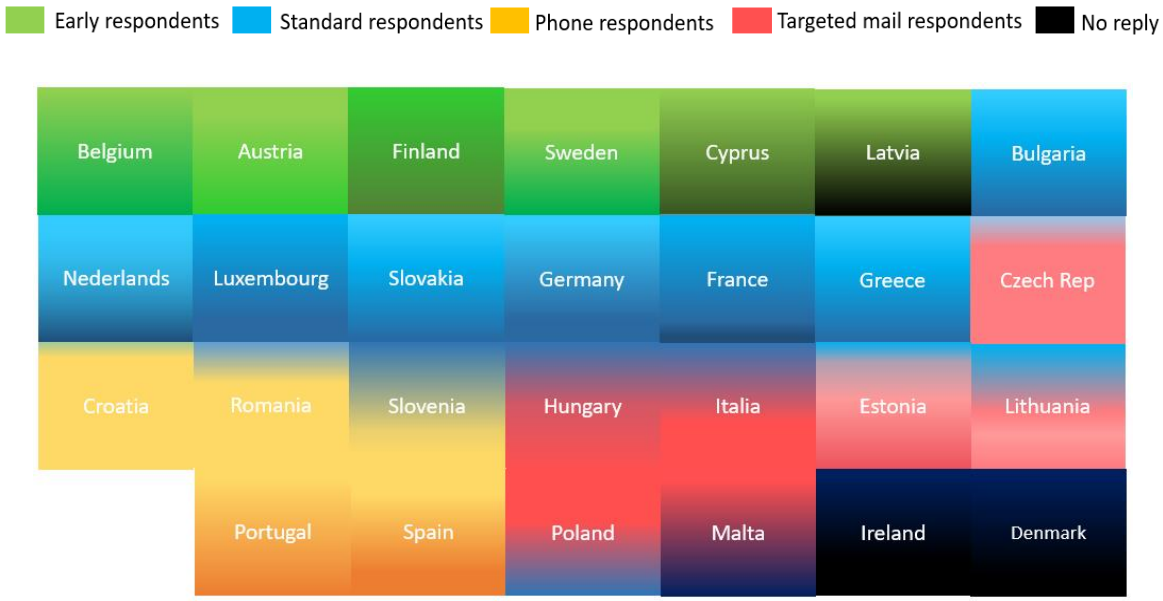

Figure 14 :Response map of Ministries of energy (or equivalent) of EU Member States

2.2.2 Difficulties encountered and recommended best practices

Throughout the realization of Task 2, the data collection team faced certain difficulties which had multiple impacts to the completeness of the retrieved data. During the process of data collection, best practices were also identified, which can contribute to future studies. Table 2 summarizes these two items, generalizing the key messages applicable for this study. Further discussion is detailed in the following paragraphs for each type of respondent.

First, it can be observed that ministries achieved the highest response rate. One-fifth of the ministries provided direct responses online only, while the great majority was more responsive through active follow-up performed through targeted phone calls, emails, in combination with additional desk research on the organigrams of the ministries (see Annex 0). These complementary approaches were found to have a very positive effect to increase the response rate and are recommended as best practices.
Second, regulators achieved a high response rate, largely due to the close engagement of Council of European Energy Regulators (CEER) with the respondents. This ensured optimal distribution of the questionnaire to the relevant contact points, and the opportunity to follow up them with ease. This is also identified as one of the best practices.
Finally, TSOs (both gas and electricity) showed the lowest response rate. First, one of the factors was the late distribution of the questionnaire due to the lack of available contact information. This shortened time for some TSOs to collect the data, which deterred them from filling out the questionnaire due to conflicting priorities in their day-to-day work. Second, it was not possible to follow up closely with TSOs through phone calls, as only emails were provided. Attempts were made to contact TSOs through their information contact centers or media centers. However, they refused to provide contact information of relevant persons in charge, citing GDPR regulation concerns when sharing internal information. Third, some TSOs opted out of participating in the survey, pointing out that the gender disaggregated data information on citizenship, family status and origins were not available.

Table 2. Difficulties encountered in data collection and recommended best practices

Difficulties encountered	Recommended best practices	Comments
Limited available personnel at respondents' side during COVID-19 emergency slowed retrieval of responses	▪ Allow an adapted response time during times of crisis ▪ Provide more frequent and targeted follow-up ▪ Identify correct representative accountable for data collection at respondents' side	▪ Work from home measures implemented in many ministries during the COVID -19 emergency in 2021
Misinterpretation of hierarchy terminology used in the questionnaire caused misunderstandings in questionnaire filling	▪ Use desk research as a complementary element to understand a composition of organizations, and verify it through a targeted email/phone call	
Misinterpretation on scope of data collection of the study in ministries with responsibilities beyond the energy sector	▪ Perform preliminary desk research of organigrams to target the relevant divisions for data collection ▪ Specify clearly in the questionnaire that the scope of data collection refers only to energy-related divisions	
Difficulty to understand the questionnaire in English caused misunderstandings in questionnaire filling	▪ Translate the questionnaire in some of the Member States languages to allow faster response and avoid misinterpretations	▪ The Spanish, Portugal, Italian and Polish ministries experienced difficulties with this item
Incomplete contact lists prevented timely interaction with organizations	▪ Expand the engagement with sectorial associations (e.g., CEER, ENTSO-E), which can leverage their privileged relationship with respondents to identify the correct contact and distribution channels	▪ Some TSOs were reluctant to provide contact information citing data protection concerns and GDPR regulation compliance

Changes within the organizational structure prevented timely contact with respondent	▪ Plan a desk research on EU Member States organizational structures and organigrams	▪ The Romanian and Italian ministries[11] underwent organizational changes during this data collection effort
Suggested representative at respondent organization was not in function anymore	▪ Plan a task in future studies to search, update and verify contact information.	▪ Additional contact information was retrieved through desk research
Statistic information were not directly available to the representative, but rather at different departments of the respondent organization, thus slowing and preventing data collection	▪ Identify the correct representative through multiple channels (associations, direct introduction, online search, phone calls…) ▪ Implement a functionality in the online questionnaire to allow saving progress and collaboration between multiple users	▪ The intervention from HR departments or another ministry body was necessary to combine data. ▪ This issue was raised especially at the ministry level in Spain, Poland, Portugal and Hungary.
Concerns about collecting and sharing sensitive information (e.g. education, ethnicity, children in charge)	▪ Clearly state data collection regulation compliance of questionnaire ▪ Conduct preliminary research on the frameworks for data collection for sensitive categories (e.g., education, ethnicity, children in charge, others) ▪ Address respondents' concerns on sensitive information through phone calls/personalized emails	▪ While no member state imposes absolute prohibition of data collection on "sensitive" categories (such as ethnicity)[12], local practices in member states deter from collecting such data

[11] In Romania, the Ministry of Economy, Energy and Business Environment was divided in April into two different ministries: Ministry of Economy and Ministry of Energy. The data collected from Ministry of Energy on the organizational structure at the beginning of May was therefore not complete as the level 2 administrators (directors of energy departments) were not yet officially nominated.
The same difficulty was encountered in Italy where all energy departments have been transferred in March/April to a newly created Ministry of Ecological Transition. Due to an internal reconstruction of the Ministry, it took more time to receive the final data confirmation.

[12] According to European Commission (2017). Analysis and comparative review of equality data collection practices in the European Union: Data collection on the field of ethnicity

	▪ Reflection on "must-have" datapoints to be collected in future studies	
Respondent organization's email cybersecurity blocked first contact with representatives, thus preventing timely contact with organizations	• Facilitate direct email introduction to data collection team to avoid messages being filtered • Publish the data collection efforts through official websites of the European Commission and social media channels	• The Danish Ministry for Climate, Energy and Utilities uses a single contact point for all requests.

In addition to the previous table, additional feedback was provided by the surveyed representatives. It comprises the following two key points:

- In some Member States, other public institutions are also dealing with the energy sector. As they are independent bodies or partially dependent from ministries, they were not directly included in this survey. For the future reference, it would be valuable to include these institutes as they also represent a situation at member state level (for ex. in Portugal, Spain, Italy).
- For the future studies, a quantitative analysis could be accompanied with a qualitative one to have more precise idea why energy sector is attractive for women.

3 Data Analysis and recommendations (Task 3)

3.1 Introduction

Before going into the detailed objectives of Task 3, it is important to understand the origin and the character of the available data.
One of the outputs of Task 1 has been the creation of an Excel file gathering 3 databases two of them originated mainly from data provided by DG ENER. The third one contained additional gender-disaggregated data together with cross-categories in a more general context than the energy sector. All data initially originated from the Eurostat LFS (Labour Force Survey), which suggests that coherence between all databases is likely.
The first database "raw_database_ener" gathers the men/women proportion of the active labour force along different NACE economic sectors, years and countries of the European Union. The NACE "Nomenclature statistique des Activités économiques dans la Communauté Européenne » is a statistical classification of the economical activities in the European Union.
As a reminder, the NACE can be defined by 4 levels of detail. The First level (sections) is represented by a letter (A->U), the second level (divisions) is represented by a number with 2 digits (01 -> 99). Levels 3 (groups) and 4 (classes) both add an additional digit after the second level. For instance, letter D is the section "Electricity, Gas, Steam and Air Conditioning Supply", D35 is the same "Electricity, gas, steam and air conditioning supply" (there is only one division in the section D, which has the number 35), D35.1 represents the group "Electric power generation, transmission and distribution" and finally the class D35.11 designates the "Production of electricity" specifically.
The studied database, provided at the end of Task 1, contains the following level 2 divisions and level 3 groups:

B05	Mining of coal and lignite
B06	Extraction of crude petroleum and natural gas
	B06.1 Extraction of crude petroleum
	B06.2 Extraction of natural gas
C19	Manufacture of coke and refined petroleum products
D35	Electricity, gas, steam and air conditioning supply
	D35.1 Electric power generation, transmission and distribution
	D35.2 Manufacture of gas; distribution of gaseous fuels through mains
	D35.3 Steam and air conditioning supply
F41	Construction of buildings
F42	Civil engineering
F43	Specialised construction activities

The second database "raw_database_sec" adds a first cross-category and shows the proportion of women working part-time/full-time, along the years, NACE economic sector and European Union countries.
The third database gathers more general data, not directly dedicated to the energy sector, and not detailed by NACE codes. It contains gender-disaggregated data, together with the age category, professional status, full time/part time, education

attainment level, and employment/unemployment rate by citizenship. This database can be used as a reference for comparison with the specificities of the energy sector.
During Task 3, we added a fourth economical database LFSA_EGAN22D, again coming from the Eurostat LFS. This one adds a second cross-category showing a grouping by categories of age along the years, NACE economic sector and country.
Moreover, Task 2 provided the first survey to get gender-disaggregated data from top levels of Ministries in the energy sector, as well as regulators and TSOs. This resulted into two new distinct databases. The first one gathering information regarding the 4 top hierarchical levels in Ministries. The second one gathering the proportion of women in the top two hierarchical levels, as well as senior management level and finally for the whole workforce of each institution. In this second database, the origin of the data is specified : either gas TSO, power TSO, or regulator. Nevertheless, some of the TSOs are mixed entities and the data cannot always be split into very distinct categories, thus it has been analyzed across these entities altogether for the gas and power TSOs.

3.1.1 Objectives

This report finalizes the Task 3, the goal of which has been defined as:

1. To deepen the analysis of the first economic database after the output of Task 1, with a focus on the availability and reliability of the data. This need of representing the confidence we can get from the data emerged during the discussions following the presentation of Task 1.
2. To give a first statistical insight of the data collected in Task 2.

In practice, the following has been achieved:

1. Present the completeness and reliability of data for all the available databases.
2. Study the women share across energy sectors, and 2 cross-categories : full-time/part-time and age.
3. Study the trend amongst energy sectors for which enough data is available.
4. Present the woman share per seniority level for Ministries, TSOs and regulators.
5. Provide a list of Eurostat databases to follow up in the coming years.
6. Analyze the non-energy database provided in Task 1 in order to give a comparison point.

All the data cleaning and reorganization performed in Task 3, as well as the produced figures have been made via a Python code. This code has been designed in a way that it could be easily re-used if further data is available in the same format in the coming years.
This chapter is organized as follows: Section 3.2.1 presents the first objective of a deeper analysis of the first database provided by DG ENER and studied in Task 1, Section 3.2.2 inspects the actual data availability for the second database created from DG ENER. Section 3.2.4 presents the first study regarding Ministries, regulators and TSO data, corresponding to the second initial objective of Task 3. Section 3.3 gives an insight on potential new databases from Eurostat, as well as an deeper analysis of the third database, non-specific to the energy sector, as a base for comparison. Finally, in the recommendations Section 3.5 we will give perspectives on potential expectations for future studies.

3.2 Analysis of the economic databases

3.2.1 Additional data analysis of "raw_database_ener": Industrial sector

The first dataset "raw_database_ener" is based on data that has been provided by DG ENER. It contains sex-disaggregated data by country, energy subsector according to the associated NACE codes of level 3, and along the years. The first analysis completes the analysis performed in Task 1, and presents the available data in order to identify existing gaps in the given database, then show the women share by EU member state and subsector, as a mean value along the available years and in the last available year. Finally, when the data is sufficient to be reliable, the historical trend is computed.

3.2.1.1 Completeness and reliability of data

The two graphs (Figure 15 & 16) hereafter show the percentage of available data, from black (no data) to beige (all data available) from which we can conclude that :

- Data is totally missing for all level 3 NACE codes before 2018. Data is more present and reliable on the two last years (2018 and 2019) for this level. Data availability is more stable for the level 2 NACE codes.
- The "Electricity, gas, steam and air conditioning supply" sector is almost totally available, and the results we shall obtain can be considered as reliable. The sectors that have been added for information (construction of buildings, civil engineering and specialized construction activities) have also nearly full data.
- Moreover, looking at the repartition over countries, we see that missing data are quite uniformly distributed. **This prevents the risk of bias when generalizing to all European countries.**

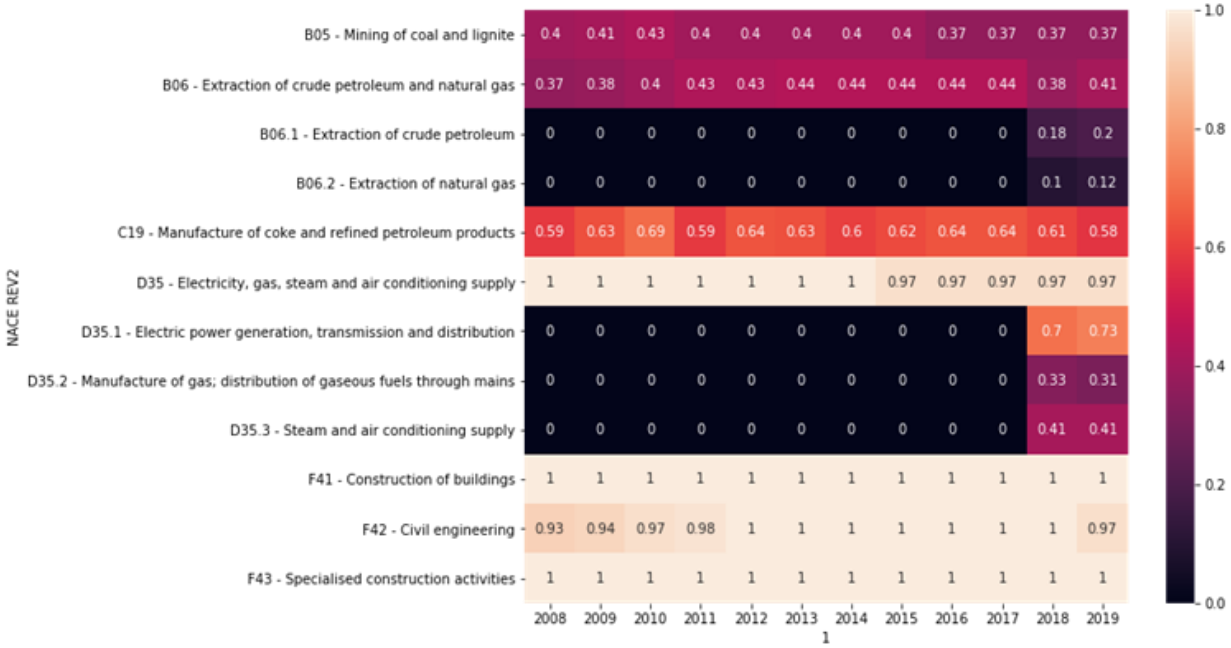

Figure 15 : Percentage of available data, per NACE code and year (summing all countries

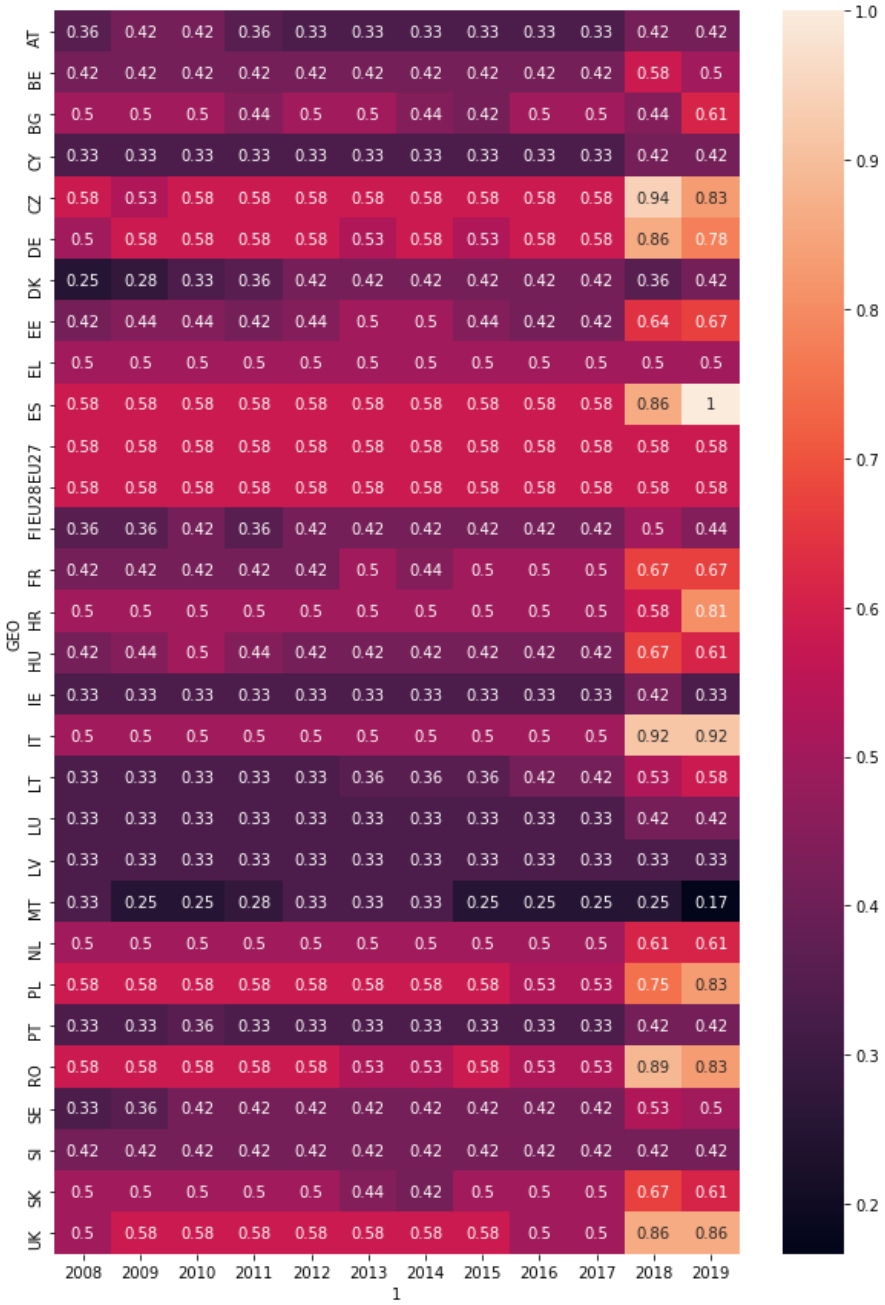

Figure 16 : Percentage of available data, per countries and year (summing all NACE codes)

3.2.1.2 Analysis of the influence of the industrial sector on the proportion of women (among working population)

Descriptive analysis

Figure 17 shows the share of women per level 2 NACE code (average on EU28 and on 2019). The level 3 decomposition has not enough data to perform a reliable statistical analysis on the whole period, and have thus been omitted. As analyzed in Task 1, this graph confirms the disparity of the women share between the energy subsectors, as well as the maximum share slightly above 25% for the "Electricity, gas, steam, air conditioning supply".

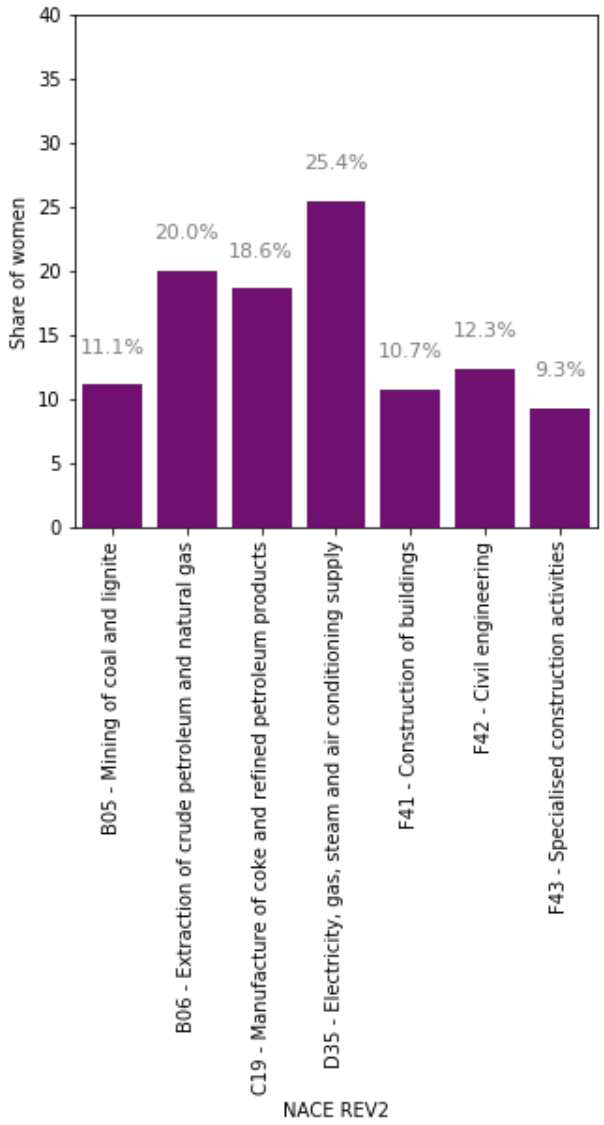

Figure 17 : Share of women per NACE code with complete data (average on EU28 and on 2019)

The following graph (Figure 18) below shows the main information of this dataset: the percentage of women per industrial sector and per country, from light blue (0% women) to pink (49% women), where white color means "unavailable data". From this graph we observe that:

- These percentages are always below 50%, and values above 40% are quite exceptional.
- There is a strong difference between industrial sectors. We note that Energy supply and Electric generation/transmission/distribution sectors have the highest rate, slightly below 30%.
- The differences between countries are quite slight, though some countries depart from a common pattern (for example Spain and Denmark are above the others, and Luxembourg is below).

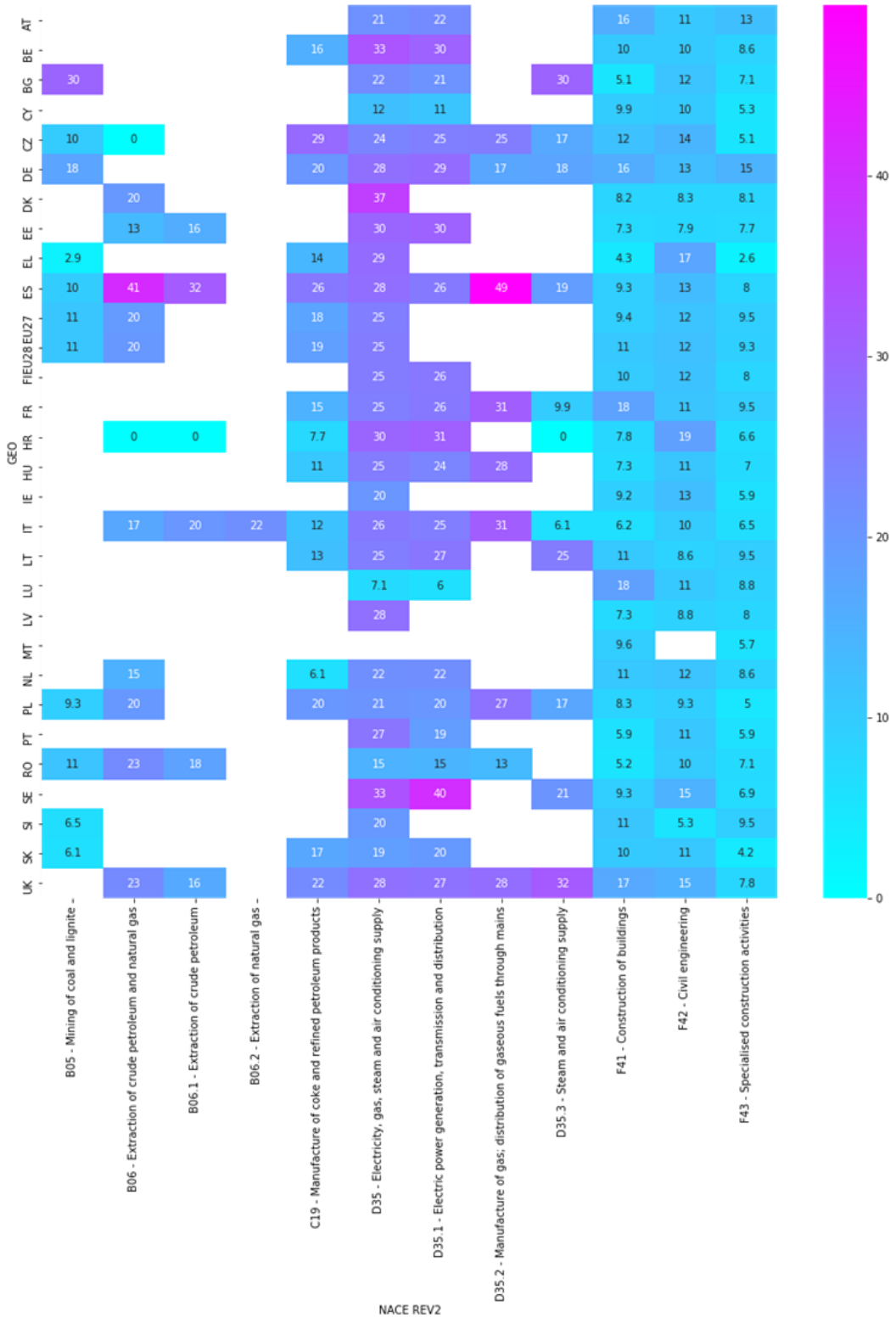

Figure 18 : Percentage of women per NACE code and country in 2019

Regression analysis

When enough data is available, that is only for the level 2 NACE codes, we may perform a standard linear regression analysis to detect a trend in the evolution of the percentage of women over the years 2008-2019 (Figure 19).

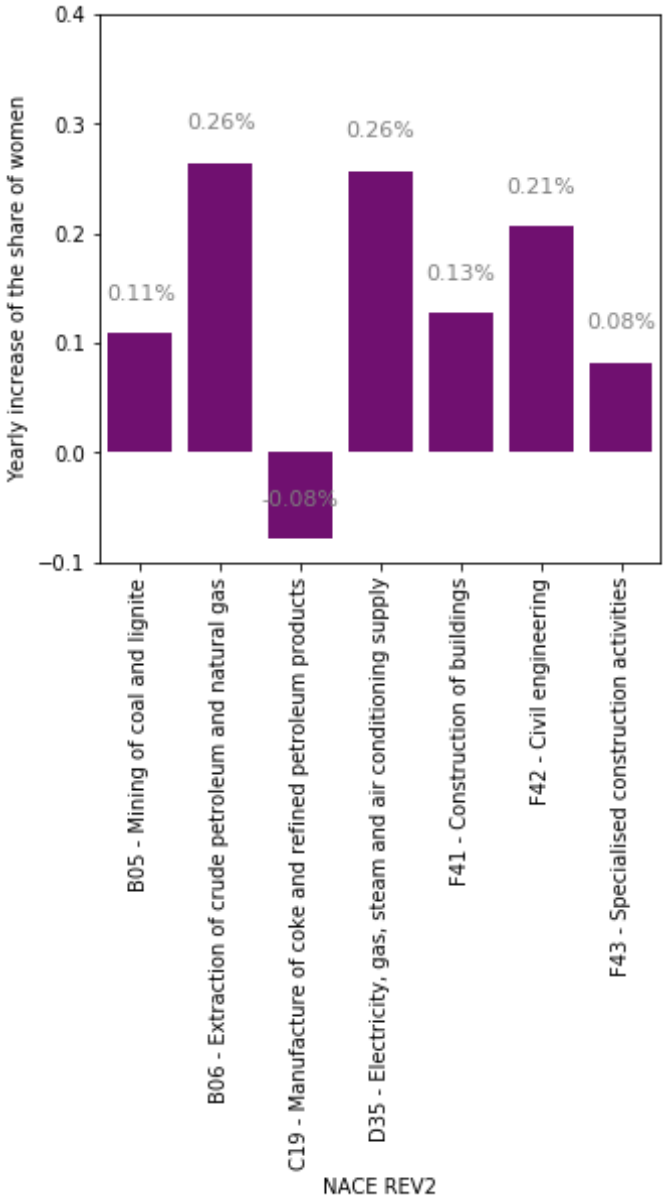

Figure 19 : Yearly trend of the share of women per NACE code (EU28, 2008-2019)

When going to a more detailed trend analysis (Figure 20), only some combinations of country and industrial sectors contain enough data for a reliable trend computation. The following graph shows the trends we computed, from dark red (-0.79%/year) to dark blue (+1.4%/year), and white (with no figure) indicates that no significative trend has been measured. We observe that:

- These trends, showing the increase of the share of women, are quite low: except for the energy sector in Portugal (1.4% per year), they never exceed 1% per year.
- The "Electricity, gas, steam and air conditioning supply" sector is globally among the highest.

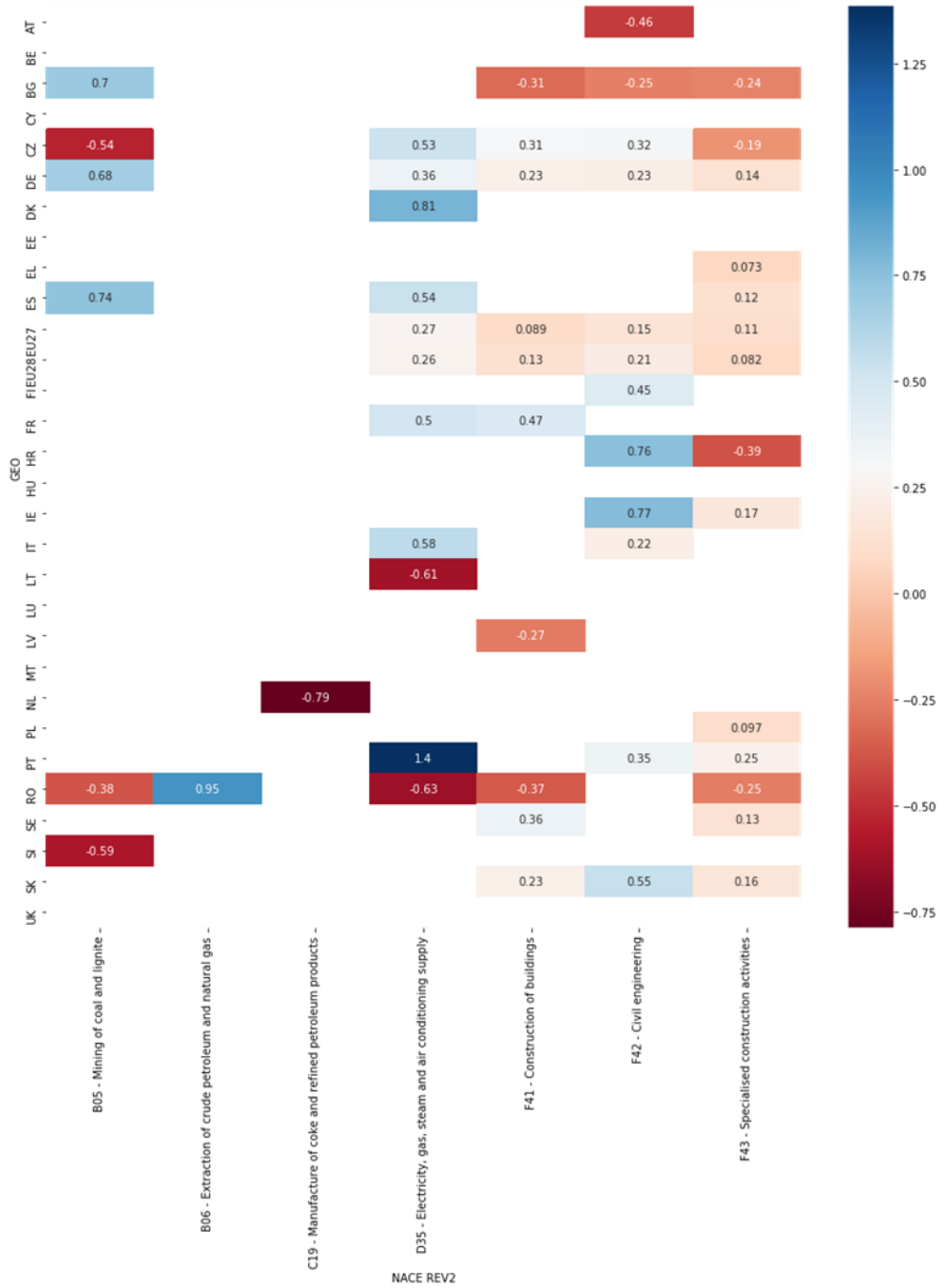

Figure 20 : Significative trends (%/year) of the percentage of women (among working population), per NACE code and country

This section allowed to go deeper in the understanding of the first dataset, in terms of data availability, a detailed representation of the woman share across years and the industrial sector. Detailed trends computation have been performed when enough data was available. These trends might become very interesting to follow in the coming years if the quality of the data, especially along NACE level 3 codes, becomes more and more systematically collected.

3.2.2 Dataset "raw_database_sec" Data Analysis : Professional Status

This second database, provided at the end of Task 1, gave the employment by sex, part-time/full-time and NACE code of level 3.

3.2.2.1 Completeness and reliability of data

The data availability analysis brings the following conclusions:

- In this database, data is only available on level 3 NACE codes, not on level 2.
- Part/full-time data is totally missing before 2018.
- Data is more present and reliable on the two last years (2018 and 2019).
- Missing data is quite uniformly distributed over countries: This prevents the risk of bias when generalizing to all European countries.
- Still, there is not that much data regarding women share in part-time job.

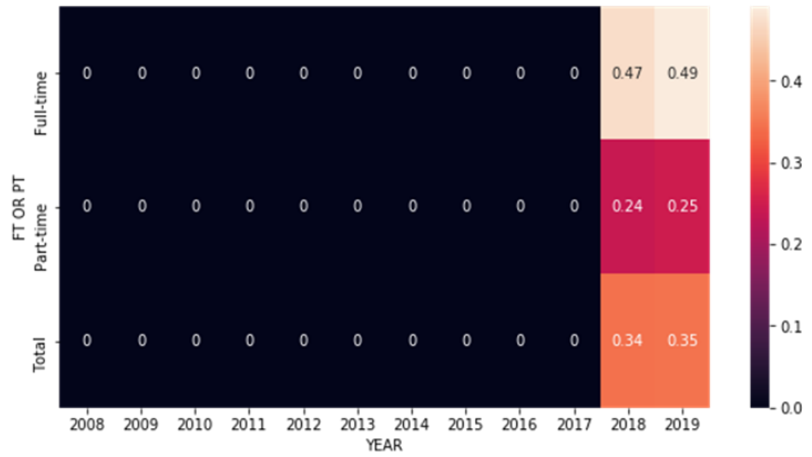

Figure 21 : Percentage of available data, per professional status and year (summing all countries and level 3 NACE codes)

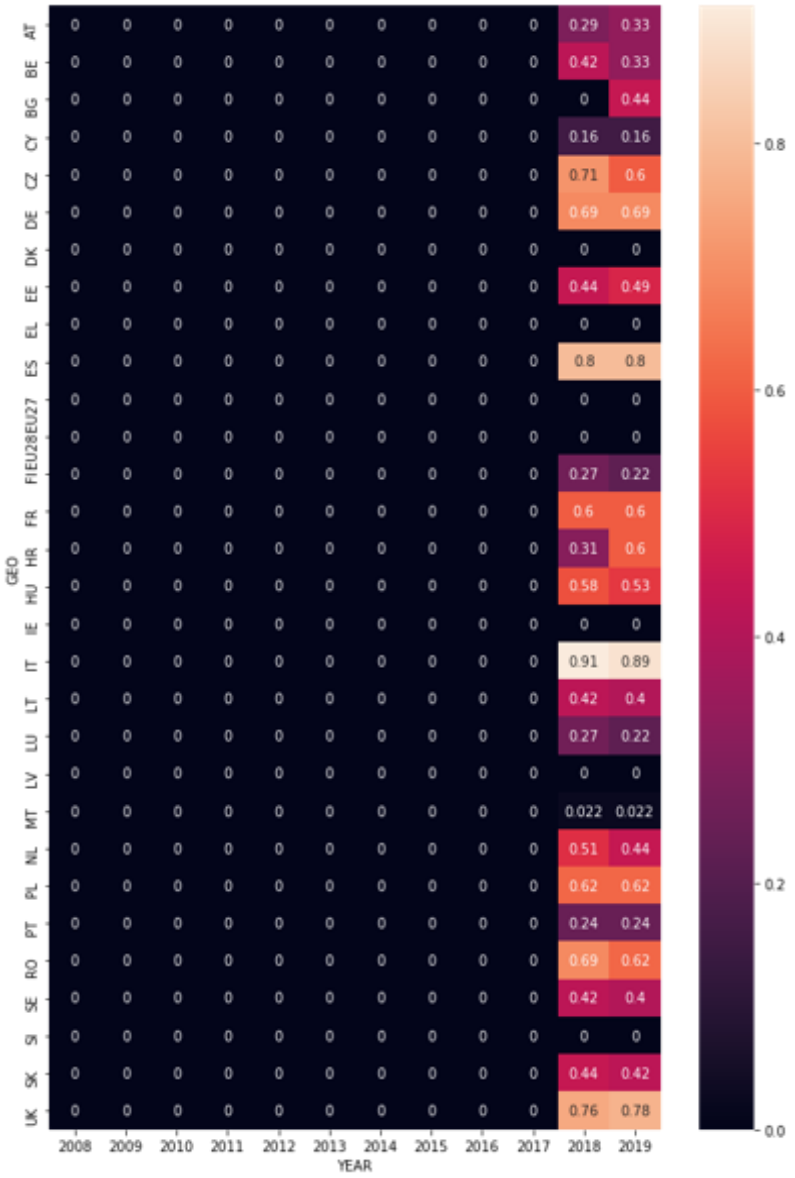

Figure 22 : Percentage of available data, year and country (summing on all NACE codes and professional status)

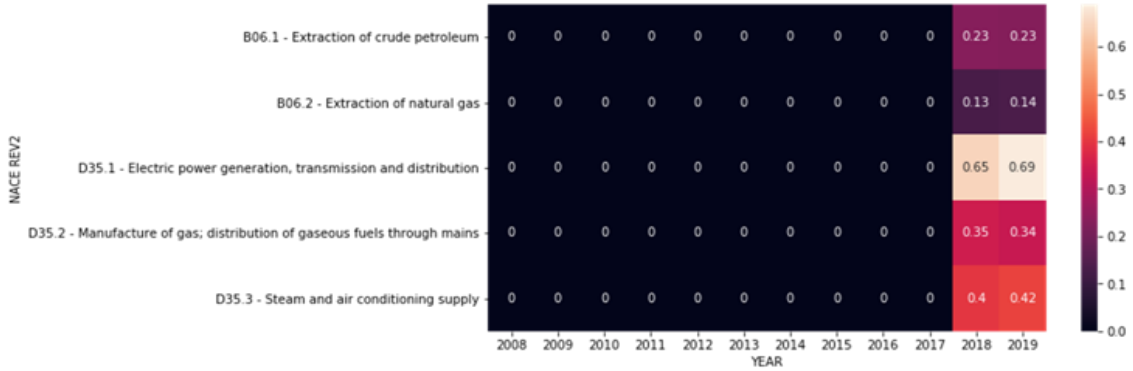

Figure 23 : Percentage of available data, year and country (summing on all countries and professional status)

3.2.2.2 Analysis of the influence of the professional status on the proportion of women (among working population)

Descriptive analysis

The women share has been computed whenever the data was reliable enough on the professional status, and our results reveals that there is a lot of missing data for the part-time. For countries where data on part time is available, on the values aggregated for all studies NACE codes, **we can see that the percentage of women working part-time is very high**, especially, compared to the women share in full-time and total. When looking in the detailed industrial sectors, the trend of women share in full-time seems to follow the total trend. On the contrary, for the two NACE codes where part-time data was reliable enough, the percentage of women is a lot higher than for full-time. To sum up, **there are clearly more women than men working part-time in the energy sector.**

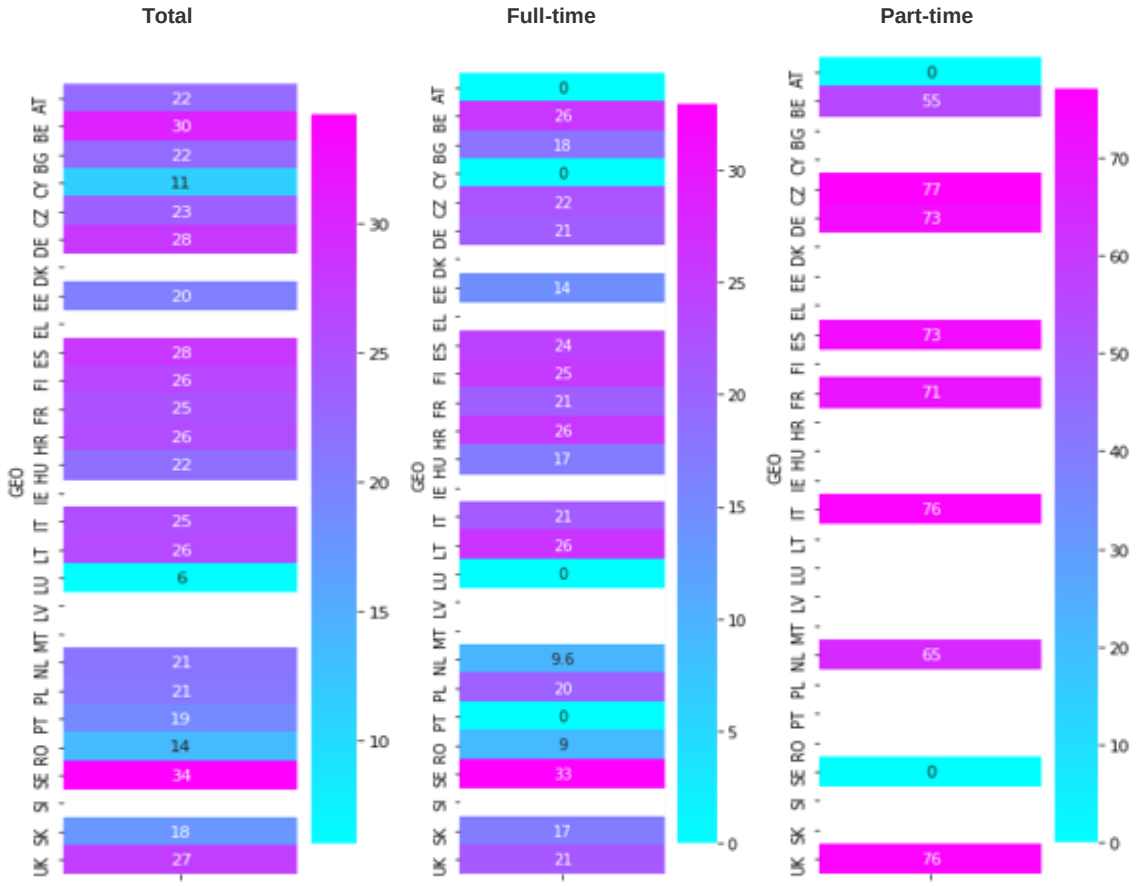

Figure 24 : Women share in 2019, per country (summed over level 3 NACE codes)

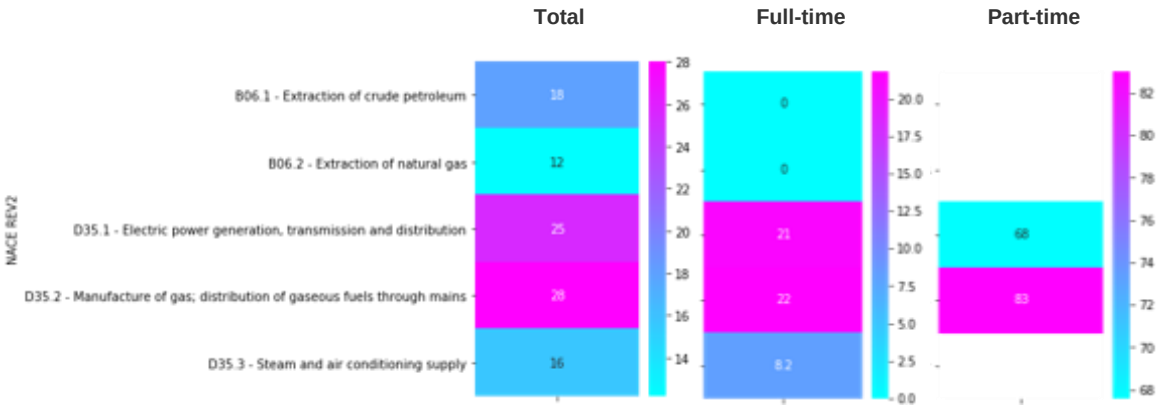

Figure 25 : Woman share in 2019 per NACE code and professional status (summed over all countries)

Finally, a comparison on 2019 between the share of women aggregated over all energy-related NACE codes is shown per country, and compared with the values aggregated for all types of industrial sectors. This confirms that **the energy sector lies in the same trend as the whole industrial sector**.

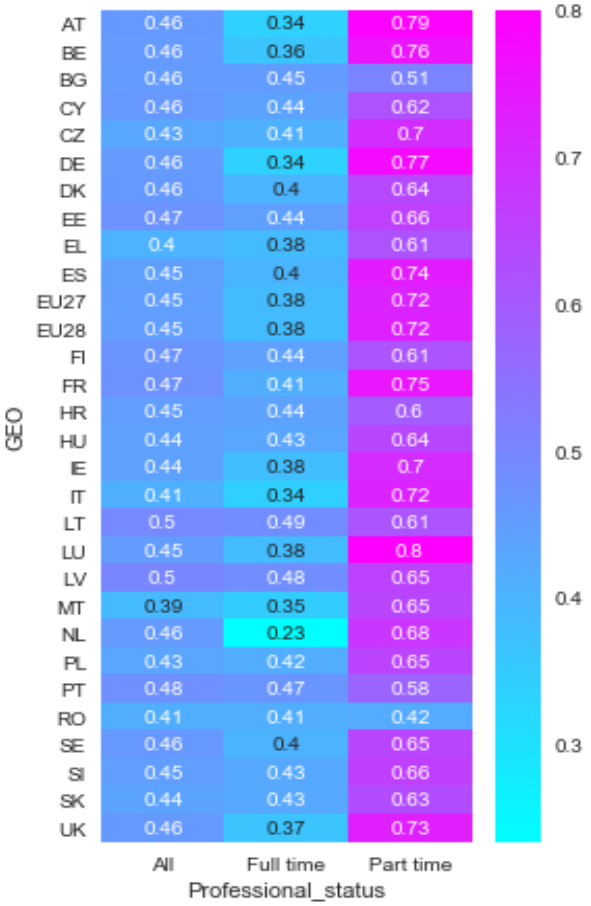

Figure 27: Women share in 2019, per country and professional status (aggregated over all industrial sectors

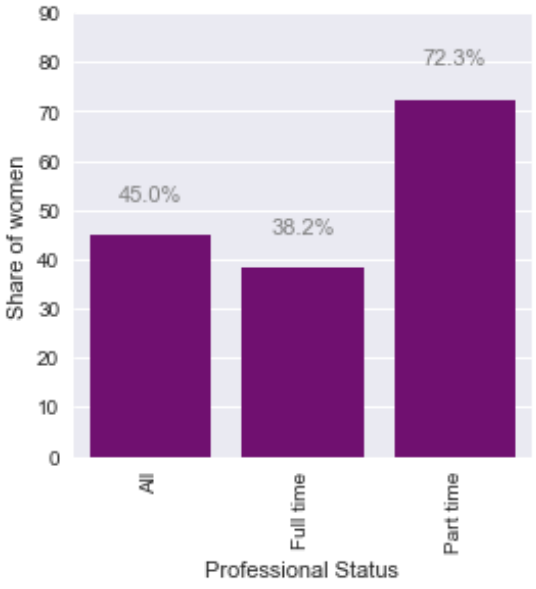

Figure 26 : Share of women in 2019, per professional status (average on EU28 and all industrial sectors)

Please note that no regression analysis could be performed because of the lack of data prior to 2018 in this database.

3.2.3 Dataset "raw_database_sec" Data Analysis : Age

This last energy-dedicated database has been retrieved from the Eurostat LFS, with a focus on the age categories.

3.2.3.1 Completeness and reliability of data

The data availability shows that the data is mainly available in the 2 main age categories, and that nearly no data is available after 74 years old, which is expected since retirement has happened before for nearly everybody. The data seems well spread over all countries but is lacking significantly in the first 3 categories.

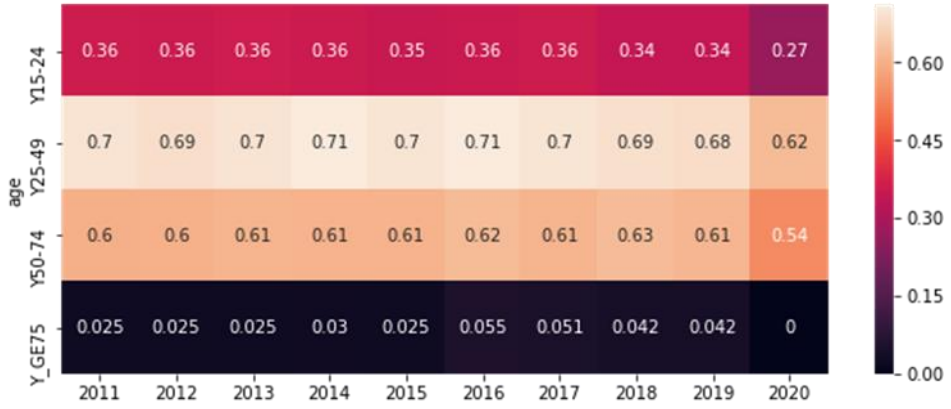

Figure 28 : Percentage of available data, per age category and year (summing all countries and level 2 NACE codes)

Figure 29 : Share of women, per age category and country in 2019 (summing all level 3 NACE codes)

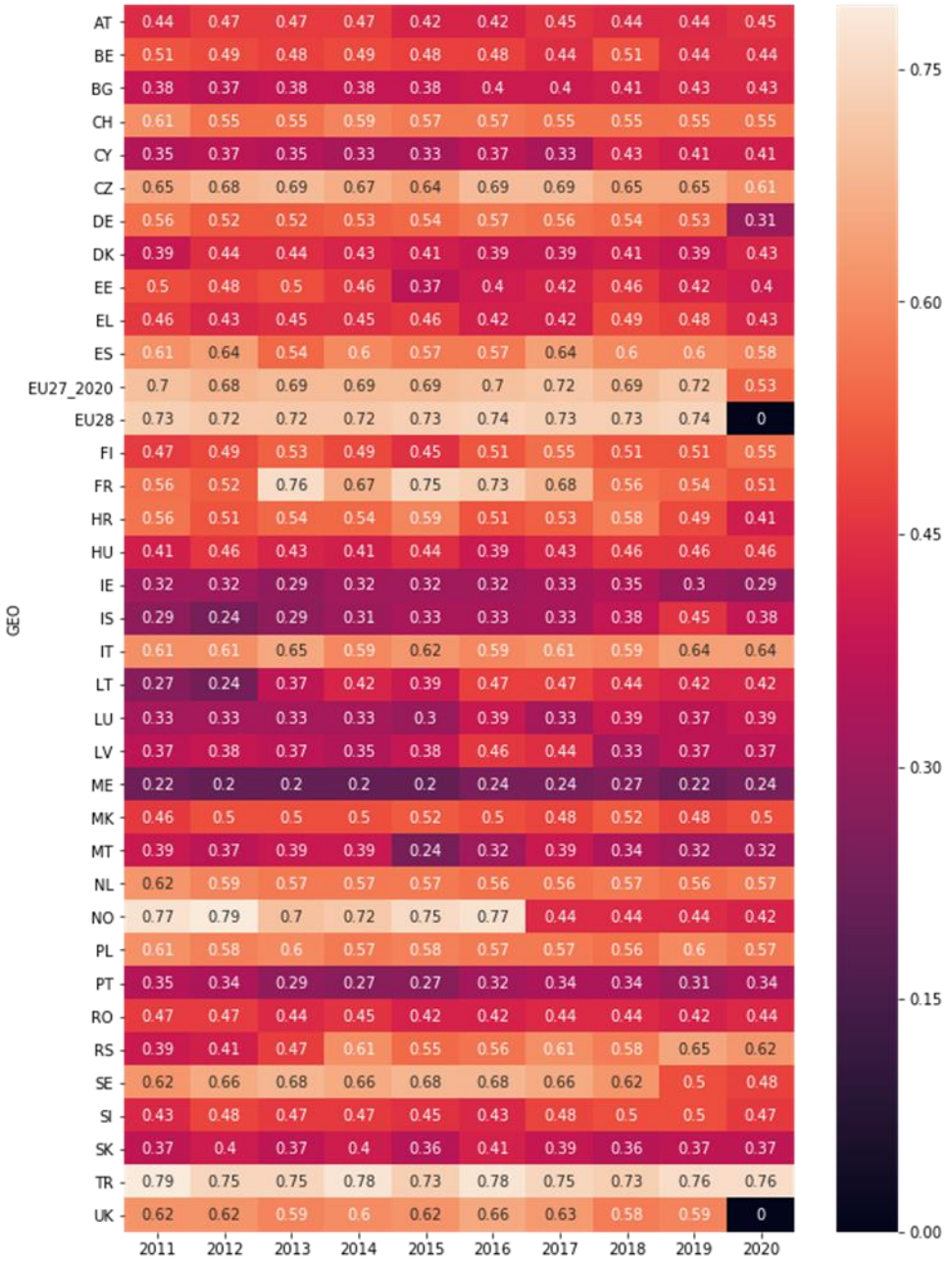

Figure 30 : Percentage of available data, per country and year (summing all age category and level 2 NACE codes)

3.2.3.2 Analysis of the influence of the professional status on the proportion of women (among working population)

Descriptive analysis

The general tendency shows clearly that the 25-49 category has a better percentage of representation of women than the 50-74 category. This is true for all NACE level 2 codes and all countries except Poland. In the youngest category, when the data is available, in general, the proportion of women is even lower. This last analysis could be interesting to cross with the education level for the represented people, but this information is not available in the database.

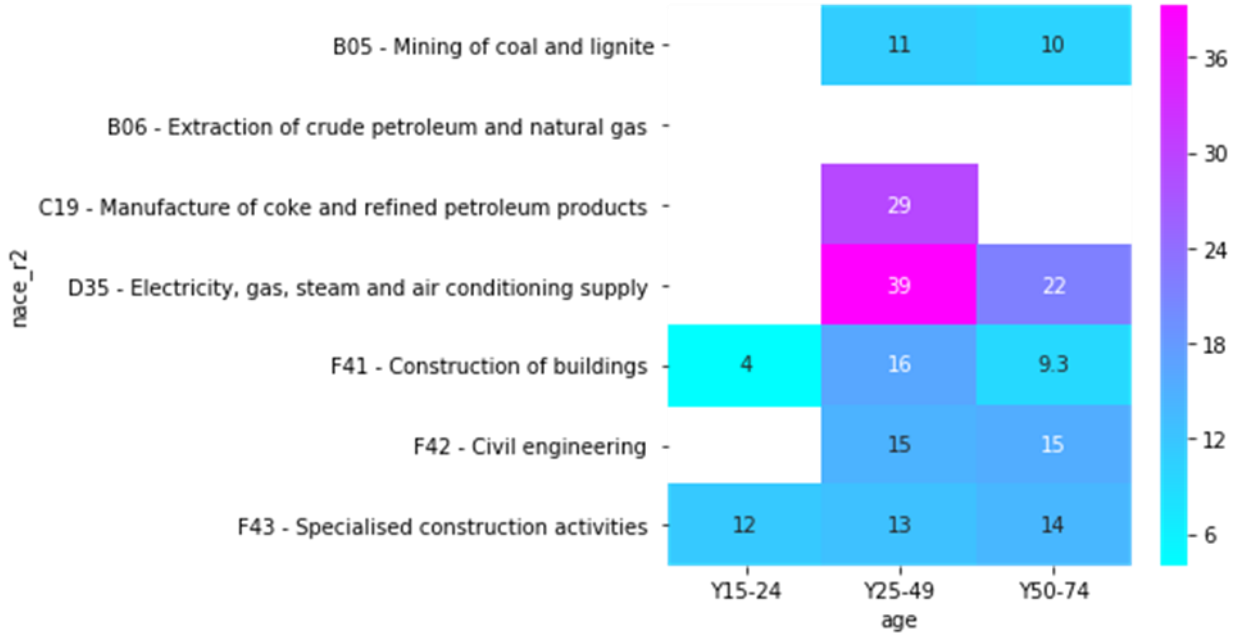

Figure 31 : Share of women, per level 2 NACE codes and year (summing all countries and age category)

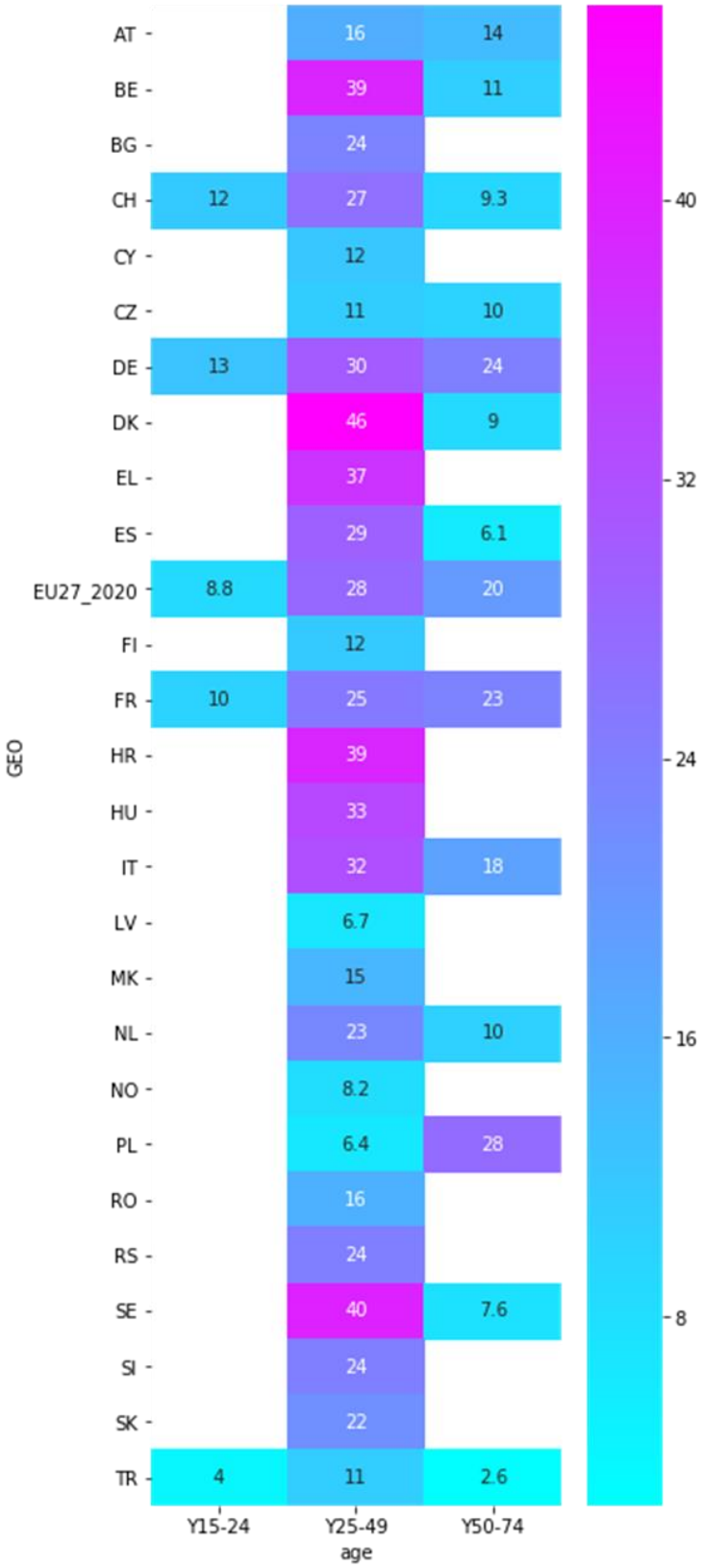

Figure 32 : Share of women, per age category and level 3 NACE codes in 2019 (summing all countries)

3.2.4 Ministries, regulators and TSOs' Data

The share of women inside the Energy ministries, TSOs and regulators might influence gender-oriented policies in the energy sector, this is why the focus of Task 2 was to collect this data for the first time.

3.2.4.1 Completeness and reliability of data

The data for ministries is largely available, even on cross-categories such as professional status. However, the difficulty of the analysis resides in 2 main factors:

1. There is not the equivalent data for men or on the total workforce on the cross-categories. Thus it is impossible to compute the share of women along these categories.
2. Some companies / institutions had difficulties to provide the full data on women origin, disabilities, family status, citizenship and employment especially for the senior and workforce level.

This feedback intents to create a more complete questionnaire for next data collection.

Country	Ministry	Minister	Education	Work Time	Children	Disability	Origins	EU-citizens	JM	Education	Work Time	Children	Disability	Origins	EU-citizens
Austria	AU Federal Ministry of Climate Action, En	1	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Belgium (Federal	BE Federal Public Service - DG Energy	1	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Belgium (SPW)	SPW Territoire Logement Patrimoine Ene	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Bulgaria	BG Ministry of Energy of the Republic of Bulgaria	1	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Croatia	HR Ministry of Environment and Energy	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Cyprus	CY Energy Service of the Ministry of Energy, Commerce and Industry (Energy sector)	1	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Czech Republic	CZ Ministry for Industry and Trade (Energy)	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Denmark	DK Ministry of Energy, Utilities and Climate	0	Yes	Yes	Yes	Yes	Yes	Yes	0	No	No	No	No	No	No
Estonia	EE Ministry of Economic Affairs and Communications (Energy)	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Finland	FI Ministry of Economic Affairs and Employment, Government of Finland (Energy)	1	Yes	Yes	No	No	No	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
France	FR Ministère de la Transition écologique et solidaire, Direction de l'énergie	1	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Germany	DE Federal Ministry for Economic Affairs and Energy	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Greece	GR Ministry of Environment and Energy	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Hungary	HU Ministry of Innovation and Technology	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	IE Ministry for the Environment, Climate and Communications	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Italy	IT Ministry for Ecological Transition	0	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes	Yes	No	Yes	No	Yes
Latvia	LV Ministry of Economics	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Lithuania	LT Ministry of Energy of the Republic of Lithuania	0	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes	Yes	Yes	Yes	Yes	Yes
Luxembourg	LU Ministère de l'Energie et de l'Aménagement du territoire	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Malta	MT Minister for Energy and Water management	1	Yes	Yes	No	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Netherlands	NL Ministery of Economic Affairs and Climate (energy sector)	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	No	Yes	Yes	Yes
Poland	PL Ministry of Climate (Energy)	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	PO Ministry of Environment and Climate Action (Energy sector)	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Romania	RO Ministry for Energy	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Slovakia	SK Ministry of Economy of the Slovak Republic	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Slovenia	SI Ministry of Infrastructure	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Spain	ES Ministry for Ecological Transition and the Demographic Challenge	1	Yes	Yes	No	Yes	Yes	Yes	1	Yes	Yes	No	Yes	Yes	Yes
Sweden	SE Ministry of Infrastructure	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes

Figure 33 : Available data regarding the number of women at the 4 most senior levels in Ministries (2021)

Country	Ministry	L1 Secretary General	Education	Work Time	Children	Disability	Origins	EU-citizens	L2 Directorates	Education	Work Time	Children	Disability	Origins	EU-citizens
Austria	AU Federal Ministry of Climate Action, En	0	Yes	Yes	Yes	Yes	Yes	Yes	8	No	Yes	No	Yes	Yes	Yes
Belgium (Federal	BE Federal Public Service - DG Energy	1	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	No	Yes	Yes	Yes
Belgium (SPW)	SPW Territoire Logement Patrimoine Ene	1	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	Yes	Yes	Yes	Yes
Bulgaria	BG Ministry of Energy of the Republic of Bulgaria	1	Yes	Yes	No	Yes	Yes	Yes	5	Yes	Yes	No	Yes	Yes	Yes
Croatia	HR Ministry of Environment and Energy	1	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes	Yes	Yes	Yes	Yes	No
Cyprus	CY Energy Service of the Ministry of Energy, Commerce and Industry (Energy sector)	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	Yes	Yes	Yes	Yes
Czech Republic	CZ Ministry for Industry and Trade (Energy)	0	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes	Yes	No	Yes	Yes	Yes
Denmark	DK Ministry of Energy, Utilities and Climate	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Estonia	EE Ministry of Economic Affairs and Communications (Energy)	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	No	Yes	Yes	Yes
Finland	FI Ministry of Economic Affairs and Employment, Government of Finland (Energy)	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
France	FR Ministère de la Transition écologique et solidaire, Direction de l'énergie	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	Yes	Yes	Yes	Yes
Germany	DE Federal Ministry for Economic Affairs and Energy	1	Yes	Yes	Yes	No	Yes	Yes	3	Yes	Yes	No	No	Yes	Yes
Greece	GR Ministry of Environment and Energy	1	Yes	Yes	Yes	No	Yes	Yes	3	Yes	Yes	Yes	Yes	Yes	Yes
Hungary	HU Ministry of Innovation and Technology	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	IE Ministry for the Environment, Climate and Communications	0	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No
Italy	IT Ministry for Ecological Transition	2	Yes	Yes	No	Yes	No	Yes	7	No	No	No	No	No	No
Latvia	LV Ministry of Economics	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Lithuania	LT Ministry of Energy of the Republic of Lithuania	5	Yes	Yes	Yes	Yes	Yes	Yes	45	No	Yes	No	Yes	Yes	Yes
Luxembourg	LU Ministère de l'Energie et de l'Aménagement du territoire	0	Yes	Yes	Yes	Yes	Yes	Yes	0	Yes	Yes	Yes	Yes	Yes	Yes
Malta	MT Minister for Energy and Water management	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	Yes	Yes	Yes	Yes
Netherlands	NL Ministry of Economic Affairs and Climate (energy sector)	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	No	Yes	No	Yes
Poland	PL Ministry of Climate (Energy)	4	Yes	Yes	No	No	No	No	12	No	No	No	No	No	No
Portugal	PO Ministry of Environment and Climate Action (Energy sector)	0	Yes	Yes	Yes	Yes	Yes	Yes	2	No	Yes	No	No	No	Yes
Romania	RO Ministry for Energy	1	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	No	No	No
Slovakia	SK Ministry of Economy of the Slovak Republic	0	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes	Yes	Yes	Yes	Yes	Yes
Slovenia	SI Ministry of Infrastructure	0	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes	Yes	Yes	Yes	Yes	Yes
Spain	ES Ministry for Ecological Transition and the Demographic Challenge	0	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	SE Ministry of Infrastructure	1	Yes	Yes	Yes	Yes	Yes	Yes	1	Yes	Yes	Yes	Yes	Yes	Yes

Data collection for the regulators and TSOs gives the same type of data availability. The representation is available in the Excel file "Database Asset".
In the next sections, the women share is analyzed through the angle of ministries, regulators and TSOs. In all cases, the proportion of women at top hierarchical positions is presented. The mean proportion across all countries where data is available is shown in Figure 34. The second graph (Figure 35) illustrates a detailed representation of the women share by responding country and by hierarchical position. A color gradation represents the proportion of women in each category, between blue (0% of women) and pink (100% of women). When no data was available, for instance when there is no dedicated Junior Minister of Energy, a grey color has been chosen. The countries without values have been excluded from the detailed graphs.

3.2.4.2 Analysis of the influence of the job position in Ministry on the proportion of women

Regarding the ministries, only the most important 4 levels of seniority have been considered:

1. Minister
2. Junior Minister
3. L1 Secretary General (or equivalent)
4. L2 Directorates (or equivalent)

The collected data from the ministries reveals that

- The proportion of women at the 2 highest job positions in ministries slightly exceeds a quarter of the Ministers and Junior Ministers amongst the European Union countries.
- Gender equality is very close at the Directorates level.
- This tends to show that parity is still more difficult to achieve when increasing the level of seniority in Ministries.
- Only 2 countries have parity between two Ministers responsible for the energy sector: Belgium and Finland

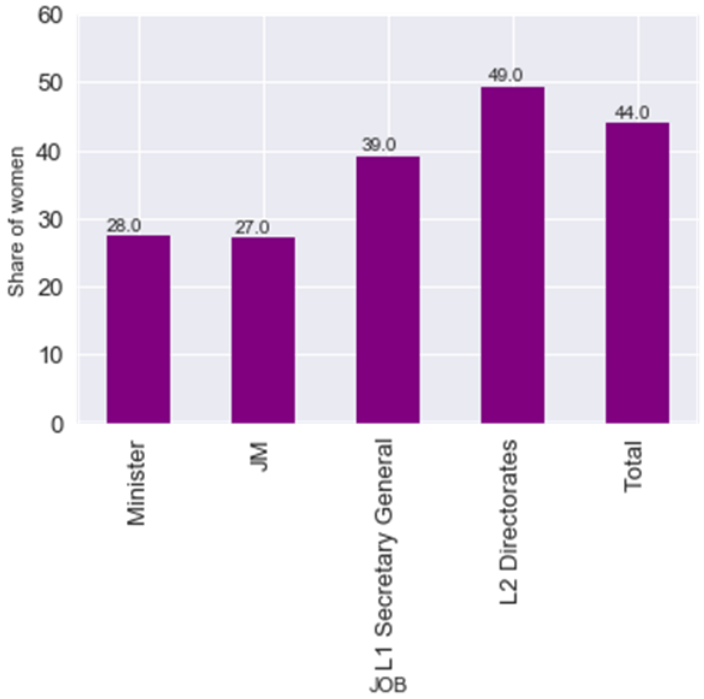

Figure 34 : Share of women in ministries per job (EU28 - 2021)

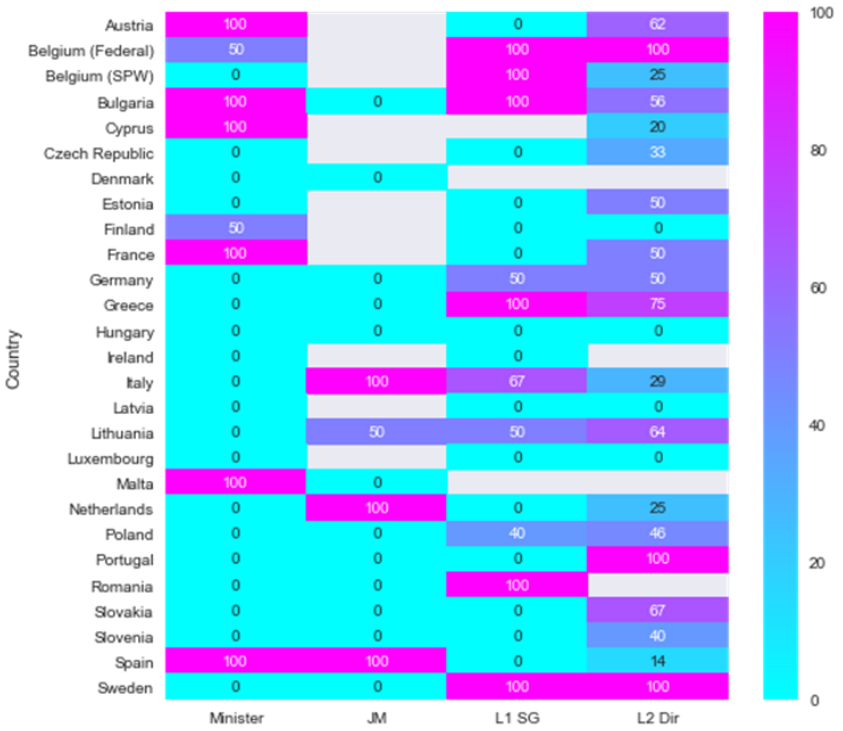

Figure 35 : Share of women in ministries per job and per country (2021)

3.2.4.3 Analysis of the women share among regulators

In this section, all regulatory institutions have been gathered. The database itself contains the detail of the share of women along with their seniority level. Contrary to the ministries, the number of women is available for the whole workforce. This is due to the fact that regulators, as well as TSOs, are generally well separated by industrial

sector and can be clearly attributed to the energy sector, which is not always the case for the ministries (due to multiple departments dealing with energy topics).
The seniority level is split according 4 levels:

- Board (which can either be unified, executive or supervisory)
- Other bodies (not classified, but high seniority level)
- Senior management
- Workforce (all other employees)

For the regulators, we can see that the women share is really close to 50%, with a slight decrease for the board and the senior management. This is an encouraging news, even if women still have a lower share when increasing the seniority level. This trend is even more significative when the results are detailed by country, since we can clearly see that the category "other bodies" only includes a few individuals.

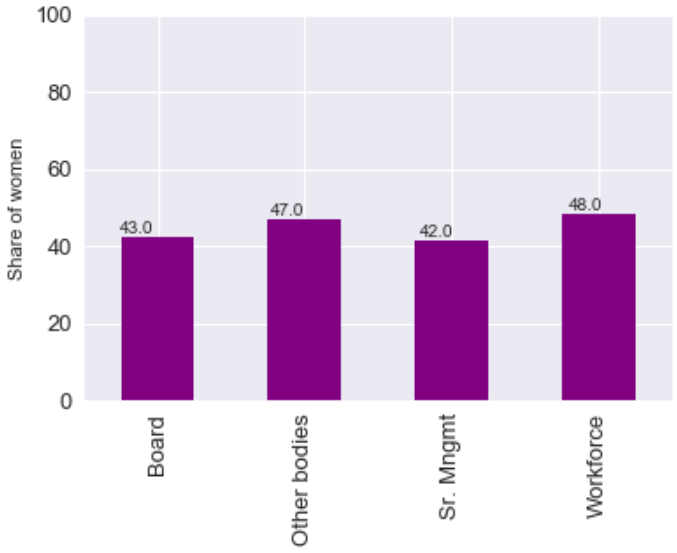

Figure 36 : Share of women in TSOs and regulators per job (EU28 - 2021)

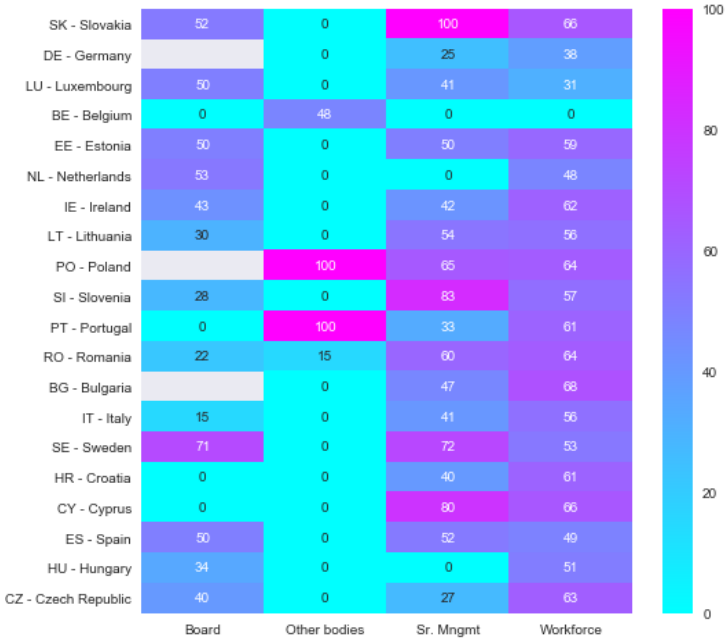

Figure 37 : Share of women in TSOs per job and per country (2021)

3.2.4.4 Analysis of the women share among TSOs

In this section, gas and electricity of TSOs have been gathered because the clear distinction between all these entities is simply not always existing. The database contains the same data organization than for the regulators.

Inside TSOs, the share of women is drastically lower than for ministries and regulators. Even with this low value, the proportion of women is again decreasing with the seniority level as a general trend, with several exceptions.

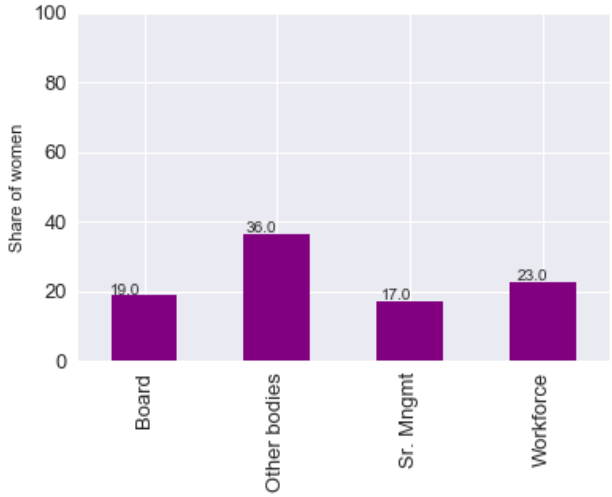

Figure 38 : Share of women in TSOs per job (EU 28 – 2021)

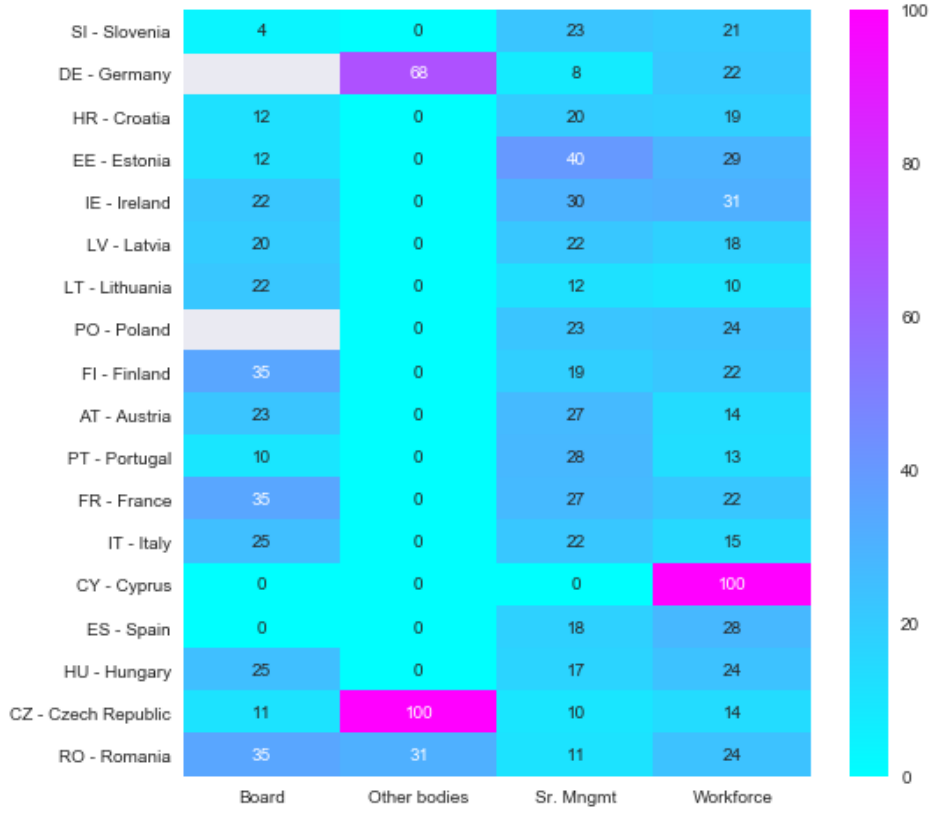

Figure 39 : Share of women in TSO per job and per country (2021)

3.2.4.5 Conclusion

This first data collection is promising and expresses the necessity for pursuing the data collection, taking into account the feedback from Task 2, in order to be able to follow the evolution of the women share along the years. To see whether the proportion of women at the highest seniority level is increasing over the years it is essential to continue with data collection in the future.

3.3 Dataset "raw_database_agg" Data Analysis : Employment rate, Professional status, Education degree on the main industrial sector

A complementary research in the Eurostat databases allowed us to find some additional data that might be useful for the future investigations, or at least to keep an eye on indicators in case the data availability increases for more detailed NACE codes (for now only available on some **level 1 NACE codes**). The following analysis concerns the industrial sector in general not only the energy sector.

Eurostat dataset	Description
LFSA_EGDN2	Employment by sex, age, **time since job started** and economic activity (from 2008 onwards, NACE Rev. 2)
LFSA_ESGAN2	**Self-employment** by sex, age and economic activity (from 2008 onwards, NACE Rev. 2)
LFSA_ETGAN2	**Temporary employees** by sex, age and economic activity (from 2008 onwards, NACE Rev. 2)
LFSA_EWHUN2	**Average number of usual weekly hours of work in main job**, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2)
LFSA_EWHAN2	Average number of **actual weekly hours** of work in **main job**, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2)
LFSA_EWH2N2	Average number of **actual weekly hours** of work in the **second job**, by sex, professional status, economic activity and full-time/part-time in the first job (from 2008 onwards, NACE Rev. 2)

Nevertheless, the aggregated dataset from Task 1 was provided as a general information, and allowed us to illustrate the type of analysis that could be conducted if the found data is reliable and complete.

3.3.1 Completeness and reliability of data

The following graph shows the availability of data for each country and year, from black (0%) to white (100%). We observe that this data may be considered as reliable:

- For most countries, more than 85% of data is present for all years, with a slight increase of quality over years.
- Data is essentially missing on the first years (2000-2001) and in a few countries with relatively low population.

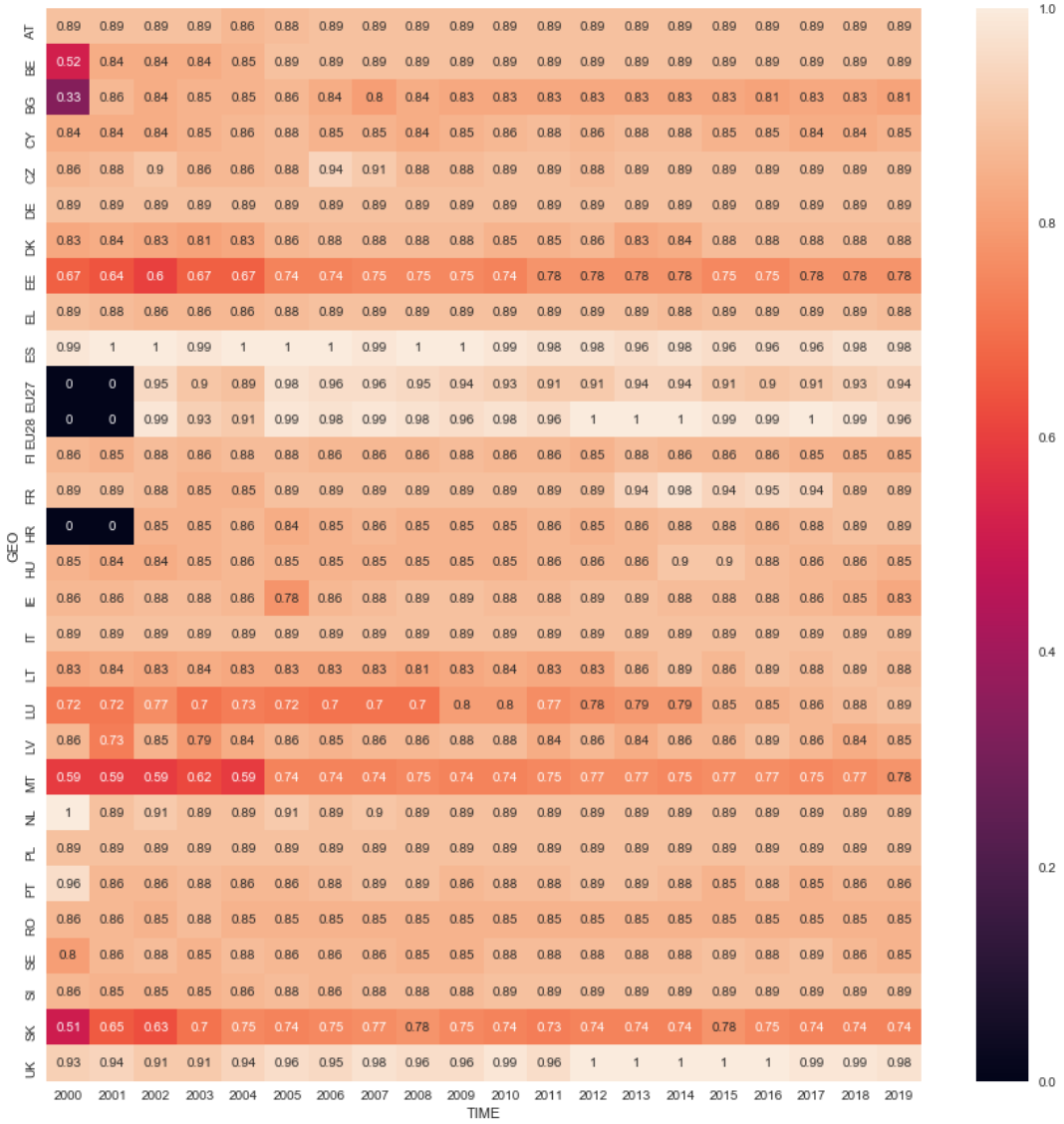

Figure 40 : Percentage of available data, per countries and year

3.3.2 Analysis of the influence of the professional status on the proportion of women

3.3.2.1 Descriptive analysis

Figure 41 shows the proportion of women per professional status (full time or part time), for the EU28 and for each country (Figure 42). The first bar on the left indicates the proportion of women for the whole population. We observe a clear influence of the professional status, **far more women are working part time**:

- Among people working full time, the proportion of women never exceed 49% in all countries, with a lower value of 23% in the Netherlands.
- Among people working part time, the proportion of women almost always exceeds 58% (except for Romania and Bulgaria).

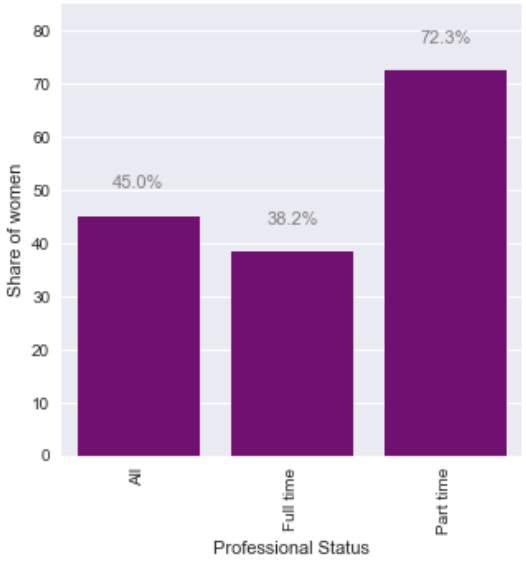

Figure 42 : Share of women per professional status (average on

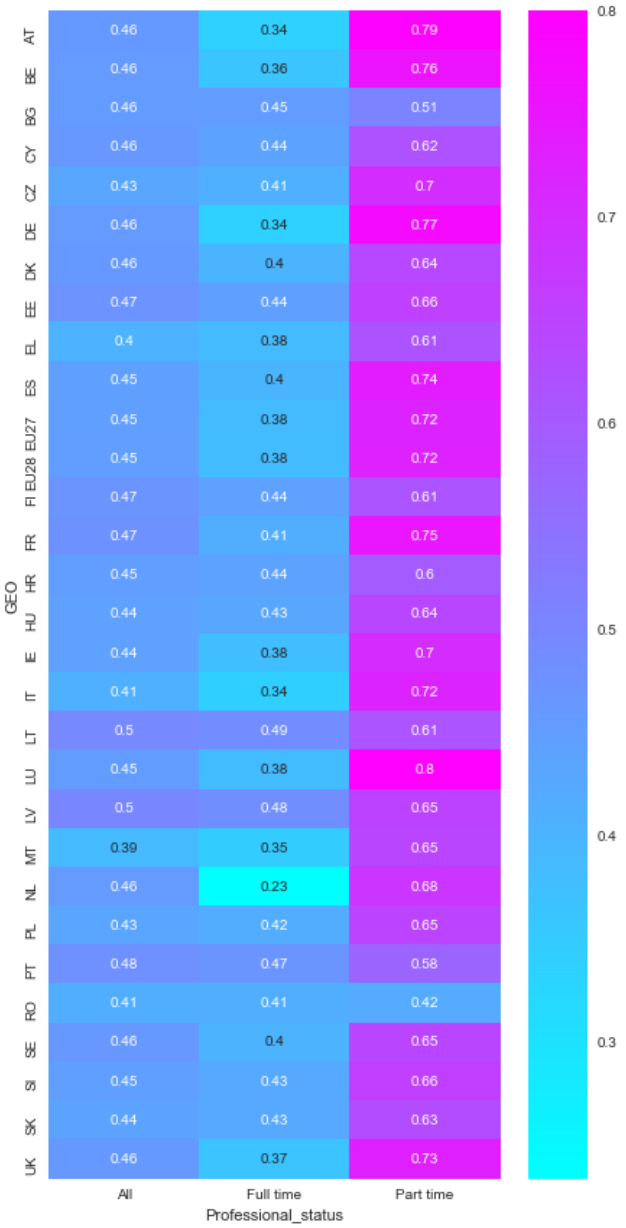

Figure 41 : Percentage of women per professional status and country (2019)

3.3.2.2 Regression analysis

The next graph (Figure 43) shows the trends of the percentage of woman per professional status. Figure 44 summarizes a detail for each country, from dark red (-0.83%/year) to dark blue (+0.64%/year), and white indicates a non-significative trend.

We observe that **the influence of professional status** presented in the previous paragraph **is slightly lowering**:

- Among people working full time, though slightly decreasing (up to -0.2%/year) in some countries, the proportion of women is globally increasing.

- Among people working part time, the proportion of women is decreasing in all countries but four.

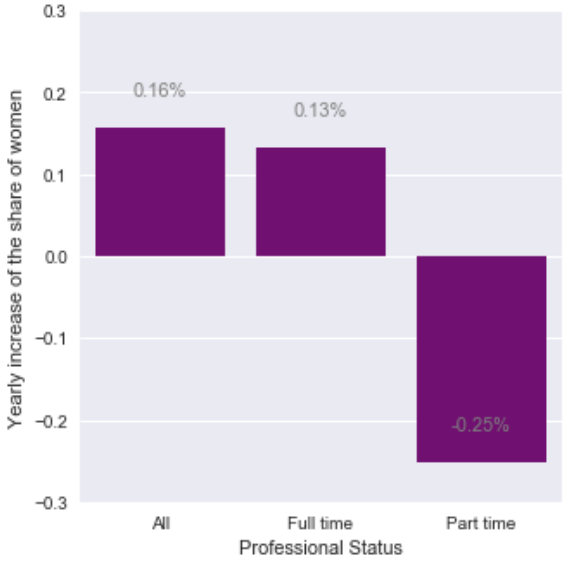

Figure 43 : Share of women per professional status (EU28, 2000-2019)

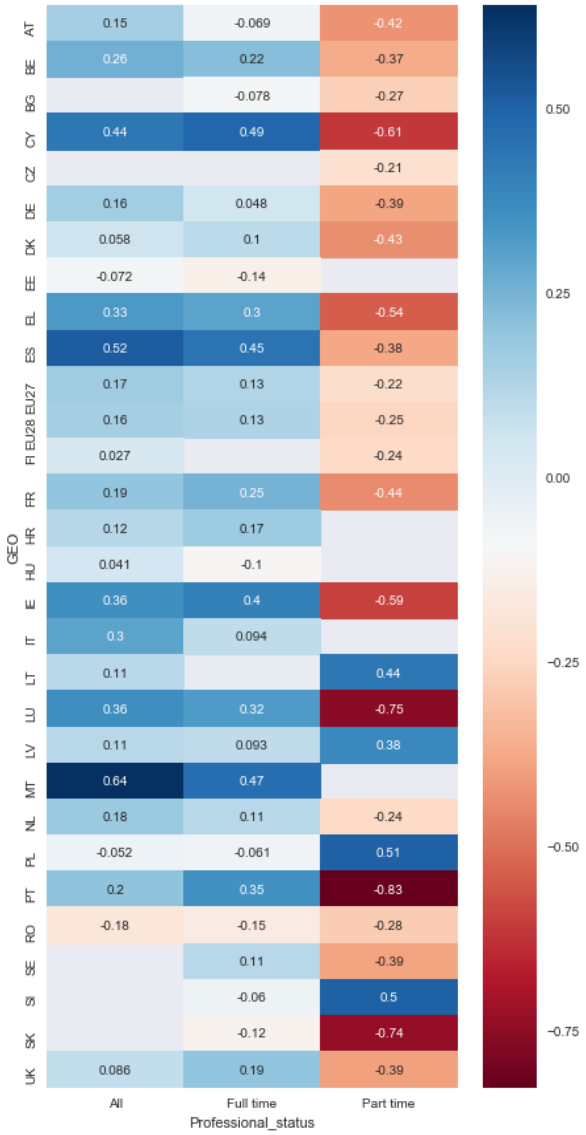

Figure 44 : Significative trends (%/year) of the percentage of women, per professional status and country

3.3.3 Analysis of the influence of the educational degree on the proportion of women

3.3.3.1 Descriptive analysis

The following two graphs below present the percentage of women per education degree (Figure 45) and per country (Figure 46), from light blue (31% women) to pink (62% women). The fourth column indicates the average percentage of women in the population of the country.

Here also we observe a clear influence:

- Quite uniformly among all countries, **the percentage of women increases with the education duration.** Levels 0-2 refer to less than primary, primary and lower secondary education. Levels 3 and 4 cover upper and post-secondary education and levels 5-8 consist of tertiary education[13]. The results indicates that among population with higher education (5-8 educational level), the proportion of women is above 50% in almost all EU countries.
- A few countries depart from this general scheme, notably Luxembourg, where education duration seems to have no influence, and Germany, Austria and Czech Republic, where the influence seems reversed.

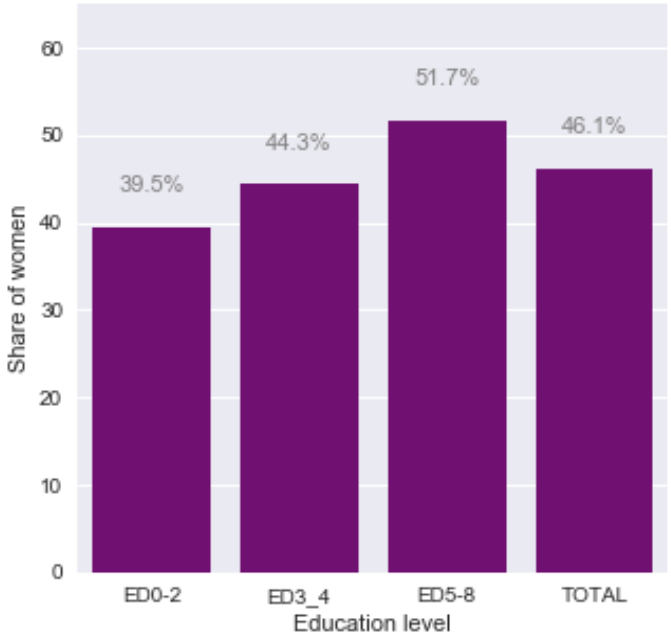

Figure 45 : Share of women per education degree (average on EU28 and 2000-2019)

[13]https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_Standard_Classification_of_Education_(ISCED)

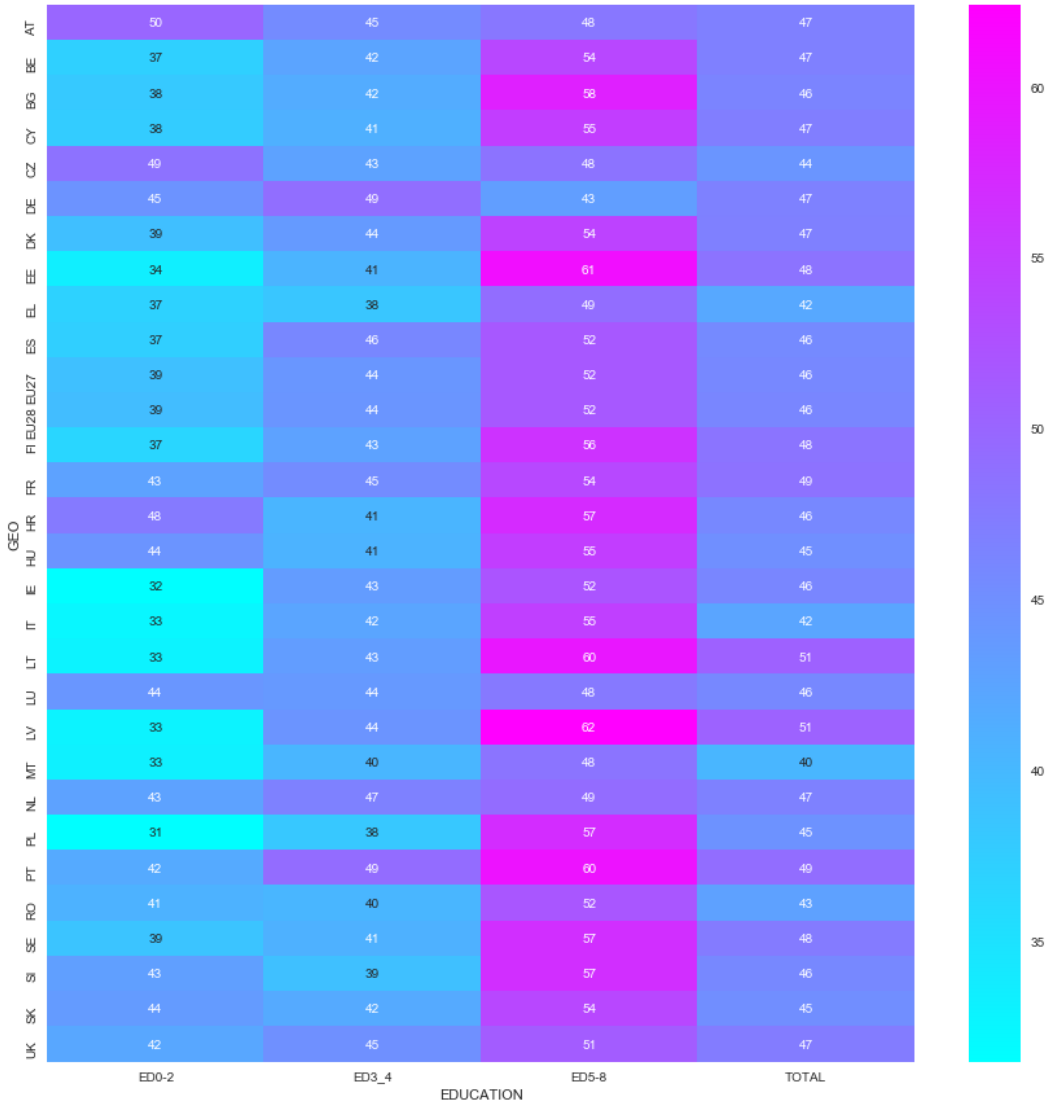

Figure 46 : Percentage of women per education degree and country (average on 2000-2019)

3.3.3.2 Regression analysis

The next graphs show the trends of the percentage of woman, for each education degree (Figure 47) and each country (Figure 48), from dark red (-0.82%/year) to dark blue (+0.67%/year), and white indicates a non-significative trend. We remark that these trends are extremely significant, and that the influence of educational degree presented in the previous paragraph is strengthening:

- Quite uniformly among all countries, **the proportion of women with the lowest degree 0-2 is decreasing, while the proportion of women with degree 5-8 (tertiary education) is increasing**.

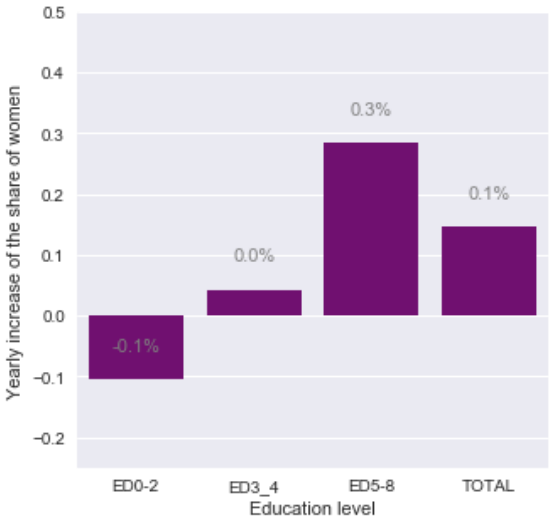

Figure 47 : Yearly trend of the share of women per education degree (EU28, 2000-2019)

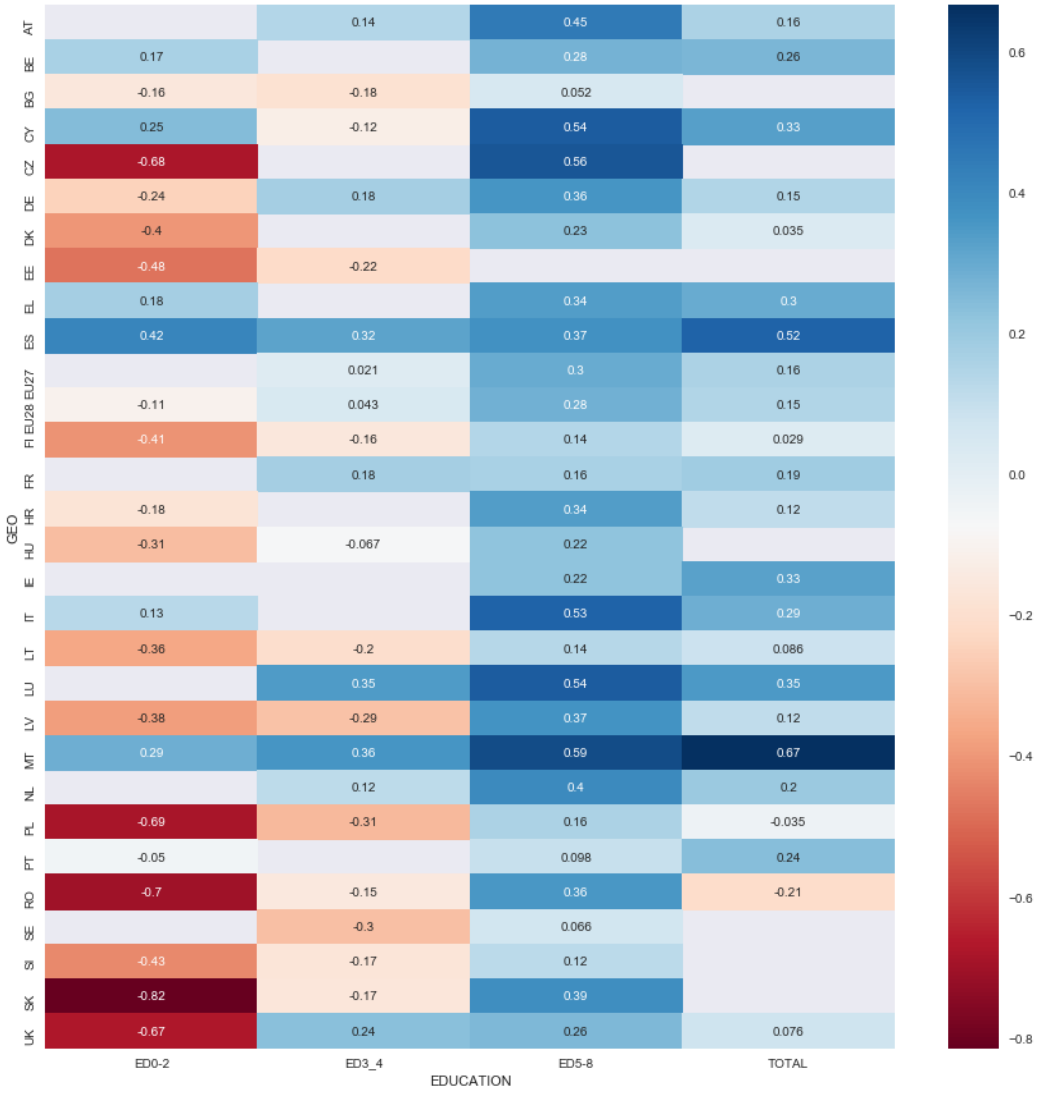

Figure 48 : Significative trends (%/year) of the percentage of women (among working population), per education degree and country

As an additional information, the next graph (Figure 49) presents the data on the evolution of the distribution of the proportion of women, for each education degree. **The evolution is slow but the trends are clearly visible**: a decreasing trend for degrees 0-2 (first line), and an increasing trend for degrees 5-8 (third line). The proportion of women finishing their high education degree is raising along years.

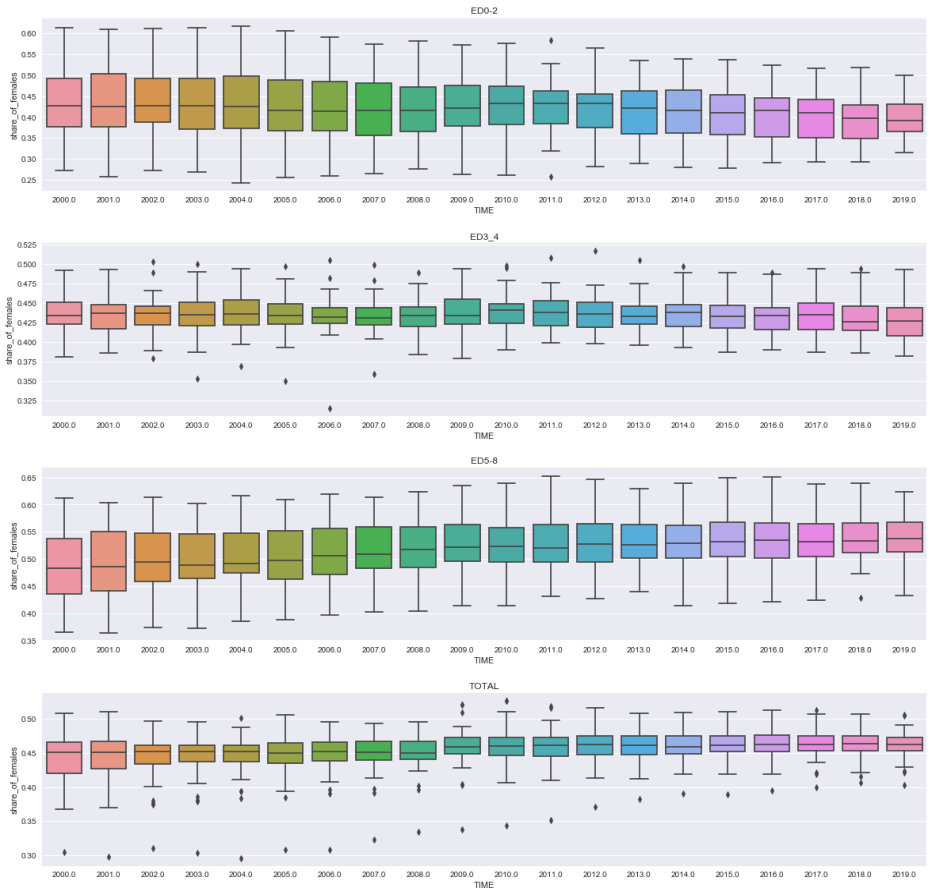

Figure 49 : Evolution of the distribution of the percentage of women per education degree (2000-2019)

3.3.4 Analysis of the influence of the labour market status on the share of women

3.3.4.1 Descriptive analysis

Technical remark: We only have access to the employment rate (and the unemployment rate, which is not complementary: children, pensioners, etc.) with the detail of men/women/total. We reconstitute the data we are interested in (the rate of women among employed people from the rate of employed people among women; etc.), **assuming that the number of women is equal to the number of men** (in the whole population), country by country and year per year:

$$Emp\_F/Emp\_total = (Emp\_F/Pop\_F) * (Pop\_F/Pop\_total) / (Emp\_total/Pop\_total)$$
$$= (Emp\_F/Pop\_F) * ½ / (Emp\_total/Pop\_total)$$

The first three columns on the left in the following graph (Figure 50) represents the share of women among employed people, ventilated into 3 categories: national citizens, non-national but EU27 citizens, and non-EU27 citizens. The last three columns on the right show the share of women among unemployed people, ventilated into the same 3 categories.

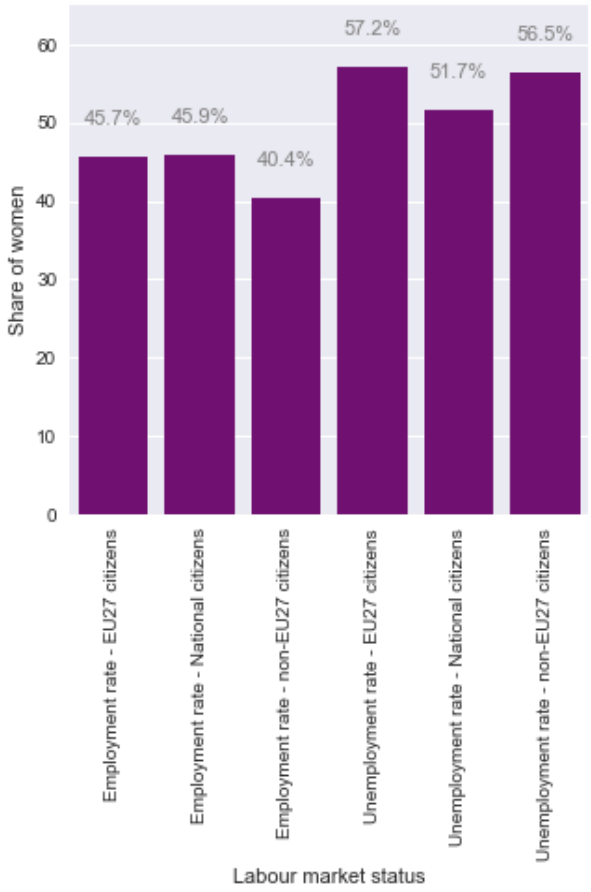

Figure 50 : Share of women per labour market status (average on EU28 and 2000-2019)

More detailed split per country is presented in Figure 51 from which we observe a clear influence of the labour market status:

- Among employed people, the share of women is uniformly below 50%, with only one exception; among unemployed people, it exceeds 50% in a large majority of cases.
- This phenomenon is stronger for non-EU27 citizens.

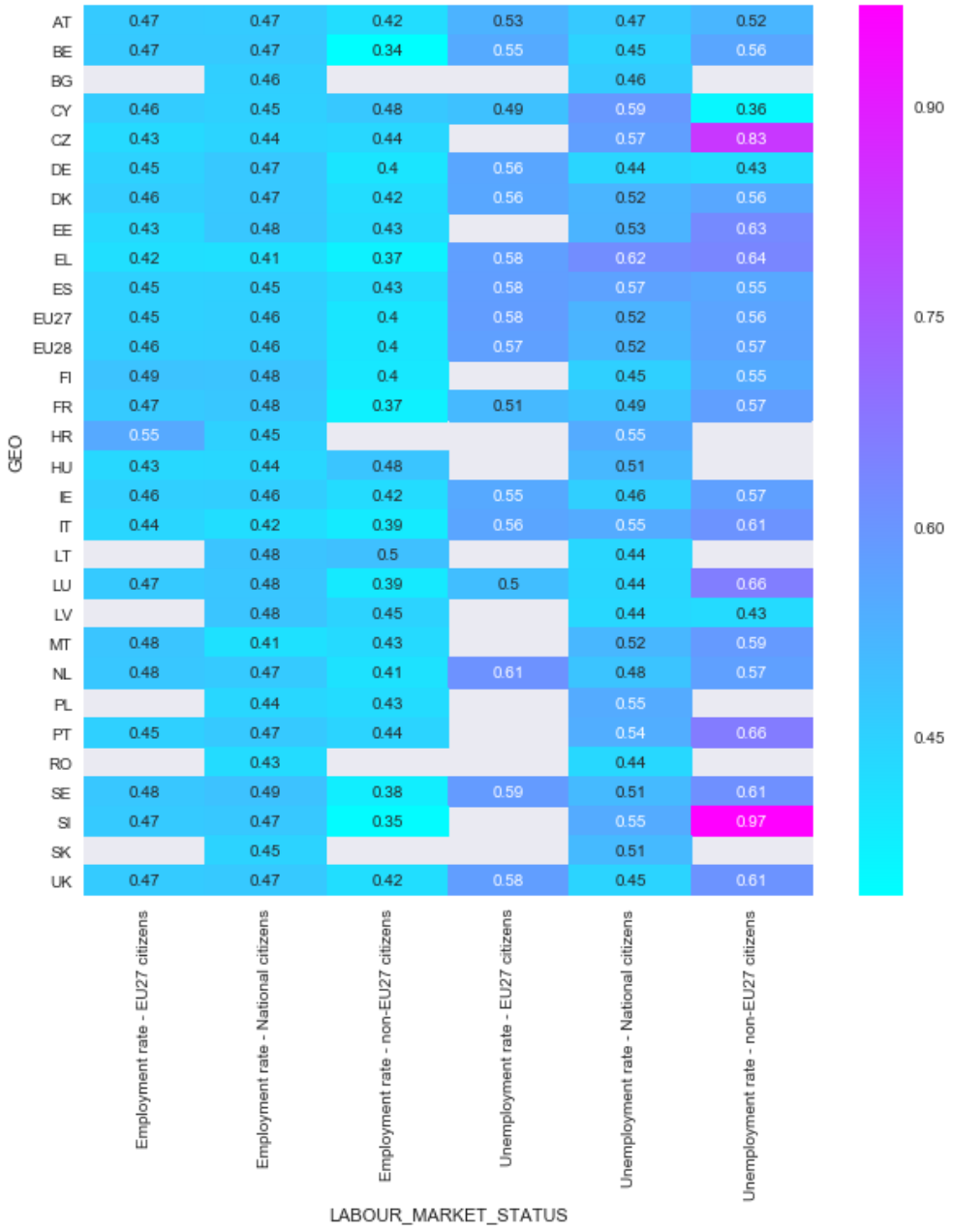

Figure 51 : Share of women per labour market status and per country (EU28, 2000-2019

3.3.4.2 Regression analysis

Note that data with sufficient time period is mainly available only for national citizens: these figures are the most relevant (columns 2 and 5). From the next graph (Figure 53) which is presenting the detail per country, it can be assumed that:

- Among employed EU27 citizens, the situation is slightly improving over the last years: the share of women is increasing by about 0.1% each year.
- Among unemployed people, it is globally decreasing by about 0.25% each year, with important differences between countries.

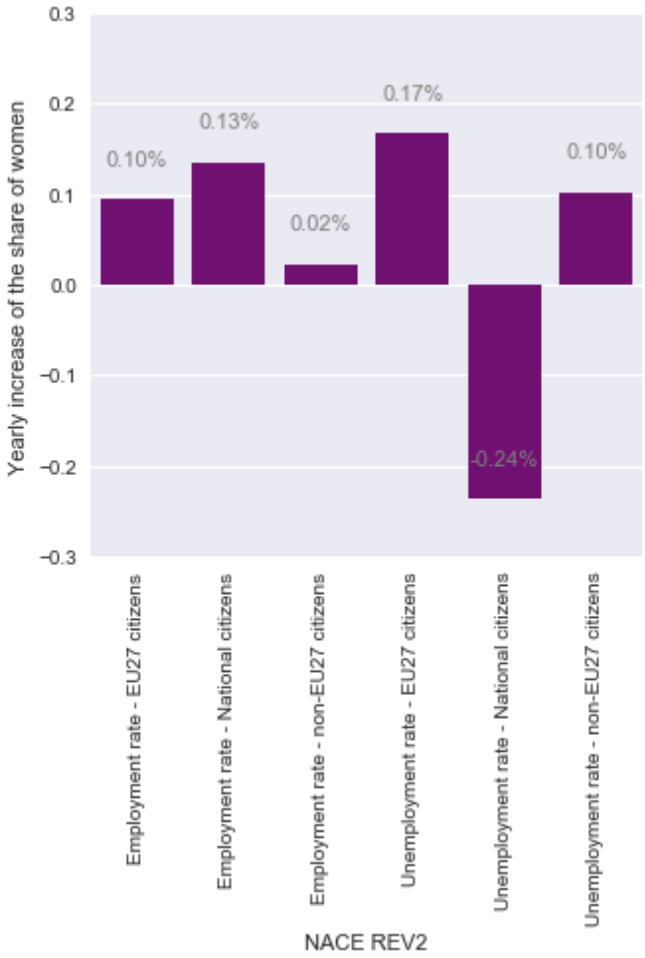

Figure 52 : Yearly trend of the share of women per labour market status (EU28, 2000-2019)

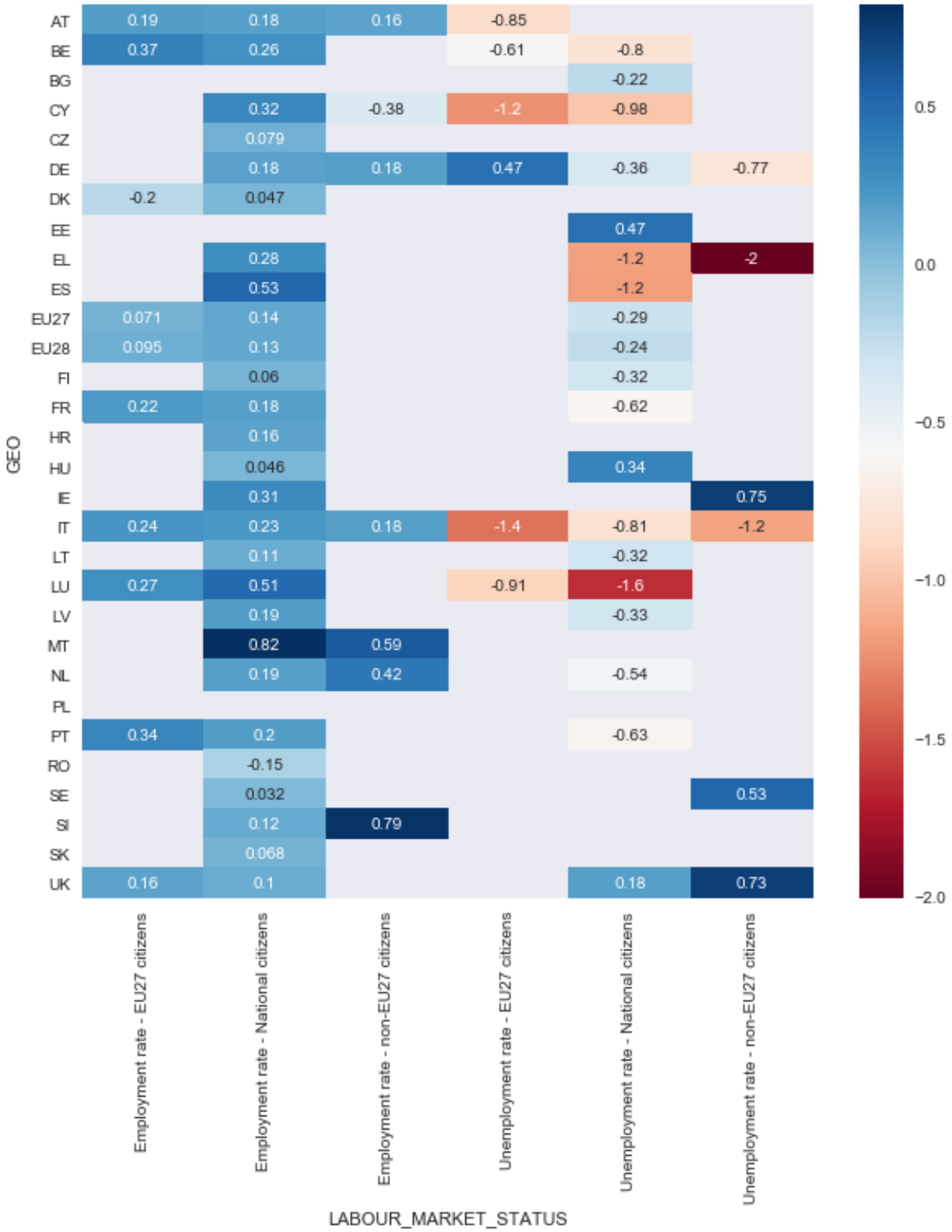

Figure 53 : Significative trends of the share of women per labour market status and per country (EU28, 2000-2019)

3.4 Conclusion of Task 3

The data availability and reliability has been studies over all available databases gathering data with detailed level 2 or 3 NACE codes for the industrial sector, as well as data newly collected for ministries, regulators and TSOs. Share of women has been analyzed whenever possible on the same databases. General trends and influence of the detailed subsector, professional status and age has been scrutinized. Finally, perspectives on future data analysis has been provided, with the hope to get enough reliable data in the coming years and extend the general analysis of the last section to the energy sector and draw comparison between the energy sector and the more global trends in the labour market.

3.5 Recommendations

Gender diversity in the energy sector is vital for driving more innovative and inclusive solutions for clean energy transitions. In order to support the gender equality strategy of the European Commission, the objective of the study was to collect data that could form an objective basis for the design of gender-aware policies or initiatives.

As the first of the kind in terms of gathering gender-disaggregated information in the energy sector across private sector and administration, this study led to the conclusion that further investigations are needed. The existing difficulties related to the data collection showed that there is still a long journey to go. To facilitate future gender-disaggregated data collection, each organization needs to understand the benefits of tracking and monitoring such indicators.

We therefore plead for continuing this type of study with structured data collection and analysis process in the energy sector for supporting appropriate policy measures and initiatives. Among the remaining gaps, we would suggest to deep dive on the following topics :

- Difference of the percentage of women in the private sector with regards to their representation in public administrations. In order to assess the specificity of the "attractiveness" of the public sector, it ought to be assessed against other sectors.
- Qualitative study of the policies implemented to promote diversity and inclusion and their impact on the recruitment of women
- With regards to employment of women, how does it relate to their representation in the student community of energy related subjects (e.g. STEM careers)
- Questions on topics such as education, family status or ethnic origins were only addressed towards the women population. In order to derive some meaningful conclusions on how each situation is expressed differently depending on the gender, their equivalent should have also been addressed to the men population

If we would have only one suggestion to make, it would be to re-conduct yearly this survey on gender equality in the energy sector to create within each organization the practice of collecting information at all levels and shed the light on their importance, and trigger well-informed decision process.

ANNEXES

3.6 Questionnaire distributed: Ministries

Survey for the study on the employment and participation of women in the energy sector (ASSET Project- European Commission)

* Required Information

Section 1: Identification of the respondent organization

Dear respondent,

Please fill in the following information for the purpose of identification of the respondent organization.

For every question in this survey, consider the following organizational framework (see image), and its definitions. We kindly ask you to refer to the framework to respond the questions in the way that best fits your organization:

- Senior ministers: members of the government with a seat on the cabinet/council of ministers
- Junior ministers: members of the government with no seat on the cabinet/council of ministers.
- Level 1 administrators: highest level of administrative (non-political) positions in energy directorates-general or equivalent.
- Level 2 administrators: second level of administrative (non-political) positions in energy directorates-general or equivalent.

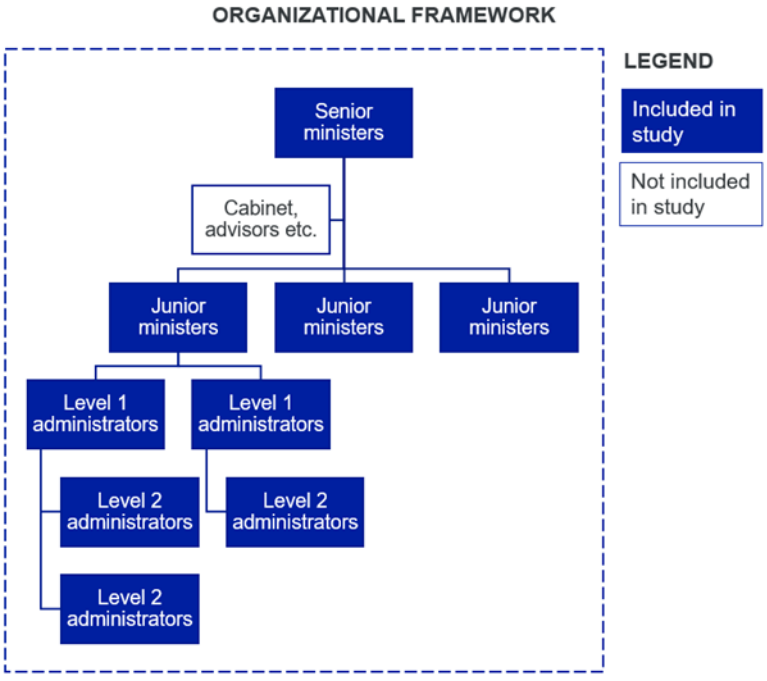

Figure 1. Organizational framework used in this survey

1.What is the name of the organization you represent?

Characters Remaining: 100

2.What is the member state represented by your organization

3.Please indicate the total number of members for each level of the hierarchical level that applies to your organization. Please input "0" if a hierarchical level does not apply.

Senior ministers

Junior ministers

Level 1 administrators

Level 2 administrators

4.Please select the year which corresponds to the statistics provided in the current survey:

Section 2: Participation of women as senior ministers

We kindly request you to provide the following data in accordance with the number of women employed as senior ministers in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.

5.How many of the senior ministers in your organization are women?

6.How many of the women employed as senior ministers in your organization have attained the following education level as their highest educational degree:

(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

7.How many of the women employed as senior ministers in your organization are working under the following work schedules:

(a)Full time

(b)Part time

8.How many of the women employed as senior ministers in your organization have a caring responsibility for the following persons:

(a)Children (under the age of 18)

(b)Adults (over the age of 18)

9.How many of the women employed as senior ministers in your organization have the following ethnic origin:

(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

10.How many of the women employed as senior ministers in your organization have a disability:

Characters Remaining: 10

11.How many of the women employed as senior ministers in your organization have the following citizenship status:

(a)EU Citizens

(b)Non-EU citizens

Section 3: Participation of women as junior ministers

We kindly request you to provide the following data in accordance with the number of women employed as junior ministers in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.

12.How many of the junior ministers in your organization are women?

Characters Remaining: 100

13.How many of the women employed as junior ministers in your organization have attained the following education level as their highest educational degree:

(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

14.How many of the women employed as junior ministers in your organization are working under the following work schedules:
(a)Full time

(b)Part time

15.How many of the women employed as junior ministers in your organization have a caring responsibility for the following persons:
(a)Children (under the age of 18)

(b)Adults (over the age of 18)

16.How many of the women employed as junior ministers in your organization have the following ethnic origin:
(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

17.How many of the women employed as junior ministers in your organization have a disability:

Characters Remaining: 10
18.How many of the women employed as junior ministers in your organization have the following citizenship status:
(a)EU Citizens

(b)Non-EU citizens

Section 4: Participation of women as level 1 administrators
We kindly request you to provide the following data in accordance with the number of women employed as level 1 administrators in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.

19.How many of the level 1 administrators in your organization are women?

Characters Remaining: 10

20.How many of the women employed as level 1 administrators in your organization have attained the following education level as their highest educational degree:

(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

21.How many of the women employed as level 1 administrators in your organization are working under the following work schedules:

(a)Full time

(b)Part time

22.How many of the women employed as level 1 administrators in your organization have a caring responsibility for the following persons:

(a)Children (under the age of 18)

(b)Adults (over the age of 18)

23.How many of the women employed as level 1 administrators in your organization have the following ethnic origin:

(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

24.How many of the women employed as level 1 administrators in your organization have a disability:

Characters Remaining: 10

25.How many of the women employed as level 1 administrators in your organization have the following citizenship status:

(a)EU Citizens

(b)Non-EU citizens

Section 5: Participation of women as level 2 administrators

We kindly request you to provide the following data in accordance with the number of women employed as level 2 administrators in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.

26.How many of the level 2 administrators in your organization are women?

Characters Remaining: 10

27.How many of the women employed as level 2 administrators in your organization have attained the following education level as their highest educational degree:

(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

28.How many of the women employed as level 2 administrators in your organization are working under the following work schedules:

(a)Full time

(b)Part time

29.How many of the women employed as level 2 administrators in your organization have a caring responsibility for the following persons:

(a)Children (under the age of 18)

(b)Adults (over the age of 18)

30.How many of the women employed as level 2 administrators in your organization have the following ethnic origin:

(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

31.How many of the women employed as level 2 administrators in your organization have a disability:

32.How many of the women employed as level 2 administrators in your organization have the following citizenship status:
(a)EU Citizens

(b)Non-EU citizens

Section 7: Gender Equality policies
33.Has your organization published gender-disaggregated statistics on employment?
Yes
No
Other (Please specify)
34. If yes, can you provide evidence in the form of the publication's name or URL/ link? (optional)

Characters Remaining: 2000
35. Is your organization currently implementing any of the following policies? (select all that apply)
Gender targets and quotas
Paid maternity leave
Paid paternity leave
Flexible working hours
Flexible work locations (e.g., work-from- home)
Training and career development targeting women
Networks and mentorship programmes targeting women
Anti-sexual harassment, anti-gender violence policy, or equivalent
Equality policy or strategy ensuring the non-discrimination of any demographic group, including women
Other (Please specify)

36. If yes, can you provide evidence in the form of the publication's name or URL/ link? (optional)

Characters Remaining: 2000

37.If your organization provides maternal and/or paternal leave, what is the length of each of these leaves in weeks?

(a)Paid maternity leave length (weeks)

(b)Paid paternity leave length (weeks)

38. Is there any additional information you would like to share with the ASSET study team? (e.g., comments, links to published reports, additional statistics to be considered, or others)

Characters Remaining: 2000

Thank you very much for your responses, which will be of great help in assessing the employment and participation of women in the energy sector.

Questions marked with an asterisk (*) are mandatory. Please remember to enter "NA" if information is not available. If one hierarchical level is not applicable to your organization , or there are no women at that level, please enter "0" in all questions for the corresponding section .

3.7 Questionnaire distributed : TSOs and regulators

Survey for the study on the employment and participation of women in the energy sector (ASSET Project- European Commission)

Section 1: Identification of the respondent organization

Dear respondent,

Please fill in the following information for the purpose of identification of the respondent organization.

For every question in this survey, consider the following organizational framework (see image). Although the exact functions at each level may vary from one organization to another, we kindly ask you to utilize this framework to respond the questions in the way that best resembles your organization's corporate governance framework.

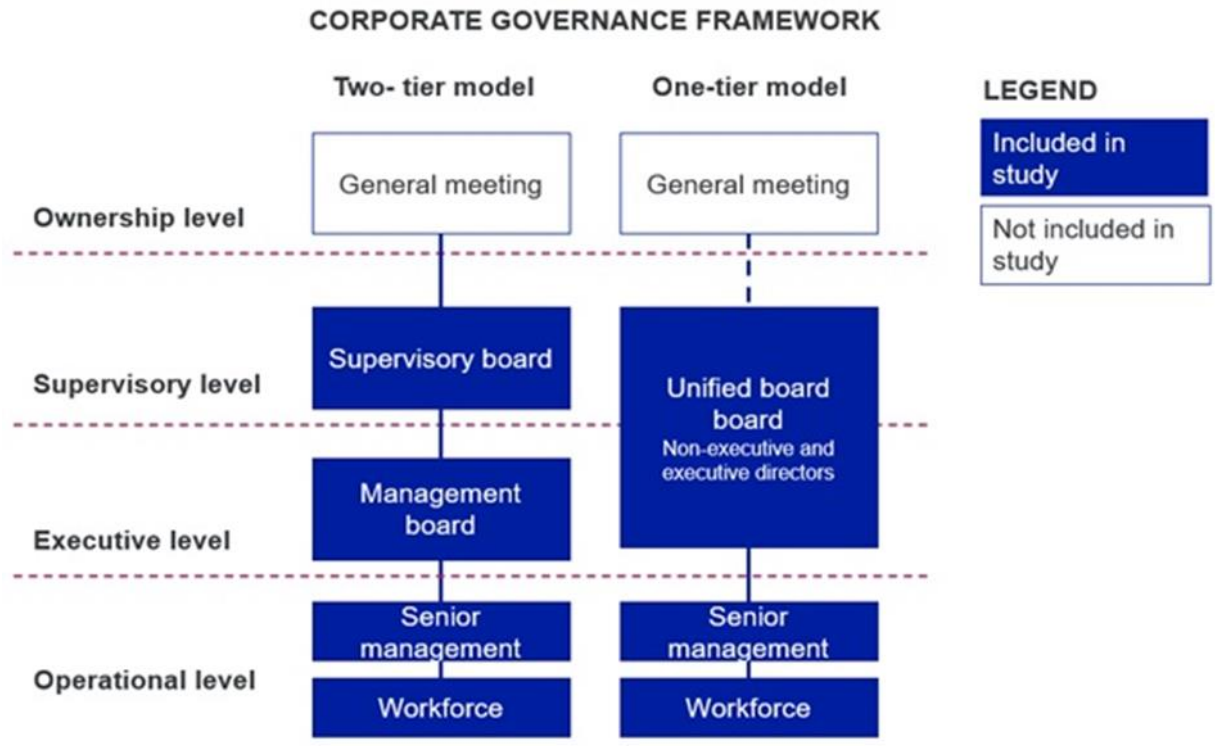

Figure 1: Corporate governance framework

1.What is the name of the organization you represent?

2.What is the member state in which your organization operates?

3.What type of organization do you represent?
Transmission system operator ()

Energy Regulator
Other (Please specify)

4.What type of corporate governance best resembles the one implemented in your organization?
Two-tier model
One -tier model
Other (Please explain composition, and other bodies/hierarchical levels))

5.Please indicate the total number of members for each level of the hierarchical level that applies to your organization. Please input zero whenever the category is not applicable
Supervisory level

Executive level

Unified board

Other bodies (as described in previous question):

Senior management

Workforce (all company employees)

Section 2: Participation of women at the supervisory level
We kindly request you to input the following data in accordance with the number of women employed as supervisory level in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.
6.How many of the supervisory level members in your organization are women?

7.How many of the women employed at the supervisory level in your organization have attained the following education level as their highest educational degree:
(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

8.How many of the women employed at the supervisory level in your organization are working under the following work schedules:
(a)Full time

(b)Part time

9.How many of the women employed at the supervisory level in your organization have a caring responsibility for the following persons:

(a)Children (under the age of 18)

(b)Adults (over the age of 18)

10.How many of the women employed at the supervisory level in your organization have the following ethnic origin:
(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

11.How many of the women employed at the supervisory level in your organization have a disability:

12.How many of the women employed at the supervisory level in your organization have the following citizenship status:
(a)EU Citizens

(b)Non-EU citizens

Section 3: Participation of women at the executive level
We kindly request you to input the following data in accordance with the number of women employed at the executive level in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.
13.How many of the executive level members in your organization are women?

Characters Remaining: 10
14.How many of the women employed at the executive level in your organization have attained the following education level as their highest educational degree:
(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

15.How many of the women employed at the executive level in your organization are working under the following work schedules:
(a)Full time

(b)Part time

16.How many of the women employed at the executive level in your organization have a caring responsibility for the following persons:
(a)Children (under the age of 18)

(b)Adults (over the age of 18)

17.How many of the women employed at the executive level in your organization have the following ethnic origin:
(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

18.How many of the women employed at the executive level in your organization have a disability:

19.How many of the women employed at the executive level in your organization have the following citizenship status:
(a)EU Citizens

(b)Non-EU citizens

Section 4: Participation of women at other bodies

We kindly request you to input the following data in accordance with the number of women employed at the other bodies in your organization. Please enter "NA" if information is not available. Please enter zero in all answers if this type of body does not apply to your organization.

20.How many of the members of other bodies in your organization are women?

21.How many of the women employed at other bodies in your organization have attained the following education level as their highest educational degree:
(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

22.How many of the women employed at other bodies in your organization are working under the following work schedules:
(a)Full time

(b)Part time

23.How many of the women employed at other bodies in your organization have a caring responsibility for the following persons:
(a)Children (under the age of 18)

(b)Adults (over the age of 18)

24.How many of the women employed at other bodies in your organization have the following ethnic origin:
(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

25.How many of the women employed at other bodies in your organization have a disability:

Characters Remaining: 10

26.How many of the women employed at other bodies in your organization have the following citizenship status:

(a)EU Citizens

(b)Non-EU citizens

Section 5: Participation of women at the senior management

We kindly request you to input the following data in accordance with the number of women employed as senior management in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.

27.How many of the senior management members in your organization are women?

28.How many of the women employed at the senior management in your organization have attained the following education level as their highest educational degree:

(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

29.How many of the women employed at the senior management in your organization are working under the following work schedules:

(a)Full time

(b)Part time

30.How many of the women employed at the senior management in your organization have a caring responsibility for the following persons:

(a)Children (under the age of 18)

(b)Adults (over the age of 18)

31.How many of the women employed at the senior management in your organization have the following ethnic origin:
(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

32.How many of the women employed at the senior management in your organization have a disability:

Characters Remaining: 10
33.How many of the women employed at the senior management in your organization have the following citizenship status:
(a)EU Citizens

(b)Non-EU citizens

Section 6: Participation of women in the workforce

We kindly request you to input the following data in accordance with the number of women employed as workforce in your organization. Please enter "NA" if information is not available. Please enter "0" in all questions if there is no participation of women in this position.

34.How many of the workforce members in your organization are women?

35.How many of the women in your workforce are employed in the following functions
(a)Core functions (production of final services):

(b)Core functions (production of final services): • Support functions (permit or facilitate production of services, e.g. marketing, administrative):

36.How many of the women employed as part of the workforce in your organization have attained the following education level as their highest educational degree:

(a)High School (or equivalent)

(b)Technical degree (or equivalent)

(c)Bachelor's degree (or equivalent)

(d)Master's degree (or equivalent)

(e)Doctorate (PhD) (or equivalent)

(f)Post Doctorate (or equivalent)

37.How many of the women employed as part of the workforce in your organization are working under the following work schedules:
(a)Full time

(b)Part time

38.How many of the women employed as part of the workforce in your organization have a caring responsibility for the following persons:
(a)Children (under the age of 18)

(b)Adults (over the age of 18)

39.How many of the women employed as part of the workforce in your organization have the following ethnic origin:
(a)Black (origins in Sub-Saharan Africa or the groups of the Black African Diaspora, e.g., Afro-Caribbean, Afro-Latino, Afro-European, or African American)

(b)Central Asian (origins in Central Asia or Caucasus)

(c)East Asian (e.g., origins in Japan, China, Korea)

(d)Indigenous or native peoples (origins in any of the original peoples of the Americas, Asia, Europe, or the Pacific; also considered First Nations or aboriginals)

(e)Latino/a or Hispanic (origins in Latin American or Spanish-speaking countries

(f)North African/Middle Eastern

(g)South Asian (origins in the Indian sub-continent)

(h)South East Asian (e.g., origins in Thailand, Indonesia, Philippines)

(i)White (origins in any of the original peoples of Europe)

(j)Multi-racial (identify with two or more ethnicities)

(k)Other

40.How many of the women employed as part of the workforce in your organization have a disability:

Characters Remaining: 10

41.How many of the women employed as part of the workforce in your organization have the following citizenship status:
(a)EU Citizens

(b)Non-EU citizens

Section 7: Gender Equality policies
42.Has your organization published gender-disaggregated statistics on employment?
Yes
No
Other (Please specify)
43. If yes, can you provide evidence in the form of the publication's name or URL/ link? (optional)

Characters Remaining: 2000

44. Is your organization currently implementing any of the following policies? (select all that apply)
Gender targets and quotas
Paid maternity leave
Paid paternity leave
Flexible working hours
Flexible work locations (e.g., work-from- home)
Training and career development targeting women
Networks and mentorship programmes targeting women
Anti-sexual harassment, anti-gender violence policy, or equivalent
Equality policy or strategy ensuring the non-discrimination of any demographic group, including women
Other (Please specify)

45. If yes, can you provide evidence in the form of the publication's name or URL/ link? (optional)

Characters Remaining: 2000

46.If your organization provides maternal and/or paternal leave, what is the length of each of these leaves in weeks?
(a)Paid maternity leave length (weeks)

(b)Paid paternity leave length (weeks)

47. Is there any additional information you would like to share with the ASSET study team? (e.g., comments, links to published reports, additional statistics to be considered, or others)

Characters Remaining: 2000

Thank you very much for your responses, which will be of great help in assessing the employment and participation of women in the energy sector. Questions marked with an asterisk (*) are mandatory. Please remember to enter "NA" if information is not available. If one hierarchical level is not applicable to your organization, or there are no women at that level, please enter "0" in all questions for the corresponding section.

3.8 List of surveyed organizations

Country	Ministry	Regulator	Electricity TSOs	Gas TSOs
Austria	✓ Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology	✓ E-control	✗ APG	✓ Trans Austria Gasleitung GmbH
Belgium	✓ Federal Public Service Economy ✓ SPW	✓ CREG	✗ Elia ✓ ENTSO	✗ Fluxys
Bulgaria	✓ Ministry of Energy of the Republic of Bulgaria	✓ Energy and Water Regulatory Commission	✓ ESO	✗ Bulgartransgaz EAD
Croatia	✓ Ministry of Environment and Energy	✓ Croatian Energy Regulatory Agency (HERA)	✓ HOPS	✓ Plinacro
Cyprus	✓ Ministry of Energy, Commerce and Industry	✓ Cyprus Energy Regulatory Authority (CERA)	✓ Cyprus TSO	
Czech Republic	✓ Ministry for Industry and Trade	✓ Energy Regulatory Office	✓ CEPS	✗ NET4Gas
Danemark	✗ Minister for Climate, Energy and Utilities	✗ Forsyningstilsynet	✓ Energinet	
Estonia	✓ Ministry of Economic Affairs and Infrastructure	✓ Estonian Competition Authority	✓ Elering	
Finland	✓ Ministry of Economic Affairs and Employment, Government of Finland	✓ Energiavirasto (Energy Authority)	✓ Fingrid	✗ Gasgrid Finland Oy
France	✓ Ministère de la Transition Écologique Direction de l'énergie	✗ CRE	✓ RTE	✓ Teréga ✗ GRT Gaz
Germany	✓ Federal Ministry for Economic Affairs and Energy	✓ Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen	✗ 50Hertz ✓ Amprion	✓ ONTRAS Gastransport GmbH ✓ Gasunie Deutschland Transport Services GmbH ✓ GASCADE Gastransport Gmb V ✓ Terranets bwH ✗ Open Grid Europe GmbH ✗ Bayernets GmbH

Greece	✓ Ministry of the Environment and Energy	✓ Regulatory Authority for Energy	✓ IPTO	✗DESFA
Hungary	✓ Ministry of Innovation and Technology	✓ Hungarian Energy and Public Utility Regulatory Authority	✓ Mavir	✗FGSZ Ltd.
Ireland	✗Department of the Environment, Climate and Communications	✓ Commission for Regulation of Utilities	✓ EirGrid Soni	✓ Gas Networks Ireland
Italy	✓ Ministry of Ecological Transition	✓ ARERA	✗Terna	✓ Snam Rete Gas S.p.A.
Latvia	✓ Ministry of Economics	✓ Public Utilities Commission	✗AST	✓ Conexus Baltic Grid
Lithuania	✓ Ministry of Energy of the Republic of Lithuania	✓ National Energy Regulatory Council	✗Litgrid	✓ Amber Grid
Luxembourg	✓ Ministère de l'Énergie et de l'Aménagement du territoire	✓ Institut Luxembourgeois de Régulation - ILR	✗Creos	
Malta	✓ Minister for Energy and Water management	✗REWS		
Nederlands	✓ Ministry of Economic Affairs and Climate	✓ Authority for Consumers and markets (ACM)	✗Tennet NL	BBL Company X
Poland	✓ Ministry of Climate and Environment	✓ Energy Regulatory Office	✓ PSE	✓ Gas Transmission Operator GAZ-SYSTEM S.A.
Portugal	✓ Ministry for Environment and Climate Action	✓ Energy Services Regulatory Authority	✓ REN	✓ REN Gasodutos, SA
Romania	✓ Ministry of Energy	✓ Romanian Energy Regulatory Authority	✗Transelectrica	✓ Transgaz SA
Slovakia	✓ Ministry of Economy of the Slovak Republic	✓ ÚRSO	✗SEPS	✗Eustream
Slovenia	✓ Ministry of Infrastructure	✓ Agencija za energijo (Energy Agency of the Republic of Slovenia)	✓ ELES	✓ Plinovodi
Spain	✓ Ministry for the Ecological Transition and the Demographic Challenge	✓ CNMC	✗REE	✓ Enagás S.A.
Sweden	✓ Minister for Energy and Digital Development	✓ Swedish Energy Markets Inspectorate	✗SVK	✗Nordion Energi AB

✓ **Reponses received on the survey,** ✗ **no reply or refusal to participate ,**

3.9 Sources consulted for ministries organigrams

Table 3 Links to organigrams consulted for data collection for ministries

Country	Link
Austria	https://www.bmk.gv.at/en/ministry/organisation.html
Bulgaria	https://www.me.government.bg/en/departments-1.html
Croatia	https://mingor.gov.hr/o-ministarstvu-1065/ravnatelji-uprava/5220
Cyprus	https://meci.gov.cy/assets/modules/wnp/articles/201607/8/docs/ipiresiaenergeiasanath.pdf
Czech Republic	https://www.mpo.cz/assets/cz/rozcestnik/ministerstvo/o-ministerstvu/2020/1/MPO-ORGANIZACNI-SCHEMA-2020.pdf
Denmark	https://www.thedanishparliament.dk/en/committees/committees/the-climate-energy-and-utilities-committee
Estonia	https://www.mkm.ee/en/contact
Finland	https://tem.fi/documents/1410877/19651892/TEM_EN_nettiin_29032021.pdf/26a55181-f299-8d63-67a3-57194188612d/TEM_EN_nettiin_29032021.pdf?t=1617003541341
France	https://www.ecologie.gouv.fr/ministere/ministres
Germany	https://www.bmwi.de/Redaktion/DE/Downloads/M-O/organisationsplan-bmwi.pdf?__blob=publicationFile
Ireland	https://www.gov.ie/en/organisation/department-of-the-environment-climate-and-communications/
Italy	https://www.minambiente.it/pagina/telefono-e-posta-elettronica https://www.minambiente.it/sites/default/files/archivio/allegati/trasparenza_valutazione_merito/organigramma_2020.pdf
Latvia	https://www.em.gov.lv/en/structure
Lithuania	https://enmin.lrv.lt/en/structure-and-contacts/team
Luxembourg	https://mea.gouvernement.lu/en.html
Netherlands	https://www.government.nl/documents/leaflets/2019/05/01/organisation-chart-ministry-of-economic-affairs-and-climate-policy
Poland	https://www.gov.pl/web/climate https://www.gov.pl/web/klimat/departament-edukacji-i-komunikacji
Portugal	Organograma (dgeg.gov.pt) https://www.portugal.gov.pt/en/gc21/ministries/environment/minister https://workflow.sgambiente.gov.pt/area-ambiente/organograma-.aspx
Romania	https://gov.ro/en/government/the-cabinet-of-ministers/minister-of-energy1610014058
Slovakia	https://www.economy.gov.sk/kontakt
Slovenia	https://www.gov.si/assets/organigrami/ministrstva/Organigram-Ministrstva-za-infrastrukturo.pdf https://www.gov.si/en/state-authorities/ministries/ministry-of-infrastructure/about-the-ministry/direktorat-za-energijo/
Spain	Ministerio para la Transición Ecológica y el Reto Demográfico (miteco.gob.es)

3.10 Code of conducts and gender policies in Member States

Table 4 Links to TSOs and Regulators Codes of conduct and legal policies related to gender questions

Country	Link
Austria	https://www.help.gv.at/Portal.Node/hlpd/public/content/143/Seite.1430100.html
Belgium	https://www.iweps.be/wp-content/uploads/2020/04/RS3_Fonction_publique2020.pdf https://wallex.wallonie.be/contents/acts/4/4464/1.html https://statbel.fgov.be/en/themes/work-training/labour-market/employment-and-unemployment#panel-12
Croatia	The Maternity and Parental Benefits Act (Official Gazette No. 85/08, 110/08, 34/11, 54/13, 152/14, 59/17, 37/20) in the link https://www.zakon.hr/z/214/Zakon-o-rodiljnim-i-roditeljskim-potporama; The Labour Act (Official Gazette No. 93/14, 127/17, 98/19) in the link https://www.zakon.hr/z/307/Zakon-o-radu; Collective Agreement for PLINACRO Ltd.,.
Cyprus	http://www.mlsi.gov.cy/mlsi/sid/sidv2.nsf/All/376ED526792B2965C2257A0900379BF6?OpenDocument paid maternity leave http://www.mlsi.gov.cy/mlsi/sid/sidv2.nsf/All/2EEEB0D5888D00F1C225816E00435737?OpenDocument paid paternity leave Cyprus Energy Regulatory Authority (Recruitment, promotion and disciplinary control) 2004 Regulation www.cera.org.cy/Templates/00001/data/nomothesia/ethniki/hlektrismos/Kanonismoi/2004_528-Proslipsi_proagogi_ypiresia_kai_peitharxikos_elegxos.pdf (in Greek)
Finland	http://www.stat.fi/tup/tasaarvo/tyoelama/index_en.html (working life) http://www.stat.fi/til/tyokay/2019/01/tyokay_2019_01_2020-12-14_tie_001_en.html (working life) http://www.stat.fi/tup/tasaarvo/index_en.html (gender equality) https://www.finlex.fi/en/laki/kaannokset/2001/en20010055.pdf (see page 18, family leave)
France	Terega : Egalité Hommes-Femmes" Chapter : https://www.terega.fr/nous-sommes/organisation/quelques-indicateurs-cles-pour-mieux-comprendre-terega
Germany	https://www.destatis.de/DE/Themen/Staat/Oeffentlicher-Dienst/Publikationen/_publikationen-innen-gleichstellungsindex.html https://www.bmwi.de/Redaktion/DE/Textsammlungen/Ministerium/initiativen-des-bmwi.html?cms_artId=221454
Greece	IPTO : https://www.admie.gr/sites/default/files/inline-files/report_admie_web.pdf
Italy	SNAM :https://www.snam.it/en/Sustainability/valuing_people/the_importance_of_diversity.html
Latvia	SPRK : https://www.sprk.gov.lv/content/gada-parskati-0
Lithuania	State Social Insurance Fund Board under the Ministry of Social Security and Labour: https://www.sodra.lt/en/benefits/information-for-residents/i-want-to-receive-a-maternity-paternity-or-child-maintenance-benefit .
Portugal	REN's Code of Conduct - www.ren.pt - Investors - Corporate Governance - Code of Conduct ERSE : https://www.erse.pt/media/ymfjwf31/rac_2019.pdf
Romania	ETHICAL AND PROFESSIONAL CONDUCT CODE - ANRE ORDER No. 5/2019 https://www.anre.ro/ro/despre-anre/cod-conduita
Slovakia	Zákonník práce (č. 311/2011 Z. z.) https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2001/311/20210301
Slovenia	http://www.plinovodi.si/en/about-us/social-responsibility/
Spain	Gender policy : https://www.boe.es/eli/es/lo/2007/03/22/3/con Maternity leave : https://www.boe.es/eli/es/rdl/2019/03/01/6/con Paternity leave :https://www.boe.es/eli/es/rdl/2019/03/01/6/con Flexible working hours : https://www.boe.es/eli/es/res/2019/02/28/(1)/con., https://www.boe.es/eli/es/rdlg/2015/10/30/5/con Flexible work location:https://www.boe.es/eli/es/rdlg/2015/10/30/5/con Trainings : see articles 3, 8, 11, 14, 56-60 in Ley Orgánica 3/2007, de 22 de marzo, para la igualdad efectiva de mujeres y hombres https://www.boe.es/eli/es/lo/2007/03/22/3/con Anti-sexual harassment, anti-gender violence policy: implementation of one of the measures of the III Gender Equality Plan at the State Administration https://www.boe.es/eli/es/res/2020/12/29/(2)/con Equality policy : https://www.boe.es/eli/es/rdlg/2015/10/30/5/con) Gender Equality Plan at the State Administration https://www.boe.es/eli/es/res/2020/12/29/(2)/con; Enagás: https://www.enagas.es/stfls/ENAGAS/Ficheros/Sostenibilidad/Codigo%20etico%20y%20politicas/Corporate%20directives%20concerning%20diversity_nf.pdf https://www.enagas.es/stfls/ENAGAS/Documentos/Human%20capital%20managment%20policy.pdf

Sweden	Enagás reports in its Annual Report 2020 information about the policies implemented about gender diversity (see pages 54-56, 58-59): https://www.enagas.es/stfls/ENAGAS/Relaci%C3%B3n%20con%20inversores/Documentos/CCAA%20+%20Informe%20G.%20Consolidado%202020%20(Ingl%C3%A9s).pdf https://www.ei.se/sv/arbeta-hos-oss/bra-arbetsvillkor-detta-erbjuder-vi/

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LFSA_ETGAN2, Temporary employees by sex, age and economic activity (from 2008 onwards, NACE Rev. 2)

LFSA_EWHUN2, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2)

LFSA_EWHAN2, Average number of actual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2)

LFSA_EWH2N2, Average number of actual weekly hours of work in the second job, by sex, professional status, economic activity and full-time/part-time in the first job (from 2008 onwards, NACE Rev. 2)

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