
MASTER THESIS SYNTHESIS

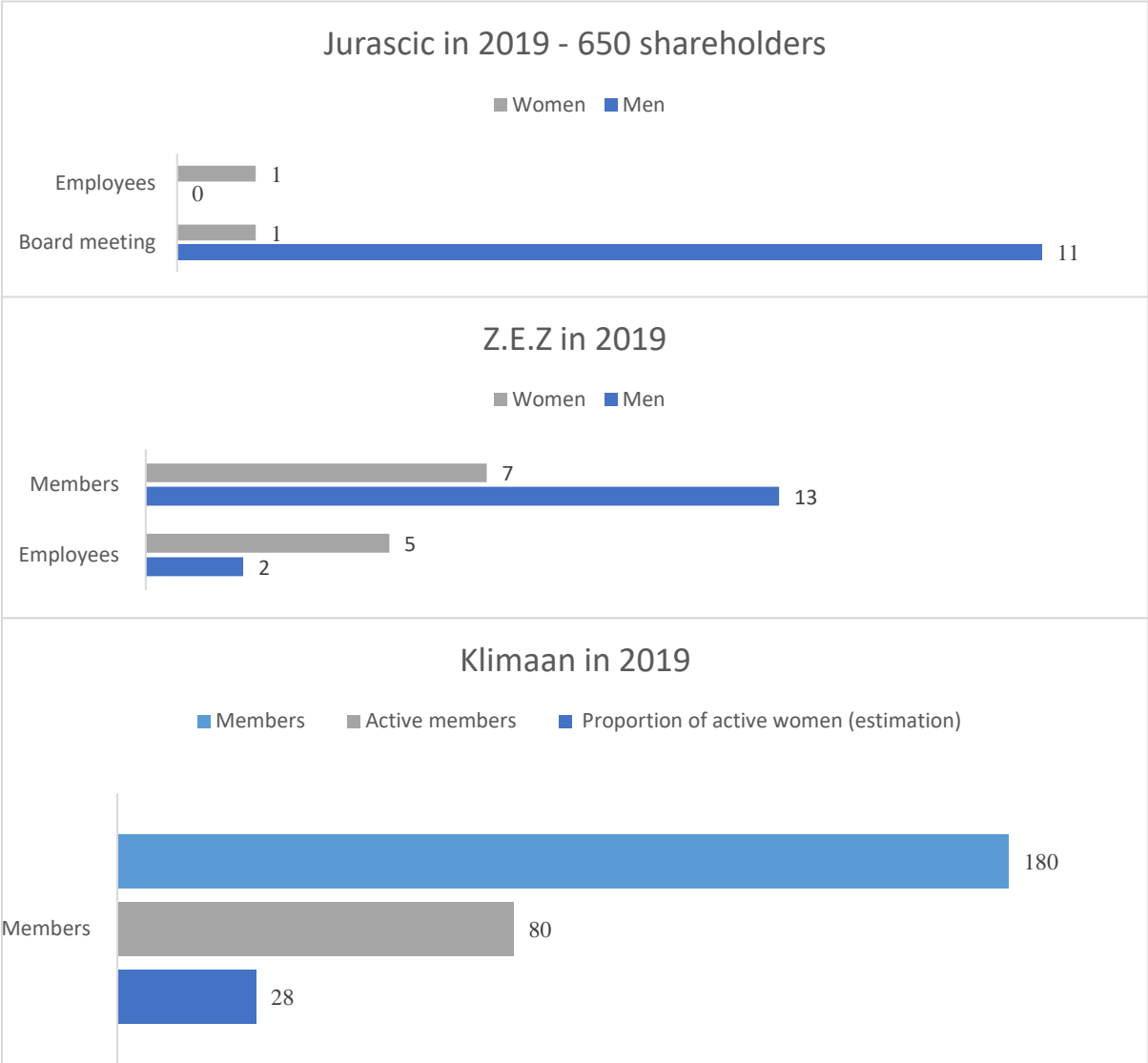
Women and renewable energies - participation in renewable energy communities (R.E.C)

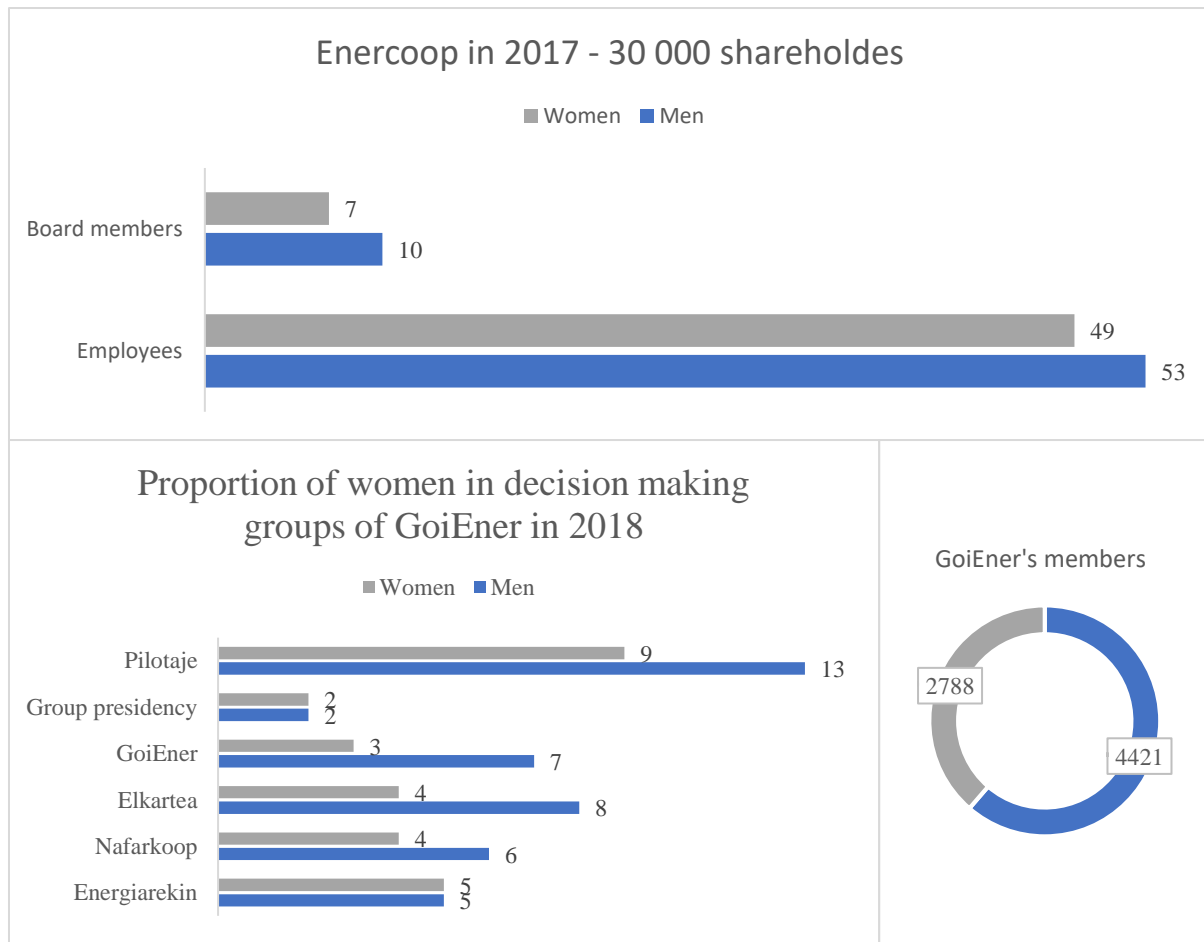
The question of the relationship between gender and renewable energy is a key issue in the energy transition, specifically because of the vulnerability of women vis-à-vis the consequences of climate change (due to their status of household manager, and to their lower income on average). Women are, however, poorly represented in the energy sector. A 2019 International Renewable Energy Agency (IRENA) study covering 144 countries explains that women make up only 32% of the workforce for the production of renewable energies and 22% of the oil and gas industry workforce. Thus, women's share is higher in the renewable sector, but women's positions are still more administrative than technical (45% of women have administrative positions compared to 28% of engineering positions). Their decision-making power is also limited, as the private sector boards analysed are 75% male. In this context, the cooperative form of the R.E.C seems to be a response to these inequalities, since they are based on values of equity, power sharing and openness. Moreover, the social ambitions of the R.E.C also push them to try to answer the stakes of consumption inequalities, for example via actions to fight against fuel poverty. This is a key issue, as women make up 80% of people in fuel poverty in Europe, with single mothers being the most vulnerable.

Nevertheless, this link is not evident to establish in concrete observations. In this context, this paper asks: **to what extent do the R.E.C contribute to the empowerment of women?** Empowerment refers to "a socio-political process that articulates an individual dynamic of self-esteem and development of one's skills with a collective commitment and a transformative social action". The answer is based on the analysis of five energy cooperatives from four different countries. These are GoiEner (Spain), Jurascic (France), Z.E.Z (Croatia), Klimaan (Belgium) and Enercoop (France), all members of REScoop, the European federation of R.E.C. Being of different sizes, these cooperatives do not have the same mode of operation nor the same origin, but they are linked by the will to restore energy sovereignty to citizens by following democratic principles. Their general objective is therefore to enable the empowerment of all citizens through the control of energy production and consumption. The size and age of the structure mainly affects the rate of professionalization. The modalities and obstacles to female participation are not the same depending on the status of volunteer or employee. While Enercoop, Z.E.Z and GoiEner are employee-based, Jurascic and Klimaan operate thanks to volunteers.

Departing from those examples, it is possible to say that the R.E.C effectively contribute to women's empowerment, but in specific conditions. Indeed, there are more women working in R.E.C than in the renewable energy sector on average, and they have access to senior positions, can take part in the deliberations of boards and general assemblies, and generally hold a positive perception of the opportunities offered by the cooperatives. However, these findings differ from one cooperative to another, especially as concerns the number of women present and in power.

The technical issues remain in the hands of men, according to a broader logic of segmentation of the labour market. Unsurprisingly, cooperatives that take gender into account in their strategy (especially GoiEner, and to a certain extent Enercoop), have better results in terms of parity. Empowerment is therefore an active and voluntary process and does not automatically result from a more democratic and open organisation. In addition, if there are more women employed by the cooperatives, the majority of members remain male (men have on average more time to volunteer, and feel legitimate to act, unlike women). The graph below shows the main statistics on the presence of women in the cooperatives studied:





The decision-making process is more open, but it is not enough to apply the principle of one person equals one vote to ensure power sharing. For example, GoiEner has put in place a sociocratic model of shared governance that makes it possible to partially overcome the stakes of inequalities in participation. This subject is not fully taken into account by the R.E.C. who carry out few direct actions in favour of gender equality. The energy cooperatives that integrate it are built around a feminist ideology, and the changes made during the development are more difficult to put in place. The national context also greatly influences the actions of R.E.C. Indeed, the question of gender is more and more on the Spanish public agenda for example, and the state of women's rights differ between Croatia, France, Belgium or Spain.

In addition, the R.E.Cs are more successful in integrating women into the energy production process, but are struggling to respond to consumption inequalities. In fact, people with modest incomes remain excluded from the R.E.C, even though they are the most likely to know and formulate their needs and difficulties. Empowerment is implicitly reserved for a category of women, who can invest the initial participation sum required. Public authorities are still needed to subsidize modest households to access renewable energy. In addition, women who remain in charge of household management (and therefore domestic energy issues) cannot integrate the R.E.C, because of a lack of time. This situation covers a broader issue for R.E.Cs that are struggling to attract socially diverse members and employees.

Hence, renewable energy communities are contributing to the empowerment of women into the energy sector. This trend should accelerate with the growing renewable energy consumption in Europe (from 8.5% in 2004 to 17.0% in 2016 according to Eurostat) and by the increase of the number of energy cooperatives. If the structure of energy cooperatives does offer possibilities for the sharing of power and positions, and therefore of empowerment, it nevertheless implies the integration of this issue into the overall policy of a R.E.C.

It should be noted that these conclusions are based on an exploratory study that requires further research. Indeed, the analytical field could not be sufficiently completed. It would have been better to carry out observation sessions, in particular to really analyse power sharing (for example, the duration, the nature and the number of women speaking at decision-making meetings) and to know more about women's perception in different positions on their participation, and the impact of R.E.Cs in their lives.

In fact, the chosen perspective underlines how R.E.C can involve women as prosumers, but not what their integration brings to cooperatives. Several studies shared by the NGO Women Equity (whose objective is to promote and support women-led SMEs), say for example that the most feminized companies are more successful: "when the number of women in a position of director increases by 10%, the chances of success (compared to other companies) increase by 6%". So, what is the impact of women's participation in energy cooperatives? For example, if women are more vulnerable to the risks of fuel poverty, they may also be the most likely to find solutions. As they are in charge of homes, they can also provide practical insight into the behavioural changes required to improve energy efficiency and reduce consumption. In addition, as women are more affected by climate change, their involvement in the energy sector could potentially accelerate the energy transition.