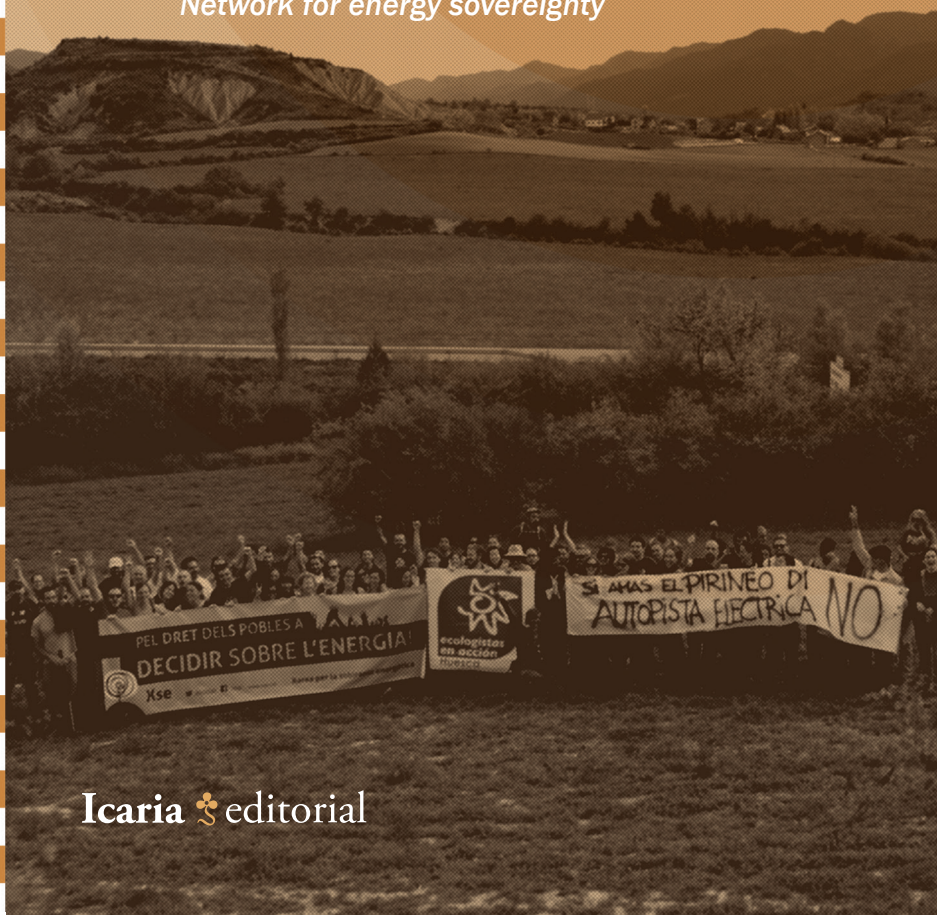


WE'VE GOT ENERGY!

Challenges of the transition towards energy sovereignty

Xarxa per la sobirania energètica
Network for energy sovereignty



The Network for energy sovereignty (Xse, after its Catalan acronym) is a collection of associations, collectives and individuals from all over Catalan territory organised with the intention to create a political front for the transformation of the energy sector and the advance towards energy sovereignty. We understand energy sovereignty as the right of interested individuals, communities and peoples to take their own decisions about the generation, distribution and consumption of energy, as long as these are appropriate to ecological, social, economic and cultural circumstances and do not negatively impact others.

This book is the result of the work and collective intelligence of the Xse and all the people who have taken part in it over the last four years and who we hope will continue to enrich it in the future. It attempts to highlight the impacts of the obsolete and predatory model dominated by the Oligopoly, but, above all, to give voice to all the communities who have found the energy to oppose it and construct alternatives. Protests defending land and basic services and movements to guarantee our rights abundantly demonstrate that we have energy. We've got the energy to drive a new energy model which respects the limits of our planet. We've got the energy to find our own mechanisms and financial resources to make it happen. We've got the energy to decide locally how we want to supply ourselves with energy, collectively and without excluding anyone. We've got the energy to use it to meet our own needs, and to share and show solidarity with our neighbours. We've got the energy to protect life.



WE'VE GOT ENERGY!

NETWORK FOR ENERGY SOVEREIGNTY

WE'VE GOT ENERGY!

CHALLENGES OF THE TRANSITION
TOWARDS ENERGY SOVEREIGNTY

Icaria ☘ editorial

This book is printed on 100% Amics dels boscos («Friends of the forests») paper, which comes from sustainably managed forests and is produced using TCF (Totally Chlorine Free) processes, supporting forestry practices which respect the environment and are economically sustainable.



This publication was produced with support from the European Union. Responsibility for the content of this publication lies entirely with the authors and under no circumstances can the content of this publication be interpreted as the official opinion of the European Union.

Cover design and illustrations: Lucía Armiño

Cover photograph: *Tour 2. Sabiñango, Osca*. October 2015.

English translation: Joanne Craven

© Xarxa per la sobirania energètica, Sofia Ávila, Lourdes Berdié Rabanaque, Júlia Botella, Irina Camarasa Pfefferkorn, Maria Campuzano Guerra, Carol Coll, Daniela Del Bene, Gaia D'Elia Lulli, Mònica Guiteras Blaya, Josep Nualart Corpas, Alfons Pérez López, Arnau Piqué i Magdalena, Oleguer Presas Renom, Maria Vives Ingla (coordination)

© This edition:
Icaria editorial, s. a.
Bailèn, 5 - planta 5
08010 Barcelona
www.icariaeditorial.com

First edition: May 2018

ISBN: 978-84-9888-830-0

Photo composition: Text Gràfic

Printed by ULZAMA (Navarra)

INDEX

- Introduction 7
- I. From grassroots democracy to energy sovereignty 19
- II. Taking energy back: (re)localisation and distribution networks. 45
- III. Energy at the service of the people: guaranteeing universal access to basic services 65
- IV. Energy, gender and ecofeminist perspectives 83
- V. Financing the transition to energy sovereignty: a huge challenge 101
- VI. Experiences in the Global South: resistance and alternatives from impoverished communities 115
- VII. Networking resistances and alternatives at home and learning from other cases in the Global North 143
- VIII. Epilogue: a manifesto full of energy 153
- IX. Some clarifications 155

INTRODUCTION

The energy model needs to change and we want to decide how

To feed ourselves; to heat and light the spaces we live in; to move ourselves from one place to another; to transform raw materials and the environment into the things we need. The human race has met all of these needs not only through the work of our own bodies, but also using energy from external sources. The explosion in the use of fossil fuels, which seemed apparently infinite¹, cheap and high in energy, represented a huge change in the scale of our opportunities to intervene in and modify our surroundings.

As a consequence of this, along with the Industrial Revolution, several key aspects of Western economies and societies have changed exponentially. Take, for example, the increase in our capacity to produce all types of goods, including food, through the use of technology and fertilization in agriculture. Or the dynamics of demographic change, the size of cities or the average distance travelled in a human life. These phenomena also drive

1. We refer to fossil fuels as an «apparently infinite» source of energy because when they were first exploited, they seemed inexhaustible and it was not recognised that their production involved processes happening over geological time scales. The uninhibited use of these fuels has meant that after just two centuries, we have passed peak fossil fuel extraction and, from now on, extracting fossil fuels will be so increasingly expensive in economic, energetic and technological terms that we can now talk of their «exhaustion».

and are driven by a continuing expansion of technical and scientific knowledge, which expands the limits of the possible. All of these historical processes have developed on the foundation of capitalism and have permitted its expansion, the globalization of markets, and the development of consumerist societies. It is true that this has led to a certain material development, with all that this offers, for a certain segment of the people who live on this planet. However, it is also true that the percentage of the global population represented by this segment continues to be a minority: the Global North². And the prices that have been, and are being, paid for this are very often unacceptable.

Maintaining the wellbeing of this minority has required huge quantities of fossil fuels, the combustion products of which are now accumulating in the atmosphere and the oceans and changing the climate patterns of the Earth. In addition, it has required unrestrained exploitation of more and more land and natural resources, leading to the loss and degradation of ecosystems. This reached a point where, currently, we are seeing such an abrupt decline in the number of living organisms and species inhabiting the Earth that many scientific disciplines have proposed to call it the sixth Great Extinction. What is more, many of the resources we use are being consumed faster than they can be renewed (and some cannot be renewed). This has led to a situation where we are approaching (or exceeding) the peak of extraction or exploitation of many of these resources. This is especially marked in the cases of oil (peak oil) and of many minerals (such as uranium), and the fact that every year, the day by which we have consumed all the resources produced by the Earth in that year comes sooner.

The tight connection between the fossil fuel-based energetic model and the growth-based economic model is evident at multiple levels, such as the parallel forms of the petrol consumption and GDP curves, amongst others. Therefore, it is urgently necessary

2. See *Chapter 10: Some clarifications* for an explanation of the meaning of this concept in the context of this book.

to change the energy model, so as to not depend economically on dwindling resources or create situations which threaten the survival of many species on Earth, including our own. However, this need clashes with the supply limits of renewable energy sources and the limited resource cycles of our planet, which means that the expected change in the energy model inevitably has to be accompanied by a change in the socioeconomic system.

Although the exploitation of natural resources has been characteristic of the material development of the Global North, so has the abuse of the time and bodies of many human beings. The development of capitalism would not have been possible without the resources sourced from many colonized countries, but neither would it have been without an abundant workforce obliged to work in conditions of slavery or semi-slavery. Currently, the capitalist system still feeds its exponential generation of wealth (and poverty) on precarious work both in the countries of the Global North, and, markedly, in the countries where the colonial past still continues in the form of abusive and impoverishing economic treaties and dehumanising working conditions. On this foundation, inequality is growing in the distribution of resources between the two poles of the globalised system: between the rich minorities of the Global North and the impoverished parts of the Global South.

The accumulation of wealth by the extractive elites of the Global North has therefore driven the exploitation of the lands and most vulnerable people of societies riven by multiple oppressions and inequalities. The previous paragraph implicitly made reference to the abuses committed with roots in racism and classism. Whilst these are historically recognised, it remains difficult to identify those which are being committed in the name of the patriarchal system. It must be remembered that one of the factors which has allowed capitalism to develop and sustain itself has been the energy that women have been obliged to dedicate every day to tasks which keep us all alive and permit us a decent quality of life.

The consequences that the construction of our current energy model on a capitalist basis has had are visible everywhere. Energy

has a clear political dimension, determining many characteristics of our daily lives and of the organisation of the societies we live in. Secure access to energy is vital for us to develop a decent quality of life. However, its control does not lie in the hands of the population, but in the hands of a small number of transnational companies which prioritise making profits from energy supply over guaranteeing universal energy access.

In the case of electricity in the Spanish state, five large groups of companies monopolise the market and all the processes which make up the electricity system, opaquely and in collusion with political and financial powers. These companies make multimillion euro profits (even in years of major economic recession) and have accumulated an extremely long history of scandals and abuses, here and elsewhere, all perpetrated with impunity³.

The accumulation of power over energy by few actors, free to act as they please, is driven in part by the need to centralise energy processes in an energy and socioeconomic system such as ours. On one hand, this is because its design prioritises reductions in the cost of industrial production. On the other hand, it is because the sources we have used until now can only be extracted in certain parts of the planet before being processed and distributed.

The prioritisation of productive uses of energy and the maximisation of its economic return, alongside the centralisation which such a model requires, leads to infrastructure and energy projects on huge scales. The development of these requires enormous investment which places them at the mercy of complex financial apparatus (financialisation⁴).

3. You will find a brief description of the Oligopoly in the Spanish electrical market in *Chapter 10: Some clarifications*.

4. *Financialisation* is the penetration of the financial sphere into various aspects of the economy, and of life. Some examples of this phenomenon are the fluctuation in the prices of some natural resources, raw materials and even foodstuffs in financial markets. Another example is the sale of shares in energy projects on the stock exchange, which converts basic goods and services such as food and energy into mere financial products.

The construction of such large-scale projects almost inevitably has multiple environmental, socioeconomic and financial (often debt-related) impacts, either through failure, bad administration or even the planned normal functioning of the project. Despite the regional impacts these projects have, information about them is often not made sufficiently available to permit real participatory decision-making by the community affected. Obstruction, restrictions and even violence and political repression enable the projects to be imposed on the host region, which then becomes one of the victims of the energy model.

While these victims of the energy model lie in the extraction zones, on the consumer side, the treatment of energy as an economic good deprives many people of a minimum, necessary consumption of energy. The situation of people living in fuel poverty is in contrast to the opulent overconsumption of others living in the same village or neighbourhood.

The ecological and social consequences of the fossil fuel and nuclear energy model mean that the idea of changing it is widely supported today and is called for from sectors of society with a large range of ideologies. The debate appears when discussing the extent of the change, its characteristics, the objectives to be pursued and who would come forward as the protagonist of the new model.

Abandoning fossil fuels and transitioning to renewable energy sources is the most widely-accepted element of the paradigm shift. This is a global consensus which increasingly clashes with the individuals and powerful actors who, in a self-interested and condemnable way, obstinately continue to deny climate change.

From this point onwards, the official position changes depending on the political colour of the person speaking, due to the complexity of the issue, the interests at play and the deep interrelation established with the socioeconomic system. Therefore, substitution with renewables whilst maintaining nuclear power and the implementation of systems for large-scale carbon capture and storage are proposed as 100% renewable models. But, in general, we tend to consider only the substitution of technologies

and not to contemplate introducing any other type of change or modifying any other aspects of the current system. The so-called decarbonisation of our societies is necessary but, in our opinion, insufficient to face up to the global change which we believe needs to be tackled.

In this context, considerable knowledge and social debate is required about the quantity of energy which could be available with the new technologies and about which uses we want to put it to, and in addition, about how to implement the proposal in different countries, due to the inevitable impacts that renewable energy installations will also have. The results of these discussions will, inevitably, have consequences for our way of life. With this in mind, the diagnosis and proposal of the Network for energy sovereignty is clear. We need to take power from the energy Oligopoly so that it will be us, the communities, who decide for ourselves which needs we prefer to meet and how. Therefore, we need to be the people who drive the transformation of the current energy model with the urgency demanded by the planet's biophysical limits and a commitment to providing the resources required for a decent quality of life for everyone.

The Network for energy sovereignty

The Network for energy sovereignty (Xse, after its Catalan acronym) was born more than four years ago, with the objective of creating a political front for change in the energy sector, formed of associations, collectives and more than 60 citizens from all over Catalan territory. Many of the entities or platforms had come from local protests resisting various extraction projects planned in the region, with an important presence of the Stop Fracking Platform (*Plataforma Aturem el Fracking*). Aiming to take this a step forward, a network of people, associations and collectives from everywhere was formed to put forward concrete proposals for the transformation of the energy model and to push them to the top of the current political agenda.

The first meeting of the Xse took place on the 8th of June 2013 with the «Day for model change leading to energy sovereignty», and the Network was officially born in Girona on the 5th of October 2013⁵. Since then it has directed various campaigns, initiatives and lines of action. At first it worked to develop the concept of «energy sovereignty», inspired by the Via Campesina's concept of «food sovereignty»⁶. In parallel, the Network participated in the Multireferendum initiative, which included two questions: one relating to the construction of extra-high voltage lines in the region of Girona, and the other relating to the control of energy and citizen involvement in decision-making.

Work was also started regarding the localisation of energy, thinking beyond the mere (re)location of economic activities and embracing the necessary interrelations with sectors such as food, transport, housing, leisure, work, and others. Based on this, and framed by the municipal elections of May 2015, the Xse presented a «Local energy proposal». The proposal was born from the conviction that the municipal level, the closest to people, should be the protagonist in the transition to a socially just, environmental and locally rooted energy model.

Other questions, such as the finance and «governance»⁷ of the energy model, have also been the subject of Xse events and seminars.

5. See www.xse.cat/manifest/

6. As stated on the movement's website, La Via Campesina is an international movement bringing together millions of peasants, small and medium size farmers, landless people, rural women and youth, indigenous people, migrants and agricultural workers from around the world. Built on a strong sense of unity and solidarity between these groups, it defends peasant agriculture for food sovereignty as a way to promote social justice and dignity and strongly opposes corporate-driven agriculture that destroys social relations and nature. La Via Campesina launched its political vision of «Food Sovereignty» at the World Food Summit in 1996. Food sovereignty is the right of peoples to healthy and culturally appropriate food produced using sustainable methods, and their right to define their own food and agriculture systems. It develops a model of small scale sustainable production benefiting communities and their environment.

7. For comments on how we use the term in this book see *Chapter 2: From grassroots democracy to energy sovereignty*.

In particular, the question of energy distribution has been considered by the Xse as key within the electricity system and the energy model of the Spanish state since the beginning. It is also viewed as one of the levers which could be used to confront the Oligopoly from one of the angles which gives it most power and control over the sector. With this end, several visits to municipal distributors within the Catalan area and investigations into the issue were made.



Tour 2 assembly, October 2015. Capella, Osca. Taken by Luis Lorente Gracia (Redondo de confusión).

Lastly, the Network has always sustained a cross-cutting criticism of the current energy model coming from a focus on global socioenvironmental justice. This «South-looking» philosophy has been present within the Xse since the beginning, and from this have come initiatives such as the Tour⁸, as well as analysis and

8. The Oligotoxic Tour is an activity organised by the Xse and the organisations which comprise it which consists of a tour of different places in Catalonia and around, which are affected by activities of the energy system, or who have started initiatives in response to it in order to create networks for collective support, intervention and learning. Turn to *Chapter 8: Networking resistances and alternatives at home and learning from other cases in the Global North* to learn more.

condemnation of the Oligopoly which go further than its actions in Catalonia or the Spanish state. Similarly, in the past year, the Xse has started a process to include the «gender viewpoint» in a similar, cross-cutting way. This inclusion was fruit of the search for coherence, both internally, in the Xse's own practices and dynamics, as well as externally, in the discussions and proposals presented by the Network.

This book: what it is about and why

This book comes from the desire to add the Network's support for energy sovereignty to the public debate over alternatives to the current energy model. It is not a proposal from experts, but it comes from the knowledge acquired by the people involved. However well- or un-related to the energy sector we are professionally, the will to understand the (energy) reality we are living in has enabled us to identify ways to intervene in and transform it.

The proposal has been constructed starting from the learning generated during the activities and spaces for debate that the Xse has organised or participated in with other people and collectives. From diverse ideologies and disciplines, we have worked on a common theme: energy. Through this we have shown that this topic is not only approachable from a technical standpoint, but that it can involve society as a whole. Our proposal also includes many past contributions, both directly relating to energy and from elsewhere. We are therefore inspired by grassroots movements and their ideas: food sovereignty and the *Via Campesina*, resistance movements to unjust or imposed projects, moments of pronounced democracy such as 15M⁹ or the anti-globalisation

9. The 15-M movement was a citizen movement which arose from a demonstration convened by various collectives on the 15th May 2011. After the demonstration, 40 people spontaneously decided to spend the night camping in the Puerta del Sol (a square in Madrid). From then on, a series of peaceful protests occurred throughout Spain in the form of camps or public meetings. These aimed to create a more participatory democracy, distanced from the current two-party system of the

movement, ecological, feminist and international ideas, localism, human rights activism, and a long etcetera.

This is by definition a book which, while recounting our thoughts, does not belong to us. This is because our thoughts have been moulded by exchange with an infinite number of people, collectives and ideas. It is, neither, a book of solutions or fixed proposals, but identifies principles and proposes alternatives for further debate.

By contrasting undesirable aspects of the current model with the model which we believe needs to be created, the Xse has identified essential characteristics of the new model, key axes for transformation, and strategic implementation elements. The book begins by developing the central idea of our proposal – energy sovereignty – referring to the ability to make decisions about and govern our energy supply (chapter I). Connected to the decision-making power of the community, the necessity emerges to decentralise and relocate activities of the energy model (chapter II). The principal motive for wanting to have control of energy is, ultimately, the conviction that only we can put it to use to meet our needs and respect local socioenvironmental characteristics. Chapter III discusses fuel poverty and the fight to re-establish energy as a basic right to be protected and a common good to be conserved. Broadening this perspective, chapter IV contrasts an ecofeminist, community-focused vision of energy with the capitalist, patriarchal model of the Oligopoly. To realize this other vision of energy, economic resources will need to be mobilised. Chapter V presents some ways to do this without depending upon the

PSOE-PP and the domination of banks and corporations, and promoted «genuine power-sharing» and other measures designed to improve the democratic system. The movement drew in a variety of citizen collectives under different slogans, such as that of the demonstration of the 15th May: «We aren't commodities in the hands of politicians and bankers». After the global mobilisation of the 15th October 2011, the activists participating in the camps and meetings started to create thematic collectives. The 15-M movement influenced later social movements including the Occupy movement, YoSoy132 and Nuit debout.

financial structures of the global elites. Finally, we visit different parts of the Global North and South which, whilst being victims of the current energy model, have spawned many resistance campaigns and new proposals which inspire us (chapters VI and VII).

A careful reader will see that the tone and style of the book vary widely from one chapter to the next. The main body of each chapter has been written by a different one or two pairs of hands and therefore each one has its own voice. However, every single one of them traverses and brings together the experience of the Xse. Writing it has filled us with energy. We hope that reading it will do the same for you.

I. FROM GRASSROOTS DEMOCRACY TO ENERGY SOVEREIGNTY

It was the year 2012. The threat of fracking¹ in Catalonia alarmed the population and the affected communities stood up to it with organisation, rigour, persistence and wide support from sympathetic collectives and the general public. From the beginning, the protest highlighted how undemocratic the process happening behind citizen's backs was, as can be seen in the manifesto of the Stop Fracking Platform (Plataforma Aturem el Fracking):

We want to stop fracking because it hides behind a veil of opaque administrative processes which make it a serious attack on the decision-making capabilities of local governments and therefore a despotic act of contempt for the population and its most local governing bodies, the Local Councils.²

Also from the beginning, the protest grew into a demand for a new energy model based on the idea of sovereignty. The fracking

1. Hydraulic fracturing or fracking is a technique for extracting gas and oil from underground. The process involves injecting substances into the ground at high pressure, aiming to enlarge existing cracks in the rocky layer where gas and petrol are found, and allow them to escape to the surface. The substance injected tends to be water containing sand and chemical products, though foams and gases are also used.

2. Manifesto of the Plataforma Aturem el Fracking, 2012 <https://aturem-fracking.wordpress.com/about/manifest-fundacional/>.

protest became the seed from which, in 2013, the Network for energy sovereignty (Xarxa per la sobirania energètica, Xse) was created. Democracy and public control of the means of production became two of the pillars of the Network. We find them in this extract from its manifesto:

Democracy: we need to be able to decide what we produce, how we produce it and, above all, why we produce it. The generation of energy should first respond to collectively identified social needs.

Public control of the means of production: far from the dominant oligopoly methods, interested in increasing consumption as far as possible, control over energy production should be managed from a non-commercial perspective, aiming for public or community-based management of the production of common goods.³

Based on an initial collective reflection, a definition of energy sovereignty was developed, a key concept which forms the basis of the case for transformation of the energy system is made and comes from a consideration of the concept of democracy and the mechanisms which would enable the construction of an open, radical democracy.

The right of interested individuals, communities and peoples to make their own decisions about the generation, distribution and consumption of energy, as long as this is appropriate to ecological, social, economic and cultural circumstances and does not negatively affect others. (Xse, 2014)

This chapter, From grassroots democracy to energy sovereignty, summarises the reflections that we have had around this idea as a Network, aiming to question citizen participation, as it is currently understood, and think about the key ideas that our

3. Manifesto of the Network for energy sovereignty, June 2013.

existing democracy would need to incorporate to become a radical democracy, clearing the path towards the transformation of the energy system based on citizen sovereignty.

Why must energy sovereignty come from grassroots democracy? Why is a fundamental change from oligopoly control to public sector-community control necessary?

The current energy system lies in the hands of a few companies which control all parts of the process⁴. Financing this centralised model, involving large generation plants and transport and distribution networks, requires huge volumes of investment. Such investments can only be made by large companies which, in this way, obtain nearly total control over the system. This prevents any change to the system which would threaten their control over it. A clear example of this is the hindrance and delay they cause to the implementation of renewable energy to align it with their own interests and timescales. Can we expect, therefore, that these will be the actors to lead a process of transformation of the energy model, surrounded by a wider socioeconomic transformation, which would limit their growth? Can we trust that they will do it as fast as is needed? Can we even dream that they would do it in the public interest, considering social and environmental justice?

The transformation of the energy model we have (which we could call centralised, fossil-based, oligopoly, socially and environmentally unjust, and patriarchal) into a distributed, renewable, democratic, just and ecofeminist model calls for radical change in ownership and also for new methods of governance. The new scenario we are describing – distributed, localised, and renewable – is much more than a simple technological transition. Renewables allow us to increase self-sufficiency in energy, enabling us to build

4. You can find more information about the Oligopoly of the electricity system in the Spanish state in *Chapter 10: Some clarifications*. From the beginning, the Xse has focussed on the electrical system, looking to a future, predominantly electrified society.

bidirectional⁵ systems and decrease the distance between generation and consumption. They allow us to take definitively more control over the system and give us the revolutionary opportunity to do things together, as a community network.

Energy sovereignty calls for the public to claim the right to decide how the energy system is governed. To do this, finding new governance structures which enable greater public participation in energy policy is key, and this will always be associated with a parallel development of economic democracy. For example, locals would decide about wind or solar projects in their own regions, consumers would create the pricing structures of municipal energy distributors, or members of the citizen cooperatives which own or run the energy system would decide how to use the cooperative's profits. New forms of municipal, or larger-scale, ownership will be necessary, depending on circumstances and the outcomes of pending and extremely important public debates. New forms of collective private property, such as cooperatives, will also be required.

Energy cooperatives are widely spread in many countries and have also taken a foothold in Catalonia and the Spanish state⁶. It is a new form of ownership and public control which is still in its infancy, and which we will discuss next.

Democracy and social control of common goods

Who will make energy decisions? What role will citizens have?

Currently, most energy decisions come from government decrees and laws, strongly influenced by the energy lobby. Not only this,

5. «Bidirectional systems» refers to systems where the consumer can also be a producer of energy. These consumers are known as prosumers, as they both produce and consume energy.

6. In the context of Catalonia and the Spanish state, it is worth mentioning Som Energia, a renewable generation and commercialisation cooperative. Also, see *Chapter 3: Taking energy back: (re)localisation and distribution networks* and *Chapter 6: Financing the transition to energy sovereignty: a huge challenge*, section 6.3: *Which ideas can break the BIG-BIG-BIG philosophy?*

but thanks to the power accumulated by the large energy companies, these decisions, in the majority of cases, favour private interests to the detriment of the public good. The «revolving doors»⁷ between the boards of the large energy companies and government ministries lead one to suspect an exchange of favours between the two, and therefore support the suspicion of a large influence of the energy lobby in the governance of the system.

The decision-making system in a representative liberal democracy does not involve citizens further than through voting in parliamentary elections. The deficiencies of this system compared to real participation are evident and have been condemned by many social movements, such as *Democracia Real YA* (Real Democracy Now)⁸, the 15M movement and political parties aimed at transforming democracy.

Even so, there are certain spheres where, under the name of «governance», the public is starting to be included in some parts of the decision-making process. Citizen participation is limited to the first phase of the project and non-strategic decisions, and is heavily supervised by the government, purely consultative, unequal and without clear outcomes. We do not see such processes as authentic participation in decision-making but as a legitimisation process for government decisions. In a context where there is growing demand for participation from citizens, these processes become purely aesthetic, mere propaganda.

7. For more information see <http://www.puertasgiratorias.org/>

8. *Democracia Real YA!* (*Real Democracy NOW!*, *DRY* after its *Spanish acronym*) is a grassroots citizens' organisation that started in Spain in March 2011. ¡Democracia Real YA! considers the current political and economic system incapable of listening to and representing its citizens and therefore demands changes to the current social and economic policies which have driven many people into unemployment, homelessness and poverty. The organisation condemns the way big businesses and banks dominate the political and economic sphere and aims to propose a series of solutions to these problems through grassroots participatory democracy and direct democracy, based on citizen assemblies and consensus decision making.^[5] The movement drew inspiration from the 2009 Icelandic financial crisis protests, the Arab Spring, the 2010–11 Greek protests and the 2010–11 revolutions in Tunisia.

The concept of governance: a discredited idea which needs to be advocated with a new meaning?

The participation models which appear in a liberal democracy are based on concepts such as governance. According to the Dictionary of Administrative Law of the Catalan Centre for Terminology (2014), governance is a method of government in which governments, society and the market interact, through negotiations and autonomously, to formulate and implement public policies through self-regulated, interdependent, horizontal and relatively stable networks within a regulatory structure, in the public interest. The idea was promoted by the World Bank and the EU and comes from a paradigm shift in the 80s in which public participation was linked to «new public management», therefore incorporating it into the economic system: public administration⁹ became business. From this perspective, the creation of spaces for governance was subject to the desire to expand neoliberal principles to public administration, also in the energy sector, and at the same time, distance controversial situations from governments.

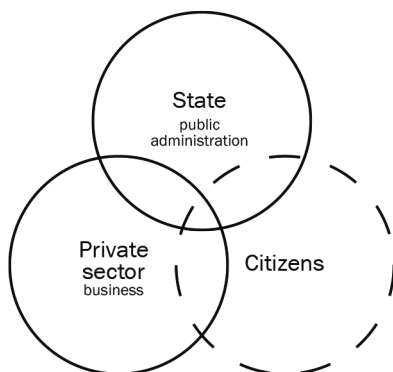
Therefore, governance is based on the participation in decision-making of private actors, often private-commercial actors, which collaborate with the public sector and contribute to decision-making and the design of certain institutional structures (Bautista, 2017). It is true that more actors have been incorporated in decision-making, which was previously restricted to democratically elected representatives. But private-commercial actors have been clearly favoured, and support decisions in their own interests, often outside of the public interest.

Within this system of governance, there are no guarantees. Citizens lose control of who makes decisions and can no longer

9. A focus which, it must be noted, is very different from that defined in the manifesto of the Xse: «control over energy production should be managed from a non-commercial perspective, aiming for public or community-based management of the production of common goods». Manifesto of the Network for energy sovereignty, June 2013.

hold decision-makers accountable. Therefore, we oppose this type of governance and propose alternatives.

Figure 1
Liberal governance model



The current model of governance, which rests shamelessly upon the public sector-private sector axis (figure 1), needs to turn towards the public sector-community axis, understanding «community» as a focus on personal needs and the sustenance and reproduction of life, and not on profit. This needs to happen to remove the actors with private commercial interests and take decisions through collaboration between the administration and the community. It is, therefore, a model based on the creation of communities and networks and the prioritisation of what the community considers the common good.

Why have these three axes not played the same role in governance? Why has the public sector-community axis not developed in the same way as the public sector-private sector axis? Is it the dynamics of public sector-private sector collaboration that have weakened the other axis? Or, has the public sector-community axis done something to exclude and marginalise itself? It could even be true that, however, we cannot forget that, as we said above,

governance was created from the desire to include a commercial perspective within public administrations. It is understandable, then, that the community has rejected spaces that were not intended to include them but to legitimise the participation of lobbies in decision-making.

The consequence of this lack of citizen participation in the past has led to the management of certain basic services by private actors for private gain: water, energy, healthcare, and a variety of other services which are vital to a decent life, both in material and emotional terms. We see this, sadly, in the people whose daily lives have been completely disrupted and who are now living in a vulnerable situation as a result of this commercialisation of basic services.

As we have said, in this form of governance, the control citizens can exercise is very limited. Spaces for participation within this system are very directed, unequal, unstable, and very often blocked or not constructed as real spaces for decision-making. By «very directed» we mean that they are organised by the government in a way which very firmly defines their workings and agenda and limits what can be debated and when. That is to say, their structure is very rigid. By «unequal», we mean that not all the actors have access to the same information, nor the same amount of available time to work on proposals, or invitations to all the spaces for debate. Often a pre-established knowledge hierarchy is present, such as technical experts above social experts, and even a preconceived ideology which never comes under discussion. During the life of the Network we have had experience of participating in such spaces.

For example, in the participative process for the elaboration of the National Energy Transition Pact¹⁰ (*Pacte Nacional per la Transició Energètica*), an initiative of the Government of Catalonia facilitated by the Catalan Energy Institute, citizens were

10. National Energy Transition Pact, final document published 31st January 2017. http://icaen.gencat.cat/ca/plans_programes/transicio_energetica/.

only invited to participate once the administration had already prepared a draft¹¹, and not from the beginning. The time allowed to present objections to the document¹² was very short, taking into account the community-based nature of radically democratic organisations. The decision to accept or reject objections was not debated in a session involving the administration and other participants. This means that the foundations of the Energy Transition do not incorporate elements which we consider key such as questioning the current socioeconomic model and the concept of energy security, which in its current form is alien to environmental and social justice. These were never even deeply or openly debated.

The administration was the only actor involved in the process of writing the draft and discussing whether to accept or reject amendments. This is a clear example of a very directed, supervised and unequal space where not all actors have the same opportunity to intervene and contribute to the final result.

Beyond governance: public sector-community government

Despite the negative connotations of the term coming from its past abuse, some support the idea that the term «governance» should be promoted in order to empty it and fill it with a new meaning. During the Xse's debate on terminology, we have chosen to reject the term «governance» to free ourselves of its neoliberal origin and the burden of its historic meaning, explained previously. Instead, we have decided to speak of public sector-community government: simpler, and at the same time more radical. We are referring, simply, to how we want to be governed. But beyond institutional government we are referring to how we, as a community, want to govern ourselves, deciding

11. Baseline document for constructing the Energy Transition Pact, July 2015.

12. Baseline document for constructing the Energy Transition Pact: comments, evaluation and contributions from the Network for energy sovereignty, September 2015.

in which ways, in which spaces, and through which mechanisms we want to make decisions and share out responsibilities concerning issues that affect our daily lives. We are talking about thinking and making decisions outside of institutions, decision-making spheres and the traditional mechanisms of representative democracy¹³. We are not, therefore, talking about «governance» as it has previously been understood, but of public sector-community government, in a wide sense, and of real democracy which goes beyond institutions and distances itself from commercial interests.

In these new spaces of government, real democracy, and sovereignty, we insist that traditional participation be abandoned: the spaces for consultation, co-creation of studies and information would be obsolete, as would spaces for negotiation. Negotiation tables would be of no use in the new paradigm, because they could lead to a power balance where not everyone is equal due to differences in power or influence. In a negotiation-based environment, equality between actors would be put in jeopardy. This conflicts with a philosophy of inclusion and participation of all actors under equal conditions, irrespective of the power or influence they have.

What we demand is profound and structural change which allows the entire population to participate in the diagnosis of problems, the search for solutions, and the monitoring, implementation and oversight of the resulting policy. Sovereignty should be exercised as a recovery of control, both of government and of management, where institutions are just one more part of the community, and from where binding, equitable, transparent, inclusive and instructive processes can be promoted.

The construction of these spaces for public sector-community collaboration is a necessary starting point for building a new model for society, a new socioeconomic model capable of

13. Sebastià Riutort, Governance workshop, Network for energy sovereignty, 11th February 2017, Nau Bostik, Barcelona.

overcoming the current one, which is the very root of the global crisis we are facing.

Decision-making: how should these spaces for public sector-community government be constructed?

Any process aiming to achieve participation for emancipatory ends requires previous debate in order to define what is wanted and which instruments and methodologies etc. are to be used. Therefore, first a series of questions need to be asked to establish what is considered to be participation, why it is wanted, whose participation is wanted and where the need for it comes from. (III Agora AeV¹⁴ – participation workshop)

From the beginning, therefore, decision-making spaces need to be redefined. We believe these spaces must have characteristics including decentralisation, inclusion, transparency, instructiveness, scrutiny, being binding and legitimacy, among others. However, the concept to serve as a starting point, according to Edurne Bagué, should be joint responsibility. «The debate over which tools we have at our disposal has to come from the desire to share in joint responsibility»¹⁵. There can be no participation without decision-making or joint responsibility. Without sharing responsibility there can be no talk of widened government, real democracy, co-created policy, or authentic sovereignty.

14. AeV: Aigua és Vida (Water is Life) is a platform formed of various civil society organisations: neighbourhood associations, ecological organisations and international solidarity organisations, among others. The objective of Aigua és Vida is to ensure that water policy and management of the water cycle are governed from the public sector and depend on citizen participation and control as guarantees of a good quality water supply – and good quality democracy. Therefore, Aigua és Vida condemns the role the profit-making sector plays in water and sanitation management through private corporations.

15. Edurne Bagué, Jornada de governança, Xarxa per la sobirania energètica, 11th February 2017, Nau Bostik, Barcelona.

Joint responsibility: sharing responsibility in decision-making

We need to learn to share responsibility.

On one hand, the administration has to be capable of facilitating these processes, promoting them, providing information in comprehensible forms, not being afraid of losing control of the process, avoiding the accumulation of knowledge by few individuals and opening the doors to information and decision-making (transparency). In traditional decision-making spaces, technical people are in charge of dispensing expert knowledge of the subject. When the general public comes into play, this culture of experts comes into question as the only way of solving problems, and expert knowledge is broadened and enriched through the inclusion of other viewpoints and perspectives¹⁶.

On the other hand, the community has to understand that participation brings with it a series of rights but also of responsibilities. Through practising and learning about joint responsibility, frameworks for social participation will be formulated. Emphasis has to be given to collective work and processes, so that as citizens gradually take on more responsibilities these gain momentum and a collective vision of the role of citizens in the government and management of key services emerges.

Even so, it is important that these actors sit at the same table with the administration and create a strategy from a shared vision. It should be very difficult for the administration to leave the table or not take its fair share of responsibility for decisions, along with community actors. Community actors should maintain autonomy, but not shy away from taking responsibility. Government actors should feel increasing pressure not to leave the shared working space unilaterally.

16. Elements of social and environmental justice are often regarded with contempt in highly technical circles. An example of this is post-normal science.

Decentralisation: making decision-making more local

One of the reasons for the distance between the public and those who control the energy system is its centralised character. Therefore, a process of decentralisation and (re)localisation of energy activities leading to energy sovereignty would give us the opportunity to open new, regional, spaces for decision-making, sharing out responsibilities and constructing policy. This is an indispensable characteristic of the new system outlined in the manifesto of the Xse, as we see in its last paragraph:

Territorial coherence / decentralisation: as a vital and complementary condition to the previous criteria, and in contrast to the accumulative model driving current production methods, the energy model should be driven from the bottom up, which implies a divorce from one-size-fits-all plans and grand, magical solutions. Heterogeneity and diversity in local proposals well-adapted to the surrounding territory are the best guarantee of a transition to a new energy system.

We use the word «territory» because the term contains an idea of closeness without defining a specific administrative region (neighbourhood, town, region...), which would depend on the people living there and the issue in question - the idea is that decisions are taken by the people who are affected by them. We believe that governmental laws should guarantee basic rights and safeguard equity and social justice, but that all other decisions should be taken in the places impacted by them.

Another aspect is the efficient and effective coordination of actors. It is important, for example, to manage the heterogeneity of the territory, so that no people or places «win» or «lose» overall in decision-making processes. These differences need to be managed in the new decision-making model to guarantee geographic equity and social and environmental justice (Ariza-Montobbio, 2013).

Inclusion: bringing everyone closer to decision-making

Another key aspect of public sector-community government is inclusion: which actors should be included in decision-making spaces? What can we do to avoid excluding actors who have the same right to participate, but insufficient knowledge or availability? Mechanisms for information, transparency and accessibility to guarantee equal access for all actors need to be established. Information should be made freely available, in a clear and understandable form in order to inform all interested people.

Participation has its limitations. For a start, to obtain the participation we have decided is necessary, we should be aware that there are notable inequalities in our society which we need to combat. How can we overcome inequalities based on gender, class, power etc. in participation spaces? We need to be aware of where these inequalities come from and attack them at the root, whilst incorporating corrective elements in participation spaces which guarantee equal access to information, knowledge, and spaces for intervention.

An important reflection to make as a society in order to guarantee the right to citizen participation is to explicitly recognise the time and dedication required. Currently, many of the people who have chosen to involve themselves do so by voluntarily and altruistically giving up part of their time. This places them at a disadvantage compared to institutions and companies who can participate using people who dedicate themselves to the subject professionally. Therefore, time spent in improving the life of the community should be recognised to guarantee inclusion under equal conditions.

Scrutiny: learning through auditing decisions

Within public sector-community government, scrutiny¹⁷ plays a fundamental role. To guarantee the correct working of the sys-

17. Scrutiny is the act of meticulously inspecting the actions of another. In the area of administrative law, it means to monitor administrative activity.

tem, a bidirectional flow of information is required, to enable the system to be audited both externally and from within. However, this scrutiny has to be associated with and feed off participation in the decision-making process, and be binding. Not only this, but by learning through the decision-audit process, we will be able to create more horizontal decision-making structures, break the walls separating citizens from institutions and move towards direct management. A citizen initiative with a lot of potential that has done a lot of work in this direction are the Citizen Municipal Observatories (Observatoris Ciutadans Municipals)¹⁸, groups of people from one municipality who work together to increase participation and transparency in their area. Working as a network, they are distributed though many municipalities within Catalonia and the Spanish state.

Legitimacy: making decisions legitimate through action

The new spaces which we wish to explore have to be based on a new legitimacy, which exceeds the actions of saying, proposing, demanding, warning, and of scrutinising and rests of the concrete action chosen for implementation. The new spaces should be constructed by a strengthened community that puts its own projects on the table, shows what it wants and what it can do launches projects, takes on risks, and, by involving a range of actors, reaches its objective. Discussions over demands and scrutiny have to continue but action has to be incorporated.

Even though the community's own projects are necessary, they are not sufficient. There has to be a public actor which assists the community in developing its projects and takes responsibility for the new public sector-community alliance to make the move from the public sector-private sector axis to the public sector-community axis.

18. Observatoris Ciutadans Municipals <http://ocmunicipal.net/ca/>.

Fractals: reproducing these values in all decision spaces

All the characteristics which we have just defined, and more which will surely be added through the Xse's reflections and actions, have to form part of any space for government, whatever the spatial scale (municipal, district, regional, national), sectoral orientation (sectoral or intersectoral) or focus the space has. Any government space, whatever its geographical or sectoral focus must, therefore, guarantee joint responsibility, transparency, inclusion, scrutiny and legitimacy in any collective action.



Energy governance event. February 2017, Barcelona.

Energy sovereignty beyond decision-making

Energy sovereignty is the right to decide about energy, but it also means safeguarding rights and having the capacity and opportunities to participate within all levels of the energy model.

From this perspective, public administrations are those responsible for safeguarding rights. The entire population should

be guaranteed the right to the energy required to meet their basic needs. This can happen through decommercialising energy, whereby access will not be determined by economic capacity, but by collective and individual needs, identified and prioritised collectively.

In this model, beyond access to knowledge and information, access to resources must be guaranteed. Here lies the importance of renewable energy. These energy sources enable greater energy self-sufficiency, minimise the repercussions on other places and negative impacts on the environment¹⁹ and make the system bi-directional, bringing generation closer to consumption and reducing the need for large distribution infrastructure. This gives people more control over the system. Renewables also lead to increased awareness, knowledge and understanding of energy consumption and its consequences: awareness, knowledge and understanding required to build a new culture around energy which is sensitive to the biophysical limits of the planet. Very differently to the current methods of the Oligopoly, interested in increasing consumption as far as possible, control of energy production needs to be managed from a non-commercial perspective, aiming for public and/or community management of public goods.

Starting from the need to guarantee a number of basic rights for all citizens, we defend models of joint public sector-community responsibility, where community actors are an active agent, committed to community development for the public good. This joint responsibility implies an equal relationship, where each agent has a role to play dependent upon his ability and where autonomy and decision-making capacity are not compromised. «An essential element for ensuring diversity and plurality of ideas, without leading to division and weakness but to collective enrichment,

19. For more information about the effects of the current energy model on the environment consult *Chapter 1: Introduction*, *Chapter 7: Experiences in the Global South: resistance and alternatives from impoverished communities*, and *Chapter 8: Networking resistances and alternatives at home and learning from other cases in the Global North*.

is the principle of autonomy, in relation to power, institutions and political groups». «Empowerment and community control require not only participation but also instruments that facilitate information, deliberation, communication, and consensus-building in citizen spaces» (3rd AeV Forum - participation workshop). Public actors should facilitate these initiatives, and maintain a strong interaction with them, free from the desire to control or supervise them.

So, therefore, the «political demand for an emancipatory energy transition», leads us to demand «a renewable energy model, planned through participatory democratic processes, managed using collective forms of ownership and regulation, based on the principle of social justice [and environmental justice, we would add], oriented towards the public good and against the dominant neoliberal culture of commercialisation and privatisation» (Cotarello & Riutort, 2017)

Experiences for reflection

Sadly, we could find few examples of places which had managed to achieve new forms of public sector-community government, and even fewer within the energy sector. However, social policy gives us a few examples to think about.

*Barcelona+Sostenible. Barcelona Climate Commitment 2015. Climate Plan 2017*²⁰

In the year 2015, with the Paris Climate Summit high up the international political agenda, the Barcelona City Council started a participative process with the aim to present the Barcelona Climate Commitment at the event. The Council made use of the existing Barcelona+Sostenible network, comprised of over 800 community actors.

20. Barcelona City Council, Barcelona+Sostenible <http://www.sostenibilitatbcn.cat/>

The participation model consisted of three workshops facilitated by the Council. The first was a brainstorm of ideas about the problems which contribute to climate change, their solutions and which actors would be involved. In the second, the proposals were grouped by sector and prioritised by their effectiveness for climate change adaptation and/or mitigation in each sector. Finally, in the third, 5 winning proposals were selected to receive Council support for their implementation. At the workshop, a work group was created which participated in writing the Barcelona Climate Commitment²¹ that the city brought to the Paris Summit, in November 2015.

At that time, the Xse participated through the members who wanted to be part of the process. Certainly, the fact that companies such as Endesa, Gas Natural Fenosa, Agbar and Mercabarna (among others) were included within the Barcelona+Sostenible network did not help to allay fears that the space was being used for private interests, as previously discussed. Despite these suspicions, it must be said that during the entire process, no-one from these companies appeared except one from Gas Natural Fenosa in the first session.

The ideas proposed during the workshop have been monitored and are beginning to be carried out. Even so, as members of the Network for energy sovereignty, we decided to leave the process, for various reasons, not just for considerations about whether the process represented real democracy or not or if it demonstrated limitations in citizen participation. Among others, we abandoned it because we felt that, once the projects had been chosen, their further development was a merely technical question. Also, due to lacking sufficient human resources to tackle all energy-related issues, we had to prioritise essential and strategic issues. This is a question which, as mentioned in 2.3.3: Inclusion, needs more reflection.

21. Barcelona City Council http://ajuntament.barcelona.cat/premsa/wp-content/uploads/2015/11/Compromis_Bcn_Clima.pdf.

During 2017, Barcelona City Council started another participatory process, through the Barcelona+Sostenible network. The objective was to formulate a Climate Plan²² to present at the Bonn Summit in 2017 and the same structure was proposed. In this second process, we were only invited to attend the first brainstorming session. We believe that the democratic quality of the process had tangibly reduced compared to our experience in 2015.

Let's analyse these processes in the light of the demands we make of our grass-roots democracy-based model. To begin with, the promotion, methodology, and scheduling of the processes mentioned were all organised, in both cases, by the Council. Organisations and individuals could not participate in the design of the participatory process from the beginning, nor have a say in all aspects of it. The process, therefore, had the same deficiency as the National Energy Transition Pact process we discussed earlier. Democratic participation did not start from the very beginning of the project.

Regarding inclusion, we think that the efforts made to reach a wide audience were significantly greater during the formulation of the 2015 Climate Commitment, both in terms of number of participants and the efforts made by the institution to communicate the scheduling of the sessions. During the invitation phase of the Climate Plan workshops, we noticed two noteworthy aspects: firstly, the institution itself did not facilitate the workshops and outsourced the work²³, and secondly, the proposals session was only attended by 9 people²⁴. The people who had participated in first process couldn't help but feel a little déjà vu when the proposals were presented. We need to work together to ensure good communication of the proposals and good quality participatory processes.

22. 25th January 2018, pending.

23. The facilitation was done by ESPAITRES: <http://www.espaitres.net/ca/portada>.

24. https://twitter.com/BCN_Ecologia/status/908367987446566912.

In terms of joint responsibility, we cannot comment, as we left the process during the implementation of the prioritised proposals. Here, a space for co-creation was opened which we did not enter nor scrutinise.

A last question is whether this multi-sectoral participation space is suitable deep debate in the field of energy. We are thinking of experiences from other municipalities, such as Cadiz, with the Energy Transition Forum (*Mesa de Transición Energética*)²⁵ or the experience of its sister social movement in the water sector, the Terrassa Water Forum (*Taula de l'Aigua de Terrassa*).

The Terrassa Water Forum

The experience of the Terrassa Water Forum can help to illustrate what is happening and what tools are being explored in the area of water «governance». It must be said, that there are several differences between water and energy. One of the most fundamental is that water is supplied at municipal level. This is not true for energy, and this is something which we will analyse later²⁶ since it presents some difficulties, especially for localised models where control over energy is held as close as possible to the municipal level.

Despite municipal control of water supplies, they tend to be managed by non-local concerns, usually large groups or corporations which have no local connections. Movements for the remunicipalisation of water demand joint responsibility with citizens through the whole water supply cycle: both in areas with local impact, such as guaranteeing access or defining pricing structures, but also in the design of participation spaces themselves, and in environmental questions, such as where the water comes from, its quality, and how it interacts with the natural environment. The area of action is the «local surroundings», which goes beyond the municipality as an

25. Cadiz City Council, Mesa de Transición Energética <http://institucional.cadiz.es/area/contenido/mesa-de-transici%C3%B3n-energ%C3%A9tica>.

26. Especially in *Chapter 3: Taking energy back: (re)localisation and distribution networks*.

administrative unit and includes the area geographically related to the municipality. These represent two radical changes in the way we understand the government and management of common goods. The third challenge is how to dismantle the extractivist economic model connected to the neoliberal socioeconomic model, perhaps looking to the past or around the world to be inspired by other, different models which can be reinvented.

It's important to experiment and not simply make do with the easiest, quickest solutions. For example, using a commercial company to manage water in Terrassa – or electricity in Barcelona – might be the most pragmatic, viable way to (apparently) reach our objectives. In that case, water and energy would continue to be governed by company law, and not public law.

We mustn't be naive either. Participation and joint responsibility have their limitations. For example, what do we mean by «institution»? What do we mean by «common»? When we talk of joint responsibility, we need to start from the question of equality. Has social participation up until now allowed that? What are the limits to participation? Are there limits?

It's important to build starting from the dynamics we have. In Terrassa, the municipalisation of water can act as a stimulus for experimenting with new forms of public sector-community management which transcend the institution²⁷.

Experiences from the Xse's intervention in current spaces for energy government and promotion of new ones

During the lifetime of the Xse, we have taken advantage of existing democratic mechanisms. In this way, we have been able to formulate a *municipalist political proposal for energy*²⁸ which was presented

27. There would be three pillars of the new management: the Water Observatory, the Plenum of the Government and the board of directors. The Observatory would debate proposals, the Plenum would formulate policy guidelines and the board would be in charge of executing the chosen measures.

28. This can be consulted at www.xse.cat/proposta-municipalista/.

to all parties during the municipal election campaigns of 2016 and supported by BComú, Podem, Equo, PSC, ERC and the CUP. That year, we supported the Popular Legislative Initiative (ILP²⁹, after its Catalan acronym) on Housing Crises and Fuel Poverty promoted by the Alliance against fuel poverty, in collaboration with other entities. This ILP later became the Law 24/2015³⁰. We were also able to present objections to legislative proposals of the Catalan Parliament, such as the Catalan Law on Climate Change³¹, or the National Energy Transition Pact³². In both cases, the documents recommended the creation of spaces for citizen participation: the Social Forum for Climate (Taula Social pel Clima) and the Forum for Energy Transition (Taula per la Transició Energètica). Participation in and regulation of the creation and organisation of these spaces opens a door to experiences of a more real democracy, and the implementation of energy sovereignty.

The connection between the economic and energy systems has led us to reflect upon mechanisms for an energy transition and how this could be achieved through energy democracy. The opacity of the current energy model leads us to propose monitoring mechanisms such as citizen audits³³ to remove the veil and shine a light on the energy sector.

29. This mechanism allows initiatives emerging from civil society organisations or the wider population to present legislative proposals to the parliament, on the condition that at least 50,000 signatures supporting the initiative are gathered.

30. Law 24/2015 can be consulted at <http://cido.diba.cat/legislacio/6144029/llei-242015-del-29-de-juliol-de-mesures-urgents-per-a-afrontar-lemergencia-en-lambit-de-lhabitatge-i-la-pobresa-energetica-departament-de-la-presidencia> and audits of compliance with the law at <http://pobresaenergetica.es/> (see *Chapter 4: Energy at the service of the people: guaranteeing universal access to basic services*).

31. The Climate Change Law can be consulted at http://dogc.gencat.cat/ca/pdogc_canal_interns/pdogc_resultats_fitxa/index.html?action=fitxa&documentId=794493&language=ca_ES&newLang=ca_ES and a list of the social agents who participated at <http://www.coamb.cat/wp-content/uploads/2016/10/3-Posicionament-Llei-CC-Moviment-Just-cia-Clim-tica-final.pdf>.

32. The National Energy Transition Pact can be consulted at http://licaen.gencat.cat/ca/plans_programes/transicio_energetica/.

33. The citizen audit of the energy sector can be consulted at http://odg.cat/sites/default/files/3b_informe_cost_real_energia_cat_v3.pdf.

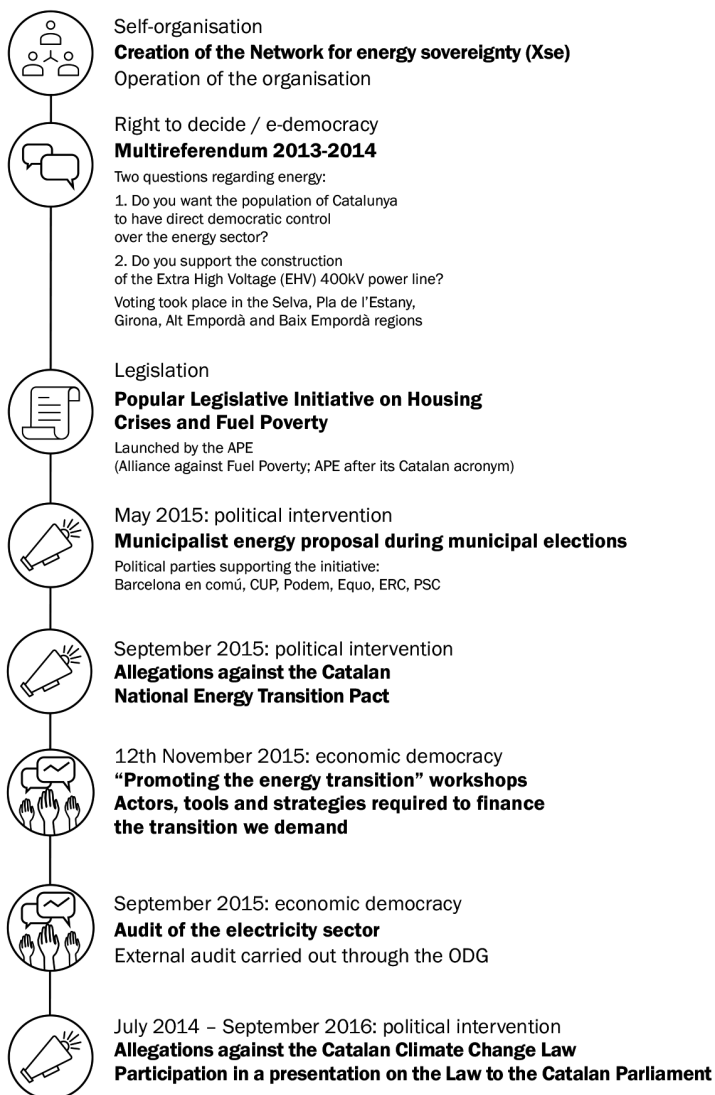
We have also participated in processes outside the existing liberal democratic framework. The Multireferendum³⁴, a self-organised referendum containing many questions and organised by citizens and social movements, aimed to reclaim the right to decide about all aspects of life (including energy). This right would form the basis of the vindicated and necessary sovereignty of the people.

Bibliography

- ARIZA-MONTOBBIO, P. (2013), «Large-scale Renewable Energy? A transdisciplinary view on conflicts and trade-offs in the implementation of renewable energy», *Universitat Autònoma de Barcelona*, available at: <http://www.tdx.cat/handle/10803/120541>.
- BAUTISTA, J. (2017), «Legisladores al Servicio del sistema eléctrico», *La Marea*, available at: <https://www.yoibextigo.lamarea.com/informe/noticias/ibex-35/leyes-clave-del-sistema-electrico/>.
- Departament de Justícia de Catalunya; TERMCAT, Centre de Terminologia (2014), *Diccionari de dret administratiu*, Barcelona, available at: http://www.termcat.cat/ca/Diccionaris_En_Linia/169/.
- COMÍN, A., GERVASOLI VILA, L. (2014), *Democràcia Econòmica. Hacia una alternativa al capitalismo*, Icaria Editorial, Barcelona.
- COTARELO, P. i RIUTORT, S. (2017), *Energía Local, Democràcia real: una reflexió sobre la democràcia energètica*, Dossieres EsF, n. 24, pp. 30-34, available at: <http://ecosfron.org/wp-content/uploads/Dossieres-EsF-24-La-energia.pdf>.
- Xse (2014), «Defendiendo la soberanía energética», *Ecologistas*, n. 81, June 2014

34. The website of the Multireferendum can be found at <http://www.multireferendum.cat> and more information at <http://ecologistes.net/el-multireferendum-2014/>. The results are summarised at <http://ecologistes.net/democracia-energetica-lenergia-del-99/>. As well, the video of the press conference can be seen at <https://www.youtube.com/watch?v=v4iiaP451Fw>.

Figure 2
Experiences from the Xse's interventions in current spaces for energy government and promotion of new ones



II. TAKING ENERGY BACK: (RE) LOCALISATION AND DISTRIBUTION NETWORKS.

Why is (re)localisation necessary?

(Re)localising energy is a step towards energy sovereignty, using the strengths and weaknesses of the local social metabolism¹ to serve the common good, without negatively impacting third parties, excluding people, or damaging the environment in which (and from which) we live. A decentralised energy model can be created by acknowledging the limits of our systems and adapting our needs to the natural rhythms of renewal of life and of the places we live in, and not to the production schedules. We must decentralise and localise, but without forgetting to coordinate ourselves in networked communities of solidarity to ensure a decent quality of life for all.

(Re)localisation is a counterproposal to the current energy model, a model based on what is known as centralised energy production, whereby end users in a territory depend on few, usually distant, generation facilities for their energy supplies (Mañé, 2013). This is a structure which incurs significant losses in distribution networks, as well as enormous impacts on the environment and the people affected by the infrastructure. Condensing activities

1. *Social (or socioeconomic) metabolism* refers to the flows of energy and materials which take place between society and nature, and between different parts of society, and which have a specific, culture-dependent form.

in this way tightens the links between the different phases of the process, favouring the development of vertically integrated industries (Presas & Pérez, 2017). Such industries control practically the whole energy system, from generation to supply, via distribution.

The recuperation of local control over energy is also a response to the recentralisation processes which, with the collusion of the Oligopoly, have transferred to the central government powers which were previously local. These complex systems should be brought closer to the people, in order to ensure universal access to basic services and reverse commercialisation processes which have only favoured large, markedly centralised corporations, the accumulation of capital, and transnational activities. Relocalisation would also be a tool for dealing with the complex realities represented by our towns and villages. It has been demonstrated that, to do so, single-sector solutions will not work, but that it is necessary to work in networks, attacking challenges from all angles: working at a tangible, local scale to promote energy sovereignty along with other sovereignties such as food sovereignty, housing sovereignty or cultural sovereignty in an integrated and systematic way.

The local scale offers increasing opportunities to work more closely with people, without the anonymity of large cities. At this scale it is easier to construct participation spaces which are really democratic and which go further than traditional politics. It is also easier to incorporate and maintain essential elements of the transformation process: the search for understanding, integration, empathy, respect for different people's ways of doing things, and cooperation.

The Xse has organised various events directly related to the (re) localisation and distribution of electricity:

- «Energy on your doorstep!» Day workshop on the decentralisation of energy production and distribution, Centelles, December 2013.
- «Meeting on the relocalisation of the Xse», Reus, May 2014.

- «Take back energy distribution! Let's push out the energy oligopoly!». Barcelona, March 2016.
- «Tightening the grid». International workshop on electrical distribution. Barcelona, June 2017.

You can consult the results of these on the webpage of the Xse at <http://www.xse.cat> .



«Tightening the grid». International workshop on electrical distribution. Barcelona, June 2017.

The wave of (re)municipalisations

(Re)municipalisation processes, that is to say, the transfer of control over services to the municipal or local level, have many, and diverse, motives: the aim to end abusive practices or the infringement of labour laws by the private sector; the desire to regain control of local resources and the local economy; the will to offer people accessible services; or the intention to implement ambitious strategies for environmental protection or energy transition, to give just a few examples (Kishimoto & Petitjean, 2017).

Over past years many cases of (re)municipalisation have been registered around the world, related with services such as water and energy but also with other services such as waste collection, transport and education. Many share similar contexts, characterised by abuses by private companies, a lack of local sovereignty, violations of basic rights or chronic environmental problems caused by the service. For example, in some cases, (re)municipalisations have been born in response to recentralisation processes that transfer previously local powers to the state level, very often inspired by similar movements in other sectors or places. However, whatever it was that lit the match, they all aim to reverse situations where basic rights are not guaranteed, caused by policies which offer few safeguards and are oriented towards the commercialisation of the service in question, therefore often raising its price.

In many cases these initiatives are led by a wide rallying front which appeals to various actors, not merely institutional ones. We think that it is important that this continues in order to uncouple (re)municipalisations from political circles. Taking the number of councils recently taken by candidates who describe themselves as citizen-focused or transformative throughout the territory of Catalonia and the Spanish state as an example, we should take advantage of these times to consolidate fronts which can drive initiatives which transcend institutions and are not subject to traditional politics.

We use the term (re)municipalisation in reference to the process of regaining public control and management of services which were formerly privatised or privately-owned, at a local scale. We are aware that «municipalisation» is not always the best term since, in some cases, the services recovered have always been in private hands. This is why we use the term «(re)municipalisation» to cover both cases.

The wide variety of interpretations of the term «(re)municipalisation» needs to be taken into account. Geographically, (re)municipalisation tends to refer to municipalities, although in many cases the concept also applies to other sub-national scales. On the

other hand, when we speak of (re)municipalisation, we are not always talking only of regain ownership of a service, but, above all, to regain control over it through transparent, participative public management run by the community. This is why this broad definition often includes other forms of collective ownership or management.

Furthermore, beyond traditional public services, (re)municipalisation offers the possibility to control new energy services. This is an especially relevant aspect in the energy sector, which is in a constant state of flux. Smart grids, data management, energy saving services and efficiency practices are some examples of new technologies which, potentially, could be controlled by the community.

The energy transition as an opportunity

We are experiencing a transformation in the energy model which, sadly, is led by international elites and oligopolies. In their hands, the only change expected is technological: changing technology so that everything anything else stays the same. But at the same time, from the ground up and at a local scale, many collectives have been organised with the aim to transform the whole system, and not just its technology. The exhaustion of fossil and nuclear fuels coupled with climate change sets biophysical limits which mean that we are facing an immediate future where electricity generation, particularly by renewables, will form a larger part of the energy mix. In addition, if a desirable (and necessary) reduction in energy consumption were to take place, the proportion of electrical power, and therefore its strategic importance, would increase. Consequently, the inevitable change of model brings not only the opportunity to transform the sector itself, but also opportunities to transform the socioeconomic system which drives the current energy model (Presas & Pérez, 2017).

Despite the evident divergence in motives and methods employed by those working for a hard transition (supporting large

renewable infrastructures, for example) and those working for a soft transition (supporting small infrastructures adapted to local surroundings), localisation of the system seems to be a point of consensus. The International Energy Agency itself, which we would not suspect as a supporter of a radical transformation of the system, recognises that «cities must be at the centre of the energy transformation» (Rüdinger, 2017). And it is so: the hard transition focusses on cities, designating the rest of the territory for supplying them. Working for a soft transition involves the challenge of working with the relations between the cities and the countryside, to eliminate the environmental, economic and social impacts generated by the current energy systems (and proposals for a hard transition) in rural areas. Abandoning the intensive central generation model, however, often involves facing contradictions within the proposed energy sovereignty model, for example, when we think about the use of the sun.

In a possible near future where electricity becomes more important, if we manage to begin producing energy where it is consumed, as a counterproposal to models involving enormous renewable infrastructures, centralisation will be affected. The electrical distribution networks will fall out of use in favour of reinvented networks. If this happens, new technologies such as smart grids, distributed generation, integration of renewable energy, self-sufficiency and electrified transport will be especially important, and will in turn create new energy needs and services. These will remain in the hands of existing actors if there is no public debate about changing the model. For example, one of the many questions to be answered is how to guarantee free and neutral access to information about smart grids to avoid the same corporations capturing the market. This is an essential step towards increasing citizen participation and public control of the sector and towards its decommercialisation. For this reason, we need to decide how we can fight the hegemony of the large electricity companies which dominate the system, because if we don't do it now, they will dominate even more in the future.

The advantage of changing the centralisation of the current system through distribution is that distribution happens at a local scale, with substations situated outside and inside cities, towns and villages, transformers in the streets and a network that runs under our floors or up our walls. Something which lies so obviously in personal spaces can have no other objective than to serve the people.

This is why the transformation of the energy system, too, will happen through the reappropriation of the electricity distribution network. The new, publicly-owned systems do not only have to include public electricity suppliers who supply to everyone, and local and regional actors responsible for promoting and extending the transformation of the system, but also public ownership of the natural monopoly of the distribution networks (Hall, 2016).

The role of electricity distribution networks: key for a real transformation

Electricity distribution is the process that carries electricity to our houses, through a network which criss-crosses our towns and cities. In our houses, it surfaces in the form of a meter, for example. It is a regulated system, like the transport system, and, consequently, the state controls it and how it is paid for. The large investment of capital required by distribution networks, the essential character of the service they provide, the impossibility (so far) of storing energy in times of low demand and the inevitable physical connection to users make the system a natural monopoly and a clear case of a network technology (Pérez, 2017; De la Cruz, 2004). A monopoly which, in the Spanish state, is 98% controlled by the Oligopoly². In Catalonia, although the system is mainly controlled by Endesa, there are 44 more distribution companies, some of

2. To learn about the organisation of the Spanish electrical system and how it is controlled by the Oligopoly, consult *Chapter 10: Some clarifications*, which contains essential context for understanding what electricity distribution networks are and what role they play in the current, and future, energy system.

which are cooperatives or municipal companies with significant experience in the sector.

Despite the structures and the key aspect of separating functions and ownership of different parts of the electrical sector outlined in European directives, in the Spanish state a vertical integration of the system by a group of companies has been accepted. This means that the five groups comprising the Oligopoly in the Spanish state (members of UNESA, the Spanish Electricity Industry Association), not only enjoy the privileges associated with a natural monopoly (such as electricity distribution) but also have a powerful position in the electricity market in general. This situation leads to numerous privileges for the group and inequalities and imbalances in markets, both liberalised and regulated (Salas, 2017).

Why focus on distribution?

The energy system is changing. Decentralisation, although it seems to be taking off, has not yet been made reality, but it seems that it will inevitably become more prominent in the future. Despite the profound changes to the sector that this will cause, there are few who believe, as we do, that the rules of the game itself need to be changed. Generation and sale of energy continue to be subject to free competition, whilst distribution is rigidly regulated. The current situation, coupled with sparse hopes for change in the future, has spawned ethical initiatives for energy generation and sale from the third sector (usually cooperatives), and some timid public administrations.

Many electrical companies are already selling 100% renewably generated energy. Although many of these initiatives don't include desirable aspects such as participation, transparency and protection of labour rights, they do provide a first wave of pressure to change the Spanish energy mix. What is more, there are other projects which, also working via energy suppliers, are looking for ways to guarantee energy sovereignty for the people, on large and small scales.

Transformative energy generation projects, despite working in a liberalised sector, often face economic and technical challenges which are slowly being overcome as more experience is gained. We should also not forget the small distributed generation projects or self-production initiatives which are gaining more momentum every day, especially thanks to reduced investment costs. However, these initiatives often face obstacles which are not technical, nor economic, but bureaucratic.

The most difficult pieces of paperwork, requiring most time and therefore investment of capital, are the applications to the distributor to legalise the installation. This phase of the project is still weakly regulated and distributor decisions are highly arbitrary, varying widely based on distributor, region, or other aspects. We've stumbled upon one of the great contradictions in the transformation of the model from the ground up. Does it make sense to control the two extremes of the system, when everything must still pass through the distribution system controlled by the Oligopoly? We have seen this contradiction clearly in the case of self-generation, but these barriers lie in the way of other energy generation or supply projects, and projects promoting universal access to energy

Next, we'll pick out some of the reasons the Network for energy sovereignty considers energy distribution networks to have important strategic value.

Fuel poverty: energy distribution companies are ultimately those with the power to connect or disconnect a supply point. They decide whether to disconnect users and whether to provide new supply points. In this way, control of the distribution network means the power to guarantee universal energy access, whether by avoiding disconnections or giving access to families without a supply.

Currently, the Oligopoly's control of the distribution networks has resulted in a grave number of disconnections or refusals to supply vulnerable families. Despite the adoption of Law 24/2015, many families who live in houses which have been repossessed

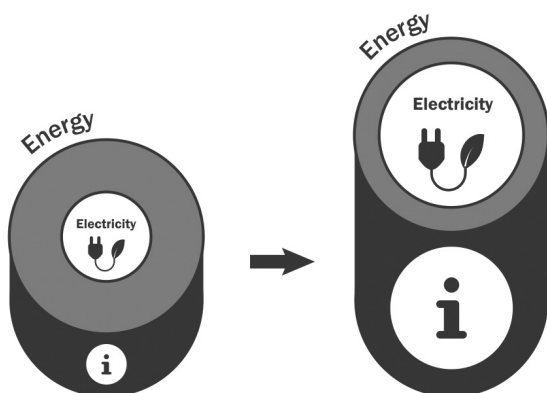
(mostly by banks) are being refused connection, despite having the documents required by law. In its own internal regulations, Endesa adds the requirement to provide a title deed or rental agreement, despite there being no legal obligation to do so (an electoral roll registration would be legally sufficient). It has again become an environment where, outside of the law, distribution companies do as they please for their own benefit and at the expense of families – in this case, the most vulnerable.

Innovation in the sector has brought new meters into our homes, known as smart meters, which, despite having barely discernible benefits for users, greatly facilitate disconnection and reconnection procedures, reducing the wait to be reconnected, but above all accelerating the disconnection process, putting the most vulnerable at even more risk.

Smart meters: in our evolving energy system, the data that comes alongside electricity use is becoming ever more important. This information passes, largely, through smart meters which will soon exist in all Catalan homes, by law. According to some researchers, with the advent of distributed generation, the meter will stop being a simple measure of consumption and will become a customisable mass product (A. Sumper) such as the smart phones of today. This would open the door to numerous opportunities to access new energy supplies. These opportunities include raising awareness about saving energy, taking advantage of renewables, citizen participation etc. Even so, today, access to the data generated in our day-to-day lives and monitored by smart meters is inaccessible for most, whether because it is difficult to access or difficult to understand. On the other hand, those already making use of the data are the large distributors, be it in legal or illegal ways (Pérez 2017), through Big Data technologies. Smart grids and meters show, more and more, how important it is to control information, as well as electricity itself (figure 3). For these reasons, we can see that the new meters pose a regulatory, rather than a technical, challenge: to strengthen regulatory bodies to ensure neutrality of access to data, whilst safeguarding privacy (Salas, 2017).

The consumer federation FACUA (Andalucía Federation of Consumer and Use Associations) took Endesa to court in 2015 for charging abusive service fees for electricity meters. The obligation to replace meters with smart meters before 2018, which were marketed as offering remote operation, raised monthly maintenance rates from 0.6534 euro to 0.9801 euro, an increase of some 50%, despite the fact that they could not, in practice, be remotely operated (FACUA, 2017). The First Instance Trial Judge number 1 of Seville ruled that Endesa was abusive in charging fees for apparatus that did not have the functions advertised³.

Figure 3
Future evolution of energy, electricity, and information coming from electrical systems



Lack of planning, investment and maintenance: although the move towards smart grids is accelerating through the use of automatization, sensors, actuators and remote controls etc., there are still many parts of the Catalan territory that suffer from a lack of planning, investment and maintenance of distribution networks. In previous years, there have been several periods where there has been serious doubt over whether companies invested enough in

3. Federación de Asociaciones de Consumidores y Usuarios de Andalucía (Andalucian Federation of Consumer and User Associations) <http://facua.org/es/documentos/SentenciaEndesaPrimeraInstancia1Sevilla.pdf>.

maintaining and renewing the network, demonstrated by widespread power cuts. Prime examples are Barcelona in 2007, the Girona region in 2010, or towns around Lleida in 2017 (Pérez, 2017), but it is not difficult to find Catalan towns, especially in rural areas, that are suffering the effects of inadequately maintained distribution networks. These tiny power outages, whilst not having widespread impacts, can severely impair productive activities. Despite these deficiencies everywhere in the territory, authorities continue to promote Smart Cities without first guaranteeing a quality service everywhere. A clear example is the request made by the Catalan Government for 756 million euros from the European Strategic Infrastructure Fund (Grau, 2015), better known as the Juncker Plan, for smart grids that did not finally appear⁴. What is more, the funds were directly assigned to Endesa Distribution SL, proving the collusion between the administration and the Oligopoly, closing the door to the participation of other actors in the innovation and transformation process.

On the 23rd of July 2007, Barcelona suffered a power outage that left more than 300,000 people without electricity. Damage to the insulation of a 220kV cable connecting the Urgell and Maragall substations caused a fire in the Maragall substation. The conclusions of the report by the National Commission for Energy (CNE, after its Spanish acronym) about the responsibilities of Endesa and REE in the fire are striking:

«The analyses made [...] show that the contact between the conductor and the clip which holds the conductor to the support had suffered progressive degradation [...] The Commission understands that this degenerative process could have been seen in the maintenance inspections of the cable in question [...] the incident at Maragall substation would have been perfectly avoidable had the cable been in adequate condition.» (CNE, 2007)

4. European Investment Bank www.eib.org/efsi/efsi-projects/index.htm.

In March 2017, more than 9,000 users in 22 towns in Lleida were also deprived of electricity through snowstorms, some of which lasted more than 30 hours. The town mayors had been issuing complaints for a long time about the lack of maintenance and renovation of the electricity distribution network, as they believed that it would eventually cause this type of incident. In response, fifty local elected representatives from the *Esquerra Republica de Catalonia* party signed the Montoliu de Segarra Manifesto⁵, which demanded a quality electricity supply and an end to the unreliability of the electricity network. They also demanded speed and transparency in achieving these goals. Finally, they demanded an audit of the electrical system which would evaluate the condition of the network.

Labour rights: the lack of a quality supply in certain areas is not only a product insufficient investment, but also of downsizing the workforce and subcontracting.

The large electricity companies have drastically reduced their own workforces in favouring of outsourcing tasks to external companies which compete for the work. In doing so, they reduce their operations team and only keep staff for management and technical and commercial direction. This process has been condemned many times by trade unions. At the end of 2014, unions highlighted staff cuts of 50% and worsened working conditions at Endesa and REE, in the name of restructuring. They condemned the dilution of responsibility caused by the long chains of subcontractors, which made work increasingly precarious, increased the risk of accidents through badly planned risk assessment policies (El diari del Treball, 2015), and affected the quality of the service. Paradoxically, the compensations paid to Oligopoly companies have remained stable, despite the staff cuts caused by subcontracting.

5. Esquerra Republicana - Federació de Lleida http://locals.esquerra.cat/documents/manifest_montoliu_web.pdf.

Regaining control of distribution networks

Having seen the implications of having, or not having, public sector-community control over distribution networks, a question emerges: why are there no initiatives for regaining citizen control over electrical distribution networks?

LEGAL ACTIONS

Within a regulated sector, the possibilities for action are limited, and in most cases require long legal processes or the investment of large amounts of capital. A summary of some of the possibilities available in the current legal framework follows, discussed in more detail in Pérez, 2017:

- Purchase of the distribution network: this involves obtaining ownership of the local electricity distribution network through a deed of sale signed voluntarily by the municipality and a local distributor with interests in the business. In this case, considerable resources are required to make an offer generous and seductive enough to persuade the distributor to leave a profitable business. It is also possible to call on the state to issue a decree enabling the forced sale of distribution networks. This was the method used by the Spanish Electrical Grid (REE, after its Spanish acronym) to obtain a distribution network previously in the hands of distribution companies.
- Expropriation: this is the involuntary appropriation of private property for the public good in exchange for a fair price, through a legal process known as expropriation. Until now this has generally been used to buy land to enable the construction of large infrastructure (such as distribution networks). Therefore, it is difficult to imagine a (re)municipalisation initiative of this nature being started by the Spanish government.
- Direct lines: this option does not allow the construction of a real network, but only direct lines connecting a centre of generation to a centre of consumption parallel to the existing network.

- Form a new distribution company or buy an existing one: in the places where there is no existing distribution network and one needs to be constructed from scratch – such as new housing developments where the developer has to choose a distributor – the interested town council can create a new distribution company with the objective of taking over such networks. The choice of distributor from amongst the interested companies is made based on their technical and economic capacity. This means that it is practically possible for new distributors to compete with large ones.
- Buying an existing distributor is also an option, though it also requires large amounts of capital, and if the distributor is small, there is also the risk that it cannot compete with large, established distributors. In recent years we have seen how large distributors have absorbed their small competitors, in most cases not because the small companies were not profitable, but simply through lack of interest from the owners of the (often family-owned) businesses.
- Separation of ownership and management of the network: separating the management from the ownership of electricity distribution networks in the Spanish state would allow municipal companies or cooperatives to take over management of the network for a specified time. Even so, the ownership of the network would remain in the hands of the Oligopoly and not the public administration (contrary to what happens in many European countries, or in the Catalan water sector).

It is also worth considering the possibility that perhaps it is not necessary to obtain ownership of electricity networks (whether by purchase or appropriation). Analysis must be made of the amortisation of the infrastructures we have been paying for for years through our bills, without considerable investments having been made in them, as recognised by experts in the sector.

LEGITIMATE ACTIONS

The complex legal context explains, partly, why we have seen energy transformation initiatives be born and grow in the areas of generation and sale, but not in distribution.

This is no reason to remain twiddling our thumbs or stop trying to change the energy system at local scale, beyond trying to intervene at national or European level, where a good deal of the power over energy lies. There are numerous ways, from a legitimacy point of view, to advance the objective of regaining control of the distribution network. Although electricity is legally considered to be an economic good, in reality it has become an essential service and access to it must be universal and guaranteed, above any other economic considerations. More transparency in the sector must also be demanded, along with a transformation towards a more socially and environmentally just system, more citizen participation, among many others. To achieve this transformation a social critical mass has to be reached to put it on the table and pursue it. Therefore, creative and decisive proposals for action need to be explored, without needlessly discarding those which don't fit within the current legal framework.

A critical issue in the electricity sector is the lack of information and transparency. Various groups and collectives, among them the Network for energy sovereignty, have demanded an audit of the sector to find out its current situation and act as a baseline for transformative actions⁶. This would be not only a financial audit, but also a technical analysis of the current state of the distribution networks; a study of the quality of the service provided and whether this guarantees basic services; an inspection of working conditions and subcontracting schemes; and an evaluation of the role, facilitative or obstructive, of distributors when awarding supply points to new production installations.

6. The press release from the Xse from the 1st April 2017 can be found at <http://xse.cat/comunicat-de-la-xarxa-per-la-sobirania-energetica/>

For the audit, the information gathered is no more important than the process organised to gather it. This would not involve simply contracting a qualified company and waiting for the result. The audit has to be a process involving citizens, in a similar way to the citizen audits aimed at uncovering illegal debts driven by the Citizen Audit Platform on Debt (Plataforma Auditoria Ciudadana de Deute, PACD)⁷, among other international organisations. In this way, the audit functions as a transformative awareness-raising exercise. The fact that citizens participate should guarantee that the results are accessible to everyone, with or without a technical background, and that the audit goes deeply enough into relevant issues.

Considering models of government for and by citizens, the audits would be one more tool for driving new spaces for strategic debate and decision-making where different actors can interact. These spaces, still to be created and constructed, have to involve and always remain open to the participation of energy sector workers, both due to the knowledge they can bring and to ensure that their rights are not violated at any point in the process. These should be spaces where smart grids and networks can be debated: how they work, in whose benefit, how we can safeguard our privacy, and so on. Special attention should be focussed on how the transition should happen, in order to take advantage of this window of opportunity and not leave electricity distribution forever in the hands of the Oligopoly.

Finally, we should be aware that when we speak of transforming the model from the local scale, this does not imply that it is done individually, but always together, through networks, learning and growing with other similar initiatives, be they near or far geographically. The network needs to be expanded and strengthened with other experiences used as references, whether in large cities such as Berlin or Hamburg or smaller places like Schönaun (Ger-

7. Plataforma per l'Auditoria Ciudadana del Deute <http://auditoriaciudadana.net/>.

many) or San Marcos (Guatemala). More can be read about these in this book and other Xse publications (Pérez, 2017).

The Rebellion of Schöna u in the Black Forest (Germany)

Among the experiences of (re)municipalisation in Germany, the town of Schöna u in the Black Forest is particularly interesting. The inhabitants of this small city were very active in German anti-nuclear campaigns. Especially after the Chernobyl disaster in 1986, they decided to mobilise themselves to create an environmentally option for their electricity supply. At the beginning, they began to reactivate small hydroelectric and geothermal plants, run information campaigns on how to save electricity, and start artistic educational activities. They came to be known as the *Stromrebellen* – electricity rebels. In 1991, the licence to run the distribution network held by the German energy monopolist Kraftübertragungswerke Rheinfelden (KWR, now Energiedienst Holding) expired and the citizens decided to seize the opportunity. 750 citizens managed to buy the local network in 1996, with the help of the «Ich bin ein Störfall⁸» fundraising campaign. Since then, the cooperative has generated and distributed its own electricity in Schöna u and 9 other towns, through the company Elektrizitätswerke Schöna u Netze GmbH.

There are other citizen initiatives in Germany that aim to recover control over energy generation and distribution, such as the referendums held in Hamburg and Berlin, the capital, and the creation of over 70 municipal companies. Undoubtedly, this trend is destined to grow and generate new government dynamics. Nevertheless, in Berlin's case, the (re)municipalisation process did not start since quorum was not reached in the vote. The referendum in Hamburg, on the other hand, was successful but the public company was criticised for managing the network along commercial lines and proposing few new forms of management.

8. Literally, *Ich bin ein Störfall* means «I am a technical accident» or «I am breaking the system». However, in German, *Störfall* does not suggest an accident that happens by chance. *Stör-* comes from the verb *stören* which means to annoy or disrupt, and therefore the name of the movement is a play on words meaning something along the lines of «I will disrupt you until you fail» (Morris & Jungjohann, 2016).

Acknowledgements

This chapter was inspired by and makes use of fragments of the study «Regaining control of energy. Action for the (re)municipalisation of electricity distribution» carried out by Xse member Alfons Pèrez. We thank him for the work involved in researching, compiling and presenting the results of the study, and also the collective intelligence of the Xse and everyone who forms part of it.

Bibliography

- CNE (2007), «Informe técnico sobre los hechos ocurridos en el incidente acaecido el 23 de julio de 2007 a las 10 horas 53 minutos que afectó al suministro eléctrico de Barcelona», available at: https://www.cnmc.es/sites/default/files/1564073_5.pdf
- DE LA CRUZ, F.J. (2004), *El debate sobre el régimen jurídico del tendido de redes de distribución y de su acceso y conexión a otras redes*, Universidad Complutense de Madrid, Madrid.
- El diari del treball (2015), «CC OO vincula a mort d'un treballador de manteniment elèctric amb la precarietat laboral», available at: <http://diarit treball.cat/ccoo-vincula-la-mort-dun-treballador-de-manteniment-electric-amb-la-precarietat-laboral/>.
- FACUA.org (2017), «Éstas son las 10 ONGs españolas con más seguidores en Twitter al cierre de 2017», available at: [https://www.facua.org/es/noticia.php?Id=9504%20\[Accedit%20el%2015/03/2017](https://www.facua.org/es/noticia.php?Id=9504%20[Accedit%20el%2015/03/2017).
- GRAU, O. (2015), «Catalunya presenta inversiones de 6.809 millones del 'Plan Juncker'», *el Periódico*, available at: <http://www.elperiodico.com/es/economia/20150219/catalunya-pide-inversiones-de-6809-millones-del-plan-juncker-3952226>.
- HALL, D. (2016), «Public ownership of the UK energy model – benefits, costs and processes», available at: <http://www.psiru.org/sites/default/files/2016-04-E-UKpublic.pdf>.
- KISHIMOTO, S.; PETITJEAN, O. (2017), *Reclaiming Public Services. How cities and citizens are turning back privatisation*,

- Transnational Institute, available at: <https://www.tni.org/en/publication/reclaiming-public-services>.
- MAÑÉ ESTRADA, A. (2013), *El model energètic. Chapter: Model productiu i política econòmica*, EducacióOnline.
- MORRIS C.; JUNGJOHANN A. (2016), *Energy Democracy. Germany's Energiewende to Renewables*, Palgrave Macmillan.
- PÉREZ, A. (2017), «Recuperant el control de l'energia. Accions per (re)municipalitzar la distribució elèctrica», *Associació Catalana d'Enginyeria Sense Fronteres*, available at: <https://esf-cat.org/wp-content/uploads/2017/06/ESFeres19-RecuperantControlEnergia-web.pdf>.
- PRESAS, O. & PÉREZ, A. (2017), *Sobiranies. Una proposta contra el capitalisme. cap.: Sobirania energètica*, Espai Fàbrica, Barcelona.
- RÜDINGER, A. (2017), «Local Energy Ownership in Europe. An exploratory study of local public initiatives in France, Germany and United Kingdom», *Energy Cities*.
- Institute for Sustainable Development and International Relations, available at http://www.energy-cities.eu/IMG/pdf/local_energy_ownership_studyenergycities-en.pdf.
- SALAS, P. (2017), *Accés a les dades de consum elèctric dels comptadors digitals i el seu ús. Estudi del cas a l'Estat espanyol i propostes de millora per fer possible l'accés de les dades a tercers parts*, Autoritat Catalana de la Competència, Barcelona.

III. ENERGY AT THE SERVICE OF THE PEOPLE: GUARANTEEING UNIVERSAL ACCESS TO BASIC SERVICES

It's so cold... and what's more, I have to wash my clothes by hand [...] I go crazy when I have to clean the house in the dark. I spend the whole day with a miner's torch [head torch] on. I've had such terrible moments in that house that I want to leave it. It's horrible.

Quote from a victim of fuel poverty taken from a collective counselling session organised by the Alliance against Fuel Poverty (Aliança contra l a Pobreza Energètica, APE)

Fuel poverty or fuel impoverishment?

In order to achieve energy sovereignty it is essential, first, to guarantee universal access to basic services including the subject of this book: energy. The sad reality is that today such access is not guaranteed, not only in the Global South but also closer to home. This situation, according to our analysis, comes from the very conditions, tools and mechanisms that characterise the current energy model and allow the Oligopoly to impoverish more and more families who cannot pay their bills.

The commercialisation of basic water and energy services, along with other common goods, means that the power to guarantee access to them lies with the companies who manage them. What's more, in energy, water, and other sectors¹, this power is concentrated by the few companies of the Oligopoly which, as well as controlling access, control the tools and mechanisms that enable and preserve the status quo: they have laws made to

1. This also occurs in the global food production model, where ownership of land and seeds is concentrated by a few companies.

measure, collude with political powers and violate rights with impunity. Commercialisation, therefore, puts this basic right in the hands of those who make money from a basic service required for life.

What is fuel poverty?

According to the third report of the ACA (Environmental Science Agency, ACA after its Spanish acronym) on fuel poverty (ACA, 2016), 11% of households in the Spanish state, that is to say 5.1 million people, are unable to keep their homes at an adequate temperature in the winter, which represents an increase of 22% in two years (compared to the previous ACA report). This 11% is above the European average of 10.2%. Beyond this (not self-inflicted) incapacity to pay affecting 11% of the population, up to 21% of homes in the Spanish state are experiencing situations related to fuel poverty (late payments, inadequate temperatures, high energy bills as a proportion of total income, etc.).

This same study goes deeply into the socioeconomic characteristics of the homes which the highest vulnerability. To take an example, in 2014, 21% of households affected by unemployment had experienced late payments, compared to 7% of households with a member in work. The composition of the household is also a determining factor: families including elderly people, single parent families and families with three or more children were more affected than other types of family. Regarding housing type and status, rental houses, especially those with low rents, had high rates of fuel poverty. Households with low incomes spend less per person and square metre, but they still have to make large efforts to pay bills, often reducing or stopping spending on other basic needs. These households spend an average of 12% of their income on domestic energy bills. Grassroots movements against fuel poverty have discovered that, although vulnerable families try to reduce their consumption, bills do not reduce accordingly, as

flat rate charges form a considerable part of the total charge (even more considerable for low usages)².

According to a study by Ivàlua (2016) using data from 2015, 18.7% of the Catalan population spends more than 10% of disposable income on domestic energy. 11.1% are falling behind on energy payments for their main residence and 8.7% cannot keep their home at an adequate temperature. Looking at the relationship between fuel poverty and the socioeconomic situation of households, more than half of households living in fuel poverty have incomes from non-occupational sources (unemployment benefit, pensions, or other benefits). The number of elderly people living in affected homes is also worrying: between 33.3% and 37.2% of affected households contain at least one person over 65 years old. The study also identifies health impacts associated with fuel poverty: respiratory and cardiovascular infections, mental health problems including stress, anxiety and depression, and the exacerbation of musculoskeletal problems, among others. As can be seen, fuel poverty affects a diverse range of people, going beyond those affected by poverty in a general sense. But, of course, those living in general poverty suffer more from the consequences.

Causes: the legal context and collusion between the Oligopoly and political powers in the Spanish state

The causes of fuel poverty are mainly related to one of three factors: income, energy efficiency and energy prices. Most measures taken to combat fuel poverty at EU level focus on the first two, offering help with bills to the families considered most vulnerable, or advising them on how they can use less energy, or use it more efficiently.

The legal framework regulating the energy sector at Spanish state level (and the law that in theory should provide protec-

2. The flat rate part grew from 35% in January 2013 to 60% in February 2014. See http://www.eldiario.es/economia/parte-fija-factura-duplicado-ano_0_225728113.html.

tion to the most vulnerable consumers) is Law 24/2013 of the electric sector. In practice, this law deepens the liberalisation of the electricity market and considers energy a «general economic good» and not a public service, which implies that, in the end, the protection of the market takes priority. Precisely because the companies of the Oligopoly still hold the privilege of managing these services today, making million-euro profits and effectively controlling the market, it follows that they should assume the costs of fuel poverty, which is the fruit of this model of management.

The protection of vulnerable energy consumers was not included in Spanish legislation until 2017, and still only covers electricity (RDL³ 7/2017), although the EU directives 2009/72/CE and 2009/73/CE have demanded such protection for both electricity and gas services since 2009. The changes included in the law to protect vulnerable people were completely insufficient: pure propaganda and political manoeuvring and far from being a mechanism which could ensure effective protection. Until the RDL, the only protection families had against disconnections was limited to so-called «essential» supplies, limited to the use of electric life support machines⁴. The «protection» consisted of the «bo social» (social voucher), a discount of 25% on the part of the bill eligible for the Voluntary Price for Small Consumers (PVPC, after its Catalan acronym). Some people could only be asked to pay regulated market prices, although only 40% of those eligible benefitted, and eligibility criteria were not associated with income or principal causes of vulnerability.

3. Real Decreto Ley (Royal Decree-Law).

4. «Essential services» to homes are defined as: «Those domestic supplies which are required to be constant, as certified by a medical professional who confirms that the supply of electricity is essential to operate a piece of medical equipment essential to maintaining the life of a person» (Law 24/2013, 26th December, of the Electrical Sector). Normally this applies only to machines people need in order to breathe normally at night, and the wording of the article suggests a desire for a restrictive interpretation.

The RDL 7/2017 proposed a convoluted categorisation into 3 groups: «vulnerable», «extremely vulnerable» and «extremely vulnerable with risk of social exclusion» – behind which was mechanism to avoid disconnections (only for the last group) whereby public administrations, through social services, would be required to pay overdue bills. For the first and second group an extended «bo social» (social voucher) was offered, with an increased value of 40% (again, of only a part of the bill), and no mechanisms were provided for how these benefits would be delivered, nor to make the Oligopoly responsible. In practice, the income thresholds used are totally insufficient⁵, and do not achieve the protection that Law 24/2015 of the Parliament of Catalonia – discussed later in this chapter – offers⁶.

These are again the same rules which allow an unequal power balance to continue, and also show the collusion happening between the energy sector and political powers. Spanish electricity companies earned double the profits of their European counterparts during the punishing years of the so-called economic crisis (Victoria & Velasco, 2017)⁷, and form parts of transnational companies that operate in a similar way and with similar impunity around the world.

Against the current legal framework, initiatives such as the Law 24/2015 propose a paradigm shift and hold those responsible for fuel poverty to account, by imposing obligations on the Oligopoly.

In July 2015, the Catalan Parliament unanimously approved the Law 24/2015 containing urgent measures to combat housing

5. Protection against disconnection is only considered in the case of extremely vulnerable people at risk of social exclusion (with a monthly income below 399.98 euros, up to 1,065 euros in the case of large families), when the autonomous community or municipality agrees to pay 50% of the bill (before application of the «bo social» discount). <http://pobresaenergetica.es/wp-content/uploads/2017/10/baremos-RD-bono-social.jpg>.

6. Aliança Contra la Pobresa Energètica <http://pobresaenergetica.es/wp-content/uploads/2017/07/taula-IRSC-242015.pdf>.

7. Between 2008 and 2015 the profits of Endesa, Gas Natural Fenosa and Iberdrola rose to 37,260 million euros <https://www.lamarea.com/2017/02/05/cuanto-ganan-las-grandes-electricas-en-espana/>.

and fuel poverty crises, the result of an ILP (Popular Legislative Initiative) promoted by the Platform for those Affected by Mortgages (PAH), the Alliance against Fuel Poverty (APE) and the DESC Observatory, which collected 143,380 signatures (almost triple the 50,000 required). This law was driven by the need to guarantee access to basic services (water, electricity and gas) and, for the first time, oblige supply companies to assume part of the debt of families who cannot pay. Once approved, the three promoting organisations developed an action protocol, alongside the Housing Department and the Consumer Agency of the Government of Catalonia. Despite the appeal of unconstitutionality presented by the government of the Partit Popular (Popular Party) in April 2016, the articles regarding fuel poverty are still fully applicable at the time of writing, in September 2017.

The law is the most civil libertarian in Europe with regards to protection from disconnections, since it is based on the precautionary principle, going much further than the existing winter ban. This principle presumes that if a family does not pay it is because they cannot, and obliges supply companies⁸ to find out from social services if the family in question (that has not paid) is in a vulnerable situation. Previously, through modifications to the Law 22/2010 of the Catalan Consumer Code, this process was planned in reverse, such that it was Social Services who should inform the supply companies of vulnerable families⁹, with the risk of excluding people who found themselves in a situation of fuel poverty but had never sought assistance from Social Services. In practice, since the Law 24/2015 came into force, it has come to light that 80% of families incurring non-payments are unknown to Social Services, in which case the precautionary principle can afford protection, since the companies themselves are responsible

8. We refer to supply companies (and not trading or distribution companies) because some companies are both trading and distribution companies, and others are only trading companies.

9. According to data supplied to the Alliance against Fuel Poverty.

for informing themselves as to the family's situation, and cannot disconnect services until Social Services has completed the necessary investigations.

In November 2016 Rosa, who lived in the city of Reus, died in a fire caused by the candle she used to light her home after Gas Natural Fenosa disconnected her electricity months earlier. The case threw light on the violations of Law 24/2105 by supply companies, and also on the necessity (and great utility) of the inclusion of the precautionary principle in the law. The death of Rosa could have been avoided if Gas Natural Fenosa had complied with the Law 24/2105 which obliged companies to consult social services before carrying out any disconnection. The company did not, and, what is more, has never accepted responsibility for its systematic violation of the law.

Law 24/2015 has already prevented more than 30,000 disconnections¹⁰, and along with the Consumer Code, has permitted sanctions to be taken out against companies that continue to illegally disconnect vulnerable families. Several authorities have used, for the first time, their power to impose sanctions in this area: Barcelona (27 sanctions), Sabadell (14, which could sum to up to 1.8 million euros) and the Catalan Government itself (108, the majority against Endesa). The administrations who have taken out these sanctions have had to face companies – and their legal departments – ready to do whatever it takes to dodge them and not take responsibility for the acts committed (not even the death of Rosa, for which the Catalan Government fined Gas Natural Fenosa 500,000 euros that it has still not paid). In addition, such sanctions need to be accompanied by other strategies, such as the inclusion of clauses referring to the obligations and responsibilities of companies in the Terms of Reference of tender invitation documents used for municipal electricity supply (even if the Oligopoly dodges them in court, as happened with the measures of the Barcelona City Council), in order to pull them into line and stop them making money out of our rights.

10. According to 2016 data from the Catalan government.

To date, electricity and gas supply companies have also not signed the conventions outlined in Law 24/2015 requiring them to give grants or significant discounts to vulnerable families. To partially offset this, the APE has demanded that supply companies write off the debts being accumulated by these families in the period until the conventions are signed, which continue to be a strong source of anxiety.

Global consequences

Who suffers from the fact that these companies are in charge of managing basic services (and rights)? Fuel poverty happens in a context which extends beyond the Spanish or European region. In fact, the fuel poverty of some is the reflection of the overconsumption of others, and this problem has worsened particularly in recent years in a Global North where people from the Global South also live. This is seen in impoverished areas which suffer the global impacts of inequality and dispossession and of the current energy and socioeconomic models, despite being situated in the North. Not all Barcelona's neighbourhoods suffer to the same extent, and this pattern is repeated when comparing regions of the Iberian peninsula. The overconsumption counterpointing fuel poverty also has impacts in the Global South, where resources are extracted but never replaced. The Global South bears the weight of abuses by companies enjoying almost unlimited power.

At the moment, the lack of basic services weighs most heavily on women, due to the feminisation of poverty and unequal distribution of domestic and care tasks, which are still undervalued today. Women continue to assume the majority of welfare responsibilities, including fighting with businesses and administrations to defend basic services. This reality combines with the feminisation of poverty, in a larger context of precarious working conditions and cuts to welfare services.

Health, in a bio-psycho-social sense, is also affected worldwide by precarious energy supplies. This is partly due to the effects that insecure access to services or the inability of people to use their

own natural resources for their needs can have on health and quality of life. It is calculated that 4.3 million people per year die of conditions related to indoor air pollution caused by burning solid fuels¹¹, mostly within the Global South (WHO, 2016). The socioenvironmental impacts and violation of rights which accompany the construction of infrastructures without the consent of the people living in the territory are also well-recognised. The health impacts are also partly due to the ordeal of constantly having to fight to protect one's home and family: disconnections, telephone harassment, abusive commercial practices such as changing tariffs or companies, completing interminable paperwork to access help, and finger-pointing and criminalisation by the public and companies themselves, etc.

Therefore, we are dealing with a context where the combined actions of the government and large companies have considerable global impacts. The Network for energy sovereignty's defence of the right to basic services can only come from the perspective of global socioenvironmental justice. Recognising responsibilities at different scales and the links between actions in different parts of the world with parallel impacts is the foundation for demanding universal rights:

There is no sense in aspiring to models which guarantee these rights within the EU without highlighting the communities in the Global South who live without electricity despite large power lines passing through them, without recognising the volume of caring work generated globally by (fuel) poverty, or without considering the ecological debt generated by the extraction of fossil fuels to heat European homes in the winter. (Guiteras, 2016).

Even though it is true that public opinion condemns these practices, there is currently a smokescreen surrounding the oper-

11. Such as wood, agricultural waste, charcoal, coal, and animal excrement.

ation of the sector. What is more, these companies' well-resourced Corporate Social Responsibility strategies achieve strong media attention which, at the very least, manages to confuse and mislead the public. Gas Natural Fenosa, after the death of Rosa in Reus discussed previously, spent millions on a campaign to clean up its image, whilst still neglecting to comply with Law 24/2105 of the Catalan Parliament.

The result is a completely favourable environment for the companies and an administration – from Spanish state level to district councils – which lacks the will (or the courage) to face up to the Oligopoly. An example is the Spanish state government, which applies «sticking plaster» measures to keep some quiet (the public opinion) and to appease others (the Oligopoly). Their strategy is to pay the majority of the costs of fuel poverty with public money from the autonomous communities and municipalities, without providing long-term protection of the rights of the population or removing the privileges enjoyed by large companies.

The principal impact of this situation is, again, the violation of rights, not only related to the security of basic services, but also the rights to information and participation. The population's lack of access to the control of energy, coupled with the lack of transparency characterising the current energy model, have a direct impact on people's lives. This is why the situation urgently needs to be reversed, not only to guarantee everyone's access to energy, regardless of their economic situation, but also to take back control of basic services. In this way, they can be aligned with people's needs, and the population can be a key active participant in the transformation. However, for the supply companies, fuel poverty is one of the «externalities» of the energy model which merely has to be controlled and kept within limits so as not alarm the population, without changing the basic philosophy of the model.

Therefore, any radical transformation has to start by urgently addressing not only the effects of fuel poverty (such as guaranteeing access to basic services to all those who have been denied them for economic reasons) but also the causes. To take an example,

most European countries choose to focus on the causes of fuel poverty related with the individual (income level and the physical condition of the home), leaving the price of basic services, which depends on supply companies, as something almost untouchable. The mantra of protection of competition, however, does not apply in the Spanish state, since the companies of the Oligopoly set their energy prices without taking account of production and distribution costs (Cotarelo, 2015). Changing to a green or municipal supplier doesn't mean that Endesa will cease to set prices as an energy producer, or that distributors (in Catalonia, also mainly Endesa) will stop claiming unpayable debts from vulnerable families, whether through suppliers¹² or debt collection agencies, which pursue them for years.

Proposals to combat fuel poverty and move towards energy sovereignty

Focusing on rights and the defence of common goods vs. market-based thinking

Thanks to rights-based discussions, energy is becoming ever more incorporated in the list of «second generation» rights which demand the satisfaction of needs which are socioeconomic or related to a decent quality of life. The «right to energy» has been defended in recent years within the context of international law by arguing that the energy issue extends beyond (unequal) market relations, since it is something more than an economic good, and that, therefore, governments and other actors (companies, regulators, etc.) in the sector have associated obligations.

To continue the conceptualisation of this right, various perspectives warn us of treating the right to energy in the same way as a good such as water. Energy is not single but multiple: it is used for multiple services (lighting, heating, etc.) and generated from

12. Even when a family does not pay a bill, the supplier still has to pay the distributor.

a diverse range of natural sources, some renewable and others not, and has impacts on the flows and availability of natural resources. As such, it needs to be treated differently to avoid promoting its generation without guaranteeing access to it to the most vulnerable people, or without taking into account our dependence on fossil fuels. Therefore, we must protect the natural processes and cycles which affect the various sources of energy, and at the same time guarantee access to it as an essential resource for a decent quality of life for everyone. Pertinent definitions, therefore, are those which speak exactly of the right to access and make use of an electricity supply to cover basic needs, independent of the socioeconomic situation of the person (IDHC, 2007; IDHC, 2009), also concretising which needs these are – such as heating, lighting, cooking, etc. – and taking into account the global impacts of this consumption and the resources which provide it (Walker, 2016). In summary, various sources lead us to defend energy as a human right to be protected and as a common good to be conserved. We believe in having control over these resources and common goods to promote sensible consumption and to guarantee access to them as a universal right¹³.

What, who and how: active participation in (re) municipalisations

Reversing the current situation of exclusion and violation of basic rights, such as the right to decent housing and, therefore, energy, is a duty of us all. Therefore, it is necessary to bring the global energy system under public control: the control of all of us. Including everyone, regardless of their degree of «expertise», will in itself guarantee rights through direct participation in management and decision-making spaces for creating the energy model that we choose.

13. Lecture «Pensamiento ecológico, bienes comunes y visión relacional de los derechos» given by María Eugenia Palop during the Gregorio Peces-Barba seminar. https://www.youtube.com/watch?v=beP_tyTCeGA&feature=youtu.be

Although processes to regain public control over energy have already started, following the example of the recovery of municipal water services (among other examples) they are insufficient to guarantee the eradication of a problem such as fuel poverty. This is because, among other reasons, fuel poverty is a complex issue affected by numerous variables, only some of which are related with the current energy system. Even so, in dealing with those related to the energy system, municipalities have focussed their attention on generation and supply, the parts of the system which are currently liberalised and therefore easiest to enter, but hardest to change, due to the hegemony of the Oligopoly.

In these two areas, policies have been created to promote self-generation, inaccessible to low-income families, and «fair» suppliers, without ensuring that these first benefit the families who cannot pay bills. Among other reasons, two aspects of supply need to be considered: first, it is not economically sustainable to concentrate all the users who cannot pay with one supplier, since the question of who should take on the debt has not been resolved, and second, the users who choose to take the «bo social» (social voucher) are obliged to pay the PVPC tariff (Voluntary Small Consumer's Price, PVPC for its Catalan acronym), an price which only reference suppliers (practically only the Oligopoly) can set.

Whilst municipal authorities are working to recover public control of the extremes of the system, everything in between is still controlled by the Oligopoly, and therefore continues to be a source of illicit practices and money-making. We are speaking of electricity distribution, the cables which bring electricity from transformer stations to our homes. We are discussing distribution because, as well as being a regulated and profitable activity, it involves decisions about disconnections and awarding new connections. Therefore, distributors are those who ultimately leave families without access to basic rights or who put obstacles and barriers in the way of those with few resources who wish to connect to the electricity supply. Both of these activities put families at risk, since they are then obliged to connect themselves

to the grid irregularly and to use other forms of energy, including fuels which put those living in the home at risk. Despite the key importance of distribution networks for guaranteeing universal access to electricity, and the even greater importance they will have in a future decentralised energy scenario, local authorities still do not plan to recover this service, blocked mainly by the regulatory context which, again, favours the Oligopoly.

As has already been discussed in other chapters, it must be highlighted that, in the sectors already on the way to (re)municipalisation as well as those yet to take the first step, the change from private to public management is not sufficient per se, but has to be accompanied by policies which encourage and protect participation, transparency and citizen control, as essential elements of a fair, non-exclusive energy model.

Proposals for mobilisation. The experience of the Alliance against Fuel Poverty: calling on citizens through a focus on human-rights and empowerment

The APE (Alliance against Fuel Poverty; APE after its Catalan acronym) is a social movement, a network of victims, activists and organisations which has been fighting for basic services in Catalonia (with its headquarters in Barcelona) through local support groups since 2014, with other nodes in Sant Boi, Blanes, Mollet and other groups organised through the PAHs (Mortgage Victim's Platform; PAH after its Catalan acronym) spread throughout the territory.

The APE is supported by social organisations which share its objectives, such as the FAVB (Barcelona Federation of Neighbourhood Associations; FAVB after its Catalan acronym) and other NGOs that work for global socioenvironmental justice and which have a history of fighting against transnational companies and human rights violations. Its principal strength, however, comes from the victims who comprise it, and have joined themselves together through their experiences to find a solution to the sit-

uation and reclaim their rights. The APE advances in its struggle through political interventions and bimonthly support meetings (known as collective counselling meetings). The APE initiates and participates in actions and protests, highlighting the situation of thousands of families to the media, supply companies and public administrations.

Regarding the commercialisation of basic services, the APE proposes a human rights protection perspective and understands the vulnerability of those who are affected by the current situation. What is more, it proposes to demand the protection of the right to energy along with water and other basic services (something which has not been done in the rest of the EU, where water and energy are treated separately).

The empowerment and training of everyone who participates in the APE comes from a vast collective knowledge where each person owns their own situation. In this way the journey that each person has had to make to keep their lights on, or stop being pursued for a debt, becomes a learning experience for the group. The experience of the APE evidences the potential of collective action for transforming individual conditions of poverty and vulnerability into networks of solidarity and resistance, and for re-politicising the mitigation of fuel poverty by bringing it back into political debate, from which it had previously been relegated as a merely technical issue (Tirado & Bouzarovski, 2015).

The strength of the APE lies in its capacity to turn an unexpected situation into the (this time human) energy required to reclaim basic rights and form one voice with which to confront the great power of the supply companies of the Oligopoly. The task of the APE is to draw red lines which should never be crossed. This feeling of impotence turned into empowerment is palpable in the bimonthly collective counselling meetings of the APE.

I've been on sick leave for 6 years. I live with my disabled 30-year old son and a younger son who is not mine. We receive 500 euros a month [from Social Services], which all practically

goes on rent. There is nothing, no water or electricity, and I've had to tap into the electricity cable illegally.

There are people who come here and are very embarrassed about their situation... but it is them (that is to say, the supply companies and administrations) that have caused it.

We aren't poor, they have impoverished us. We aren't responsible for the lack of employment. The accumulated debt [with the suppliers] is illegitimate. I insist: we are not poor, they have impoverished us.

We need to organise a large action [to go together as a group] to make a complaint to Gas Natural so that they confirm in writing that they will not disconnect Maria's electricity. We will do it this Friday, so we are sure that we will sort it out this week and Maria will not be disconnected again!



APE protest in front of the Commercial Office of Endesa.

Bibliography

- ACA (2016), «Pobreza, vulnerabilidad y desigualdad energética. Nuevos enfoques de análisis», available at: <https://www.cienciasambientales.org.es/index.php/comunicacion/noticias/567-3er-estudio-pobreza-energetica-en-espana-nuevos-enfoques-de-analisis>.
- BOUZAROVSKI, S., TIRADO-HERRERO, S., & PETROVA, S. (2015), *Energy Vulnerability: Trends and Patterns in Europe (policy briefing num. 1)*, EVALUATE Project, Manchester.
- COTARELO, P. (2015), *El cost real de l'energia*, Observatori del Deute en la Globalització, Barcelona.
- GIL, A. (2014), «La parte fija de la factura de la luz se duplica en un año y penaliza el ahorro», *eldiario.es*, available at: http://www.eldiario.es/economia/parte-fija-factura-duplicado-ano_0_225728113.html.
- GUITERAS, M. (2016), «Pobresa energètica i models de gestió de l'aigua i l'energia a la UE. Cap a la garantia universal del dret als subministraments bàsics», *ESFeres*, available at: <http://esf-cat.org/wp-content/uploads/2017/01/ESFeres16-PobresaEnergeticaiModelsdeGestio.pdf>.
- IDHC (2007), «Carta de Drets Humans Emergents», available at: <http://www.idhc.org/ca/formacio/seminari-taller-el-dret-huma-a-l-acces-a-l-aigua-potable-i-alsanejament.php>.
- (2009), «Declaració Universal dels Drets Humans Emergents» available at: <http://www.idhc.org/ca/recerca/publicacions/drets-humans-emergents/declaracio-universal-dels-drets-humans-emergents.php>.
- IVÀLUA (2016), «Estimació de la pobresa energètica a Catalunya», *Institut Català d'Avaluació de Polítiques Públiques*, available at: http://www.ivalua.cat/documents/1/23_12_2016_13_02_37_Intermedi_wb2.pdf.
- OMS(2016), «Contaminación del aire de interiores y salud», available at: <http://www.who.int/mediacentre/factsheets/fs292/es/>
- VICTORIA, M. & VELASCO J.L. (2017), «¿Cuanto ganas las grande

eléctrica en España?», *La Marea*, available at: <https://www.lamarea.com/2017/02/05/cuanto-ganan-las-grandes-electricas-en-espana/>.

WALKER, G. (2016), *The Right to Energy: Meaning, Specification and the Politics of Definition*, *L'Europe en Formation*, 378, pp. 26-38.

IV. ENERGY, GENDER AND ECOFEMINIST PERSPECTIVES

Where are the women?

Does everyone have the same voice when it comes to giving opinions and deciding on how to supply ourselves with energy? What impacts does the logic ruling the current system have? If we are to transform it, which principles should guide us?

The first of these questions refers to the type of people working where power over energy is concentrated, in a wide sense. That is to say, power understood as the power (earned or granted) to direct and plan the energy supply, but also power connected with knowledge, experience and authority in the sector.

We are not asking who controls just any sector, but who controls the resource which gives us so much. Energy, as a way of doing work, shapes the economy and organisation of all societies. Having access to an abundant, cheap source with a high rate of return is therefore strategic. It is not strange, then, that it is one of the key issues affecting the geopolitical map and power relations at multiple scales. Decision-making in the sector is and has been, as we will see, a man's game, from which women are mostly excluded.

According to the last report by Ernst & Young, in 2016, only 16% of the people on the Boards of Directors of the 200 principal energy production and supply companies worldwide were women. Limiting the analysis to purely executive roles involving a certain element of leadership, the percentage of women on boards dropped

to 5%. These figures represent, in the study's own words, «a painfully slow rise of only 1% in three years» (Ernst & Young, 2016).

In the case of Spanish companies listed in the Ibex-35¹, the pattern is repeated. In 2017, a fifth of directors were women, of whom only 3 were executive directors (Atrevia & IESE, 2017). None were in one of the energy companies. Of these, Gamesa has the most limited female representation, with only 40%, whilst Repsol has two women on a Board of Directors comprising 16 people (12.5%).

In other spaces which we associate with power over energy, such as the state itself, seats are also mainly occupied by men. As an article in the *Viento Sur* magazine underlines:

In Spain, the energy portfolio has never been in the hands of a woman, not during the Republic, nor during the times of Franco, nor in the 40 years after [...] In fact, the highest position achieved by a woman in the government, in the energy sector, is in the Directorate. (del Campo, 2017)

This picture is very similar to those we associate with the authority connected to academic knowledge in the sector. In the Polytechnic University of Catalonia, men comprise 90% of professors and 75% of the teaching staff, according to data from the last annual report by the Ministry of Education, Culture and Sports (2017). Of the publications accessible through the energy section of the website of the Real Instituto Elcano², one of the most influential think-tanks in Spain, only 20% are written by women. In contrast, the majority of articles about climate change are written by women. Despite the constant dialogue between the two disciplines, the same pattern is always repeated. For exam-

1. A capitalization-weighted market index comprising the 35 most liquid Spanish stocks traded in the Spanish Stock Exchange Interconnection System (SIBE for its abbreviation in Spanish, Sistema de Interconexión Bursátil Español) of the four Spanish stock exchanges (Madrid, Barcelona, Bilbao and Valencia).

2. Real Instituto Elcano <http://www.realinstitutoelcano.org/>.

ple, women have a strong presence in and even lead many social movements related to climate justice. On the other hand, they are much less visible in energy activism. Does climate change have some aspect that particularly appeals to women that we don't find in the energy sector? Is it more about the atmosphere of power, strategy and geopolitics that surrounds the energy sector and into which women have never been invited or well-received? Or perhaps in the fight against climate change we find an echo of the healing tasks which we have traditionally been assigned?

In any case, even in reduced numbers, it seems that women are present in academia. Even so, they remain in the shadows since, just like in many other professions, the public voice of expertise is a man's. Energy conferences are full of talks by men, such as in the case of the last two Annual Meetings of the Energy Sector (*Encuentros Anuales del Sector Energético*), where the programme contained two presentations by women alongside 50 by men (del Campo, 2017). Also noteworthy is the composition of the Commission of experts on energy transition scenarios (*Comissió d'experts sobre escenaris de transició energètica*), published in the state Gazette (*Boletín Oficial del Estado*³) on the 29th of June 2017. This is tasked by the Spanish Government with «analysing possible energy transition scenarios which would guarantee economic competitiveness, job creation and environmental sustainability» to serve as a base for the formulation of the future Law for Climate Change and Energy Transition. The Commission comprises «14 independent and prestigious experts»: all men.

Various collectives, everywhere, have highlighted the generalised absence of women in spaces for discussion and debate. This has led to multiple complaints such as those of All Male Panel; or #OnSónLesDones (#WhereAreTheWomen), centered on the absence of women among the people who give opinions in the Catalan media; or even the expert search tool that the Catalan

3. Boletín Oficial del Estado https://boe.es/diario_boe/txt.php?id=BOE-A-2017-9047

Women's Institute has founded. These ideas do not assume that the presence of women will guarantee a feminist viewpoint, but they are considered a first step: «The presence of women is necessary but not sufficient to represent the feminist viewpoint. For this it is necessary to have feminist women in these spaces» (Soldevila, 2017). That is to say, demanding gender parity everywhere is a question of justice and fundamental rights. But, of course, this does not absolve us of the responsibility of transforming not only the member configuration of these spaces, but also the patriarchal capitalist logic of the centres of political, economic and cultural power.

Despite the practical measures taken which could increase women's access to power⁴ and the progress made during recent decades, the gender distribution of roles and skills which we have inherited continues to be the main obstacle. The ability to speak effectively in public is a skill which has defined masculinity since Classical times. Women were expected to be silent and only permitted to speak in the case of martyrdom or in defence of the home and their own private interests. For more than two millennia deep voices have been associated with authority and high voices with whininess or stridency, and fictions about people in power have used male characters, among other examples (Beard, 2017). These are gender codes rooted in our society to which the energy world is not immune.

But... the women are there!

Despite the challenges, women have found places in the public and professional world, including in sectors traditionally assigned to men, from politics, business management and academia to engineering and technical and mechanical work. However, they continue to be concentrated in activities associated with caring,

4. For example, through equality laws, the implementation of equality quotas, awareness-raising campaigns, etc.

both inside and outside of the home. This is illustrated by the fact that the majority choose care-related subjects (such as teaching or healthcare) for their political or academic careers, or more frequently assume secretarial or organisational tasks. In addition, as long as no feminist viewpoint exists in these sectors, the people who work there, of whichever gender, will continue to perform roles typically associated with the «masculine».

In all walks of life, it is evident that the unjust and oppressive separation of tasks, behaviours and roles by gender has still not been subverted. Even within social movements, chauvinist dynamics are common. In these movements, women are very prevalent but often associated (or more often adopt) invisible or less recognised roles and tasks. Taking minutes, preparing and publicising meetings and organising event logistics are tasks which rarely attract attention or appear in the media, but they are a vital part of any grassroots movement. They may claim that they don't want to do more visible tasks, but the types of tasks they do remain unquestionably under-valued and not enough people «volunteer» to do them (Gimeno, 2017). We should also ask ourselves what stops men leaving the more visible positions and taking on these vital, yet under-recognised tasks.

Let's take the concrete example of the energy movements and the defence of places here and in the Global South.

The prevalent organisational model and agenda is ruled by values associated with the «masculine» – such as competitiveness, rivalry, aggressiveness, the justification of the means by the end, confrontation, etc. – over values historically associated with the «feminine», such as understanding, listening, patience, respect, and others. This dichotomy, despite representing a much more diverse and complex reality, reinforces a dynamic which favours the logic of war as a form of resistance and group bonding. This way of doing things sometimes conflicts with the discussions defending life, nature and peace that the men of the social movements in the South identify with. We must

reconsider the theoretical focus that is associated with practice to reconcile the two and be able to break dichotomistic concepts such as body-mind, war-peace, enemies-allies etc., which bear little relation to the realities associated with the fight for another form of energy supply and consumption, where women tend to fall within the group most affected by the decisions taken, anywhere in the world.⁵

It therefore follows that the feminine is made invisible in these movements, or, if not, that leadership is not accepted except through «masculine» values (Despentes, 2009). It is certain that the fact that there are women taking on leadership roles within activist movements here or in the Global South, does not imply the subversion of chauvinist dynamics and roles within activist or private spheres.

Although it is true that women have mostly been excluded from the energy sector, in some cases this unequal assignment of tasks and attributes has made energy especially appealing to them. In Europe, electricity knocked on their door with the arrival of electrical domestic appliances and the chance to reduce the amount of time spent on household chores. This «historic» moment would, supposedly, enable women to join the workforce, but it had another strange consequence: the «double shift». Women did join the workforce but, in addition, they continued to take care of the households. Whilst women widened their participation in society, men remained locked to their existing functions and seemed unwilling to assume new ones.

Another consequence of the introduction of domestic appliances was an increase in individualism and the loss of the spaces which women had traditionally used to mark their place in society,

5. Personal interview with Ana Aupí (2017) about the feminist perspective and activist movements in the Global South as discussed in her thesis (Aupí, 2016) and the documentary *Y lo poco que nos queda* («And the little we have left»), directed by her and Raquel Rei, available at <https://vimeo.com/174552718>.

create mutual support networks and organise themselves, such as when doing the laundry together. Using appliances for domestic tasks also generated a closer relationship with the resources required to run them. Whilst not suggesting that we should return to hand-washing (neither women nor men), it is important to recover and recognise which uses of energy are most important to sustain life. We need to get closer to them, make them our own and remove them from the profit-focused thinking of the small group of energy companies.

At the intersection of a discussion involving the role of women in social movements, history, and energy, it is also interesting to think about the role that women played in episodes such as the Canadenca strike⁶ or within the energy industry section of the CNT⁷ trade union. The lack of information that we have about their presence reflects the way they have been made invisible, this time, during the construction of our collective memory.

Currently, women are also present in the fight against fuel poverty in our own country, which has gained importance both in the political agenda and in public discourse in recent years. The Alliance against Fuel Poverty (APE, after its Catalan acronym)⁸ is one of the few cases, at least in our country, of an energy protest headed and driven by women, mostly mothers who have lost basic services, or whose supplies are not guaranteed or of poor quality. From this perspective, it is another case of women picking up the microphone in public to resolve issues related to the home. Critical consideration of the case would lead us to recognise a pattern which has repeated for millenia: women can only raise their

6. The Canadenca strike was a historic action initiated in February 1919 that lasted more than forty days and evolved into a general strike. It is notable for managing to engage almost all of Catalan industry and for putting sufficient pressure on the Spanish government for it to agree to legislate on measures including limiting the working day to 8 hours.

7. Confederación Nacional del Trabajo (National Confederation of Labour), a trade union with an anarcho-syndicalist ideology.

8. See *Chapter 4: Energy at the service of the people: guaranteeing universal access to basic services* for more information about this social movement.

voices in defence of the areas which they have traditionally been responsible for, and which they are still too exclusively responsible for. But above all, we need ask ourselves why there continue to be so few men in these types of protest.

In any case, the APE, also inspired by movements such as the *Plataforma d'Afectats per la Hipoteca* (Mortgage Victims' Platform), comprises a group of people who have chosen to collectively resolve problems which affected them individually. In this way, they have been able to learn from each other, empower themselves, and face up to political and commercial powers (in this case, the energy Oligopoly). Starting from the defence of their closest and most essential needs, and fighting for decent housing and a decent quality of life, they have achieved the defence of their rights, empowerment, and experience in civil disobedience and mutual support. Capitalist fiction leads us to blame ourselves, individually, for the failures and miseries we suffer; and in the same way, we look for individual solutions. Against this backdrop, movements such as the APE take individual and private problems, identify common causes of victimisation and fight against them collectively.

This philosophy, although not specifically constructed with ecological or feminist objectives, demonstrates a new set of priorities which we believe should form the basis of our energy and production systems. The APE gives us necessary insight into how the energy model should be transformed: we need to see and interact with energy from an ecofeminist perspective, defining energy as a basic good necessary for a decent quality of life. The APE values domestic and caring tasks historically ignored, both within the movement itself and also in its rights-focused approach and its empowerment of the victims. In its day to day operation, caring and group bonding activities (bringing food, welcoming people, making posters, selling t-shirts, accompanying members to Social Services, etc) are as, or more, important than activities such as advocacy, strategy definition, and manifesto construction (traditionally more visible, recognised, and associated with masculine roles).

At the same time, the APE demands that basic services be used to improve people's quality of life, and no longer be used prioritised for the benefit of business. They highlight perversities within our energy and production system, such as conditional access to energy based on economic capacity. They also highlight the perils of precarious energy access such as heating the home by burning pallets, lighting it with candles or cooking with unsafe or contaminated fuel, of which women and children are the main victims (as they spend the most time close to the home) in low- to middle-income countries (WHO, 2016). The APE has also condemned economic and political practices which ignore both the importance of domestic tasks and the biophysical limits of the planet, whilst guaranteeing the Oligopoly's profits at any cost.

Therefore, we need to prioritise guaranteeing basic services over other, commercial, uses of energy. We need to choose life over capital and, precisely because we are dealing with an individual issue, join forces to make the situation visible. Citizen empowerment, shortening the distance between the energy model and people, and taking control of energy will only come once we recognise ourselves (as well as people everywhere) as victims, today or tomorrow, of the old-fashioned and sick energy model.

There aren't enough women, but they suffer the consequences

As has already been explained in this book, and been discussed for a long time in other places, the energy model we live in threatens people and places all over the world every day: sometimes very directly, sometimes less so. These consequences strike at the heart of a heterogeneous society marked by multiple types of oppression, which stratify privileges and opportunities. Taking this into account, it is relevant to distinguish which impacts of the system affect women differently, or in a more perjurative way, than men. This can also be done for other historically oppressed groups.

For decades, communities affected by energy megaprojects have decried the damage caused to their societies and surroundings on not only environmental, but also social, economic and cultural levels. People have been persecuted, threatened, imprisoned and assassinated for defending their right to decide about their own region, for opposing energy infrastructure, for believing in and fighting for their right to use – and respect – their own resources. We know, however, that in the defence of the homeland, women and men play different roles and are seen differently (AWID & WHRDIC, 2017). Whilst men suffer violence through torture, assassination, imprisonment etc., women have been raped, harassed, and had their lives turned upside down by the imprisonment of their husbands, through having to raise a family alone, or having to take over community leadership roles, which they are allowed to do as the «wife of Mr. X». Although it is true that more and more women are becoming victims of the types of violence traditionally associated with men, such as the well-known case of Berta Cáceres from Honduras, this does not mean that they no longer suffer other types of violence⁹.

The differential impacts do not stop here. Energy studies tend to be done by white, educated men with a high social and economic status, and, as can be expected, from a capitalist perspective. This results in an incomplete picture, the result of excluding the experiences of people with different social backgrounds or ideological perspectives. We need to bring the reality women are living in into the spaces where energy decisions are made. We also need to incorporate other perspectives, such as the ecofeminist perspective, which account for the biophysical limits of the planet and the lives it sustains. The studies need to speak of the things which are impacted and of our basic needs. This is needed since the decisions based on these studies lead to

9. More information is available from the *Iniciativa Mesoamericana de Mujeres Defensoras de los Derechos Humanos* (Initiative for Middle-American Women Defending Human Rights), <http://im-defensoras.org/es/>

concrete policies which affect our lives, in ways which do not always affect men and women equally.

To give an example from outside the area of energy policy, but related to it in some aspects, the adoption of treaties such as the TTIP¹⁰, the TISA¹¹, or the CETA¹² could particularly affect the female population, as well as other socially vulnerable groups. The downward harmonization of European legislation contained in the TTIP, but also in other structural adjustment policies which form the backbone of EU policy, implies a loss of rights across many sectors which can particularly affect women. From an environmental perspective, these treaties could worsen climate problems, due to the production model they promote, as well as reduced (or more precarious) access to basic services. In these situations it has been proved that women can be more affected by problems such as pollution, as they are more exposed to them (WHO, 2016; Valls-Llobet, 2010). Considering health, these treaties have also been condemned for consequences such as the medicalisation of the female reproductive cycle (López, 2015). Finally, impacts relating to food security have also been identified, such as access to information about where food comes from, and access to a decent diet. Despite being issues which affect both men and women, there are still many societies where women are in charge of organising food production, and the preservation and exchange of seeds (Cazorla & Gartor, 2014). These treaties also affect the energy rights and the energy sovereignty of all of us, which are threatened by the dominance of a fossil fuel-based, profit oriented energy model, the possibility of expanding energy extracting (fracking, oil sands...) etc.. This in addition to the threat posed to (re)municipalisation by these treaties, by enabling companies to take States and administrations to court (ISDS).

10. Transatlantic Trade and Investment Partnership.

11. Trade In Services Agreement.

12. Comprehensive Economic and Trade Agreement.

The direct consequence of these impacts (both those affecting particular groups and those affecting society in general) is a more vulnerable society and a consequent increase in the need for care to compensate. The impacts of the energy (and socioeconomic) system show how we are degrading our planet and leaving more and more people abandoned and left to depend on luck or the support of those around them. The larger demand and need for mutual support networks requires a larger investment of time in care tasks, which are mainly assumed by women:

This increased dedication to unpaid work which a large part of the female population undertake has a negative influence on their quality of life, through limited access to the labour market, less available time for taking on paid work, health impacts and reduced access to social and political participation, among others. (Vicent et al., 2013)

All of this in a time where income generation is very difficult or impossible, opportunities are limited, and life is precarious. Therefore, the care crisis overlapped with the environmental crisis, and was later aggravated by the last economic crises and the resulting policies for reducing public debt (in reality privatisations, spending cuts and direct attacks on basic rights).

In general, the process of economic liberalisation generates open spaces for competition where the vulnerabilities of different groups are not recognised. It is based on the principle of «competing when we know we'll win» which is opposed to the ecofeminist perspective and the principles we use to heal our bodies, which require us to recognise vulnerabilities at different levels, and know the individual characteristics of each. It is key to take into account that these vulnerabilities are multiple and can interact with each other: for example, gender is a risk factor for suffering fuel poverty (González, 2016) or restricted access to participation in energy decision-making, but so are age, disabilities, housing type, or the

town, country or continent a family lives in. Within the Network for energy sovereignty we are aware that this convergence of oppressions and vulnerabilities in one place, as well as accentuating impacts (in this case, of the energy model), also comes into play when demanding rights.

Therefore, the right to decide, which we recognise as a core element of the Xse's proposal for energy sovereignty, can only be exercised from within a scenario of equality: equality between societies, of course, taking into account the oppression resulting from the capitalist-neocolonial system in the regions where raw materials are extracted, but also between genders. If women are excluded from decision-making, if we don't feminise certain professional areas or if we don't recognise the care debt required to make the current system viable, it will not be possible for women to exercise their right to decide; neither will it be if we can't make this right lead to a change in our thinking and objectives (a prioritisation of the reproduction and sustainability of life over commercialisation and profits).

The Xse puts as much emphasis on the future protagonist of the energy revolution as on its content. Therefore, in the same way that we are against a renewable model run by the Oligopoly, or a Barcelona Energy Operator if this does not imply active public participation, we will not accept a renewable model that does not recognise bias and oppression on the basis of gender. Energy sovereignty cannot be «not feminist», in the same way that it cannot only involve the North. It does not make sense to aspire to community-based models of management and governance in Catalunya, the Spanish state or the EU without highlighting (and fighting alongside) communities in the South without access to electricity which are nonetheless disrupted by power lines or fuel extraction. Neither does it make sense to do so without highlighting (and fighting alongside) the women worldwide who bear the weight of caring duties imposed by capitalist, patriarchal, neocolonial system through dispossession and impoverishment.

Here we go: ecofeminist perspectives and proposals for energy

Knowing the current energy model, and being aware of the absence of women, presented in the first part of this chapter, their presence, presented in the second, and the impacts the system has (including differential impacts), we can propose new ways to reconcile our energy needs with available natural resources from an ecofeminist viewpoint.

Currently energy is controlled by large companies focussed on resource extraction and wealth accumulation. The energy sector (along with the construction and property sectors) is a sector that allows exponential generation of profits and financialisation of the economy, as it lies at the base of the production system. Despite the fact that we only hear of the number of unpaid bills owing to the large companies of the Oligopoly and their apparent disinterest, the use of energy for sustaining day-to-day life is very profitable in a neoliberalist system. Economic activities associated with basic services are commercially attractive activities which need to be protected from the profit-based thinking of the market and placed at the service of the people. This should be done not only for those activities relating to supply, which are the last link in the chain, but all the activities which comprise the energy model by, for example, taking control of microhydropower plants and other renewable infrastructure.

Therefore, energy should be at the service of the people, with life as its ultimate purpose, focused on sustaining life and not generating capital. More concretely: energy should be used to improve people's quality of life. This implies, for example, consumption and environmental impacts should be decreased in the Global North, so that in the Global South people can access the energy resources they need to sustain and enjoy life.

It is insufficient that women (re)take positions of power within the energy sector, such as in the new professional niches in renewable energy. Rather, we (both women and men) need to

change our perspective. We need to make an effort to resist thinking which destroys life and fight for thinking which protects and reproduces it. We must understand which systems, models and uses fit with this thinking and make them possible: make them visible, understand them better, demand them, and find the small footholds we need to begin to construct them.

The recuperation of microhydropower plants in Aragon (Heraldo, 2017), the successful community resistance campaign against Hidro Santa Cruz in Barillas, Guatemala (Soy502, 2016) and the over 20 green energy cooperatives in the Spanish state with more than 80,000 members (Larrañeta, 2017) are just some of the movements which are beginning to shake the walls of the current energy model. To a greater or lesser extent, all of them are based on the idea that energy is a common good, and as such, its flow should be preserved. What is more, some of them have, in the background, a focus on the sustenance of life.

It is vital that the whole population (and not just experts) participates in all aspects of energy which have impacts on people or places. Our dysfunctional energy model cannot be repaired if we only think in kWh and technology change. Instead, we need to reflect on the democratisation of energy, and how all of us could have increased sovereignty over energy. It is essential that we make initial efforts to spread information, that we end the knowledge hierarchy, or, in any case, we recover the knowledge we need to sustain life (whether or not this comes from experts). It is also imperative that we ensure that the spaces for participation in energy enable a balance between work, activism and family life, and that we respect personal routines, give value to necessary but invisible tasks and take care of vulnerable people. This would, in practice, be an ecofeminist way of looking at the energy model in which we would like to live and the struggle required to make it come about.

Despite the consequences of the capitalist system, based on extractivism, profit and patriarchy, and the inevitable obstacles its machinery will lay in our path, we are working to build a livable

alternative for ourselves. An alternative considering, at its core, our dependence on the time and attention provided to us by others; the resources and material cycles of our planet; and the energy we need to live a decent life. An alternative which understands where energy comes from, what the limits to its procurement, distribution and consumption are, the uses we make of it as a society, and the impacts of this. We are working to re(localise) the flows of energy, bringing it closer to us, the people, so that it can serve life instead of destroying it, whilst at the same time preserving the natural environment that allows us to enjoy it. Let's take care of each other, all of us, and break the exclusive inequalities which are created by the current system and which aggravate its impacts.

Acknowledgements

Much of the content which fed the ideas of this chapter came from *Energy and Gender: ecofeminist energy perspectives*, a debate organised by the Network for energy sovereignty on the 24th April 2017 in Lafede (Barcelona). Therefore, we acknowledge the rich contributions made by all those that decided to attend. Materials from the debate can be found at www.xse.cat.

Bibliography

- ATREVIA & IESE (2017), «Quinto informe de las mujeres en los Consejos del IBEX-35», available at: <http://www.iese.edu/Aplicaciones/upload/PPTMUJERESIBEX352302FINAL.pdf>.
- AUPÍ, A. G. (2016), «Estás conmigo o contra mí: ¿Y por qué nos hemos hecho tanto daño?», MSc thesis, Universitat de Barcelona, Barcelona.
- AWID & WHRDIC (2017), «Weaving resistance through action: strategies of women human right defenders confronting extractive industries», available at: : https://www.awid.org/sites/default/files/atoms/files/eng_weaving_resistance_through_action-web.pdf.

- BEARD, M. (2017), *La veu i el poder de les dones*, Arcàdia, Barcelona.
- CAZORLA, O. i GARTOR, M. (2014), «Mujeres campesinas, guardianas de las semillas», *La Marea*, available at: <https://www.lamarea.com/2014/04/17/las-mujeres-campesinas-guardianas-de-las-semillas/>
- DEL CAMPO, A. (2017), «Empoderamiento, mujeres y soberanía en la necesaria transición energética», *Viento Sur*, n. 151, April 2017
- DESPENTES, V. (2009), *Teoria King Kong*, Melusina, Barcelona.
- ERNST & YOUNG (2016), «Women in Power and Utilities. Index 2016», available at: [http://www.ey.com/Publication/vwLUAssets/ey-talent-at-the-table-women-in-power-and-utilities-index-2016/\\$FILE/ey-talent-at-the-table-women-in-power-and-utilities-index-2016.pdf](http://www.ey.com/Publication/vwLUAssets/ey-talent-at-the-table-women-in-power-and-utilities-index-2016/$FILE/ey-talent-at-the-table-women-in-power-and-utilities-index-2016.pdf)
- GIMENO, R. (2017), «Ellas terminan haciendo las tareas ingratas de la oficina... y eso perjudica su carrera», *Retina, El País economía*, available at: <https://retina.elpais.com/>
- GONZALEZ, I. (2016), «Desigualtat de gènere i pobresa energètica: un factor de risc oblidat», *Enginyeria Sense Fronteres*, available at: <https://esf-cat.org/wp-content/uploads/2017/03/ESFeres17-Desigualtat-de-genere-i-pobresa-energetica.pdf>
- HERALDO (2017), «Acciona entrega la central hidroeléctrica de campo al Estado tras acabar plazo de concesión», available at: <http://www.heraldo.es/noticias/aragon/2017/08/03/accion-a-entrega-central-hidroelectrica-campo-estado-tras-acabar-plazo-concesion-1190115-300.html>
- LARRAÑETA, A. (2017), «Las cooperativas de energía verde suman socios debido a la escalada del precio de las luz», *20minutos*, available at: <http://www.20minutos.es/noticia/2940559/0/cooperativas-energia-verde-precio-luz/>
- LOPEZ, C. (2015), «El TTIP y la necesaria perspectiva de género», available at: <https://lapoliticayyo.wordpress.com/2015/02/09/el-ttip-y-la-necesaria-perspectiva-de-genero/>
- Ministerio de Educación, Cultura y Deportes. (2017), «Las cifras de la educación en España. Curso 2014-2015», available

- at: <https://www.mecd.gob.es/servicios-al-ciudadano-mecd/estadisticas/educacion/indicadores-publicaciones-sintesis/cifras-educacion-espana/2014-15.html>.
- WHO (2016). «Contaminación del aire de interiores y salud», *Fact sheet no. 292*, available at: <http://www.who.int/mediacentre/factsheets/fs292/es/>.
- SOLDEVILA, L. (2017), «Tània Verge i Isabel Muntané: Fins ara hem tingut interioritzat que l'autoritat és masculina», *Crític*, available at: www.elcritic.cat/entrevistes.
- SOY502 (2016), «Hidro Santa Cruz se retira de Guatemala tras ocho años de conflicto», available at: <http://www.soy502.com/articulo/hidro-santa-cruz-anuncia-retiro-guatemala-29974>.
- VALLS-LLOBET, C. (2010), «Contaminación ambiental y salud de las mujeres», *Investigaciones feministas*, available at: <http://revistas.ucm.es/index.php/INFE/article/view/8550>.
- VICENT, L. *et al.* (2013), *El desigual impacto de la crisis sobre las mujeres*, Fuhem, Madrid.

V. FINANCING THE TRANSITION TO ENERGY SOVEREIGNTY: A HUGE CHALLENGE

According to the majority of official discussions, it seems that a real transformation of the energy model with inevitably require the mobilisation of a large quantity of economic resources. The debate continues, however, over which funding sources, tools and instruments could be used and which of the existing proposals should be funded. Unlike previous energy transitions, the one we are currently facing has an element of urgency which calls for speed, exacerbated by a global capitalist socioeconomic model calling for a growing amount of energy. The transitions from wood to coal and from coal to petrol were slow and started in a partial way. The changes in fuel responded to regional realities, or the exhaustion of a resource, or the consequences of pollution. Now, however, we are facing the obsolescence of the non-renewable model because, as we have seen, the extraction, supply and massive consumption of fossil fuels is the principal cause of climate change, and because fossil fuels are irreversibly running out on a human time-scale. The time for action is short and we have to take on the challenge of substituting the entire fossil model within little more than 30 years, and this urgency affects how the transition is to be financed.

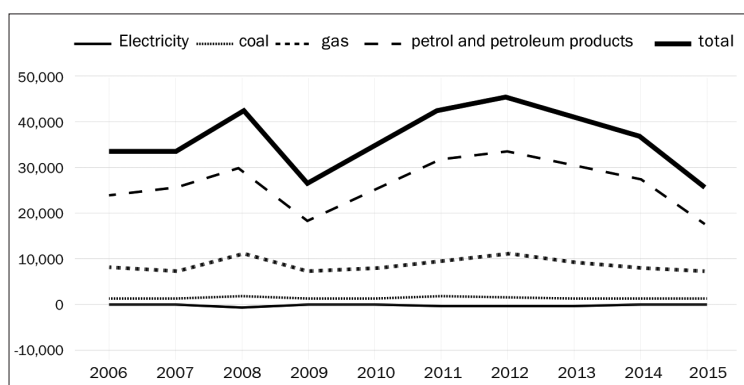
What are the economic costs of the fossil and nuclear fuel regime?

Without wanting to go into an exhaustive description of the costs of the fossil and nuclear fuel regime, and the numerous subsidies

supporting it, it is useful to point out that, for the majority of EU states, energy imports represent a considerable proportion of spending. Looking at energy dependency from a strictly economic angle, both exporting and importing countries are vulnerable to volatile energy prices, which rise and fall severely enough to shake economies.

In the case of the Spanish state, spending on energy resources represents close to 5% of total GDP, with peaks such as in the year 2012 when nearly 50,000 million euros was spent (figure 4). This represents a real haemorrhage of resources which end up feeding oil, mining or gas companies (Llistar & Pérez, 2016).

Figure 4
Commercial energy deficit (millions of euros)



Adapted from Llistar & Pérez (2016).

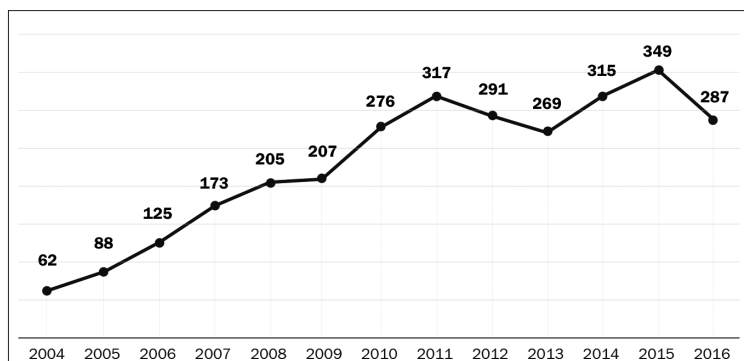
Therefore, we can't ignore the fact that each kWh saved or generated renewably which replaces a fossil kWh will reduce import costs, without even considering the negative externalities avoided such as atmospheric pollution or greenhouse gas emissions. We can also take into account all the paraphernalia required to obtain energy resources: multimillion euro infrastructures such as mines, supply chains, kilometres of cabling, ports for imports and exports, refineries and treatment plants, storage facilities, and many others.

What are the current plans for financing the energy transition?

As we said at the beginning of this chapter, there is general consensus that a large amount of capital needs to be mobilised to enable the energy transition. In the year 2012, the «Energy technology perspectives» report from the International Energy Agency (IEA) estimated the required investment in clean energy up to 2050 at 36 billion dollars (IEA, 2012). Two years later, the same report gave a figure of 44 billion (IEA, 2014), and by 2017 the number had risen to 3.5 billion dollars a year until 2050 (IEA, 2017).

According to Bloomberg New Energy Finance, in the year 2013 only 269,000 million dollars were mobilised. Bloomberg claimed that five times this investment was necessary, and that this increase should be maintained for the next 35 years, a goal which seems far from being reached, based on data from past years (figure 5).

Figure 5
Annual global investment in clean energy (billions of dollars)



Elaborated using data from Bloomberg New Energy Finance (2017).

Revising similar literature from other international organisations, such as the International Monetary Fund, the World Bank or the European Union, we find similar discussions: calculations

of the monetary effort required resulting in astronomical figures, and the conclusion that we need to «increase investment». Such consensus and such strong statements lead us to two reflections. The first is that investors are deliberately being courted and being told «here are business opportunities»: opportunities now and in the future, supported by prestigious entities and involving attractively large volumes of investment.

The second is to ask ourselves what is included in these large numbers. Knowing the ideological slant of most of the actors adding these innumerable zeros to the price of the transition, we will notice a strong strategic alignment. They are organs that serve, feed and stimulate economic and financial capitalism, and they quantify and monetise the future energy transition without considering any change to the socioeconomic system of which they form a structural part. What these «System As Usual¹» internationals are looking to do is support growth-based economies by promoting the energy transition as a business opportunity. But «it's the economy, stupid²», and stupidity projected into the future is extremely expensive!

It must be noted that there are other perspectives which question the dogma of economic growth and advocate considering the limited availability of natural resources and global problems such as climate change when discussing socioeconomic reform. The «degrowth» movement is one such paradigm. It proposes a reduction in consumption of material goods and their substitution with relational goods, frugality, austerity and the relocalisation of the economy as its core principles.

1. The phrase «System As Usual» is a parody of the phrase «Business As Usual», which is used in cases where alternative scenarios are analysed by varying certain variables. The «Business As Usual» scenario is that where variables and trends are fixed at their current values.

2. This phrase was used successfully in Bill Clinton's 1992 election campaign during the economic recession in the USA, and has become a way of expressing that which is obvious but which, for private interests, it is convenient not to acknowledge or recognise.

In the Global South we can find indigenous worldviews which speak of the good (common) life or of living well, with a strong biocentric component that puts life, respect and coexistence with other living beings at its centre. In these worldviews, the price of the energy transition has considerably fewer zeros because a transition could happen without complex structural change and with a drastically reduced demand for energy.

But let's return to more conventional viewpoints and their «stupidity». The financing mechanisms for achieving the EU's 20-20-20 objectives (the «Europe 2020 Project Bond Initiative»), is an illustrative example. Project Bonds are financial instruments which help to capture investment. These particular bonds were intended to help achieve a 20% emissions reduction with respect to 1990, arrive at 20% renewable energy production in the electrical energy mix and improve energy efficiency by 20% by 2020.

In the year 2010, José Manuel Durao Barroso, the then President of the European Commission and current President of Goldman Sachs (a common professional switch between friendly organisations) claimed in his State of the Union speech that 2 billion euros needed to be mobilised in the transport, energy and ICT sectors to reach the 2020 objectives. To enable this, the European Investment Bank (EIB) was called on promote the Project Bonds initiative³.

The first phase of the EIB bonds involved two infrastructure projects: a motorway and a gas storage facility. First question: are motorways and gas storage really the best ways to reach the 20-20-20 objectives? Yes, according to the EIB and the Commission. So, let's dig into the detail of the results of the pilot. The first project, the Passante di Mestri motorway, uncovered one of the biggest corruption scandals in Italian history and led to the imprisonment of politicians and businessmen (Re:Common, 2016). The second, a geological underwater Castor gas storage facility, caused

3. European Investment Bank <http://www.eib.org/products/blending/project-bonds/index.htm>.

earthquakes in Sènia when it was first opened. Due to the tremors, the infrastructure was deactivated and the express liquidation of the multimillion euro indemnity was ordered. Florentino Pérez, the President of ACS in 2013 and a main shareholder at Castor, was able to reject the project and claim back every cent invested in it. The sum of the indemnity and associated interest was paid directly from the pockets of gas users, who paid 3,280 million euros over 30 years⁴.

People unfamiliar with this type of investment might think: how were the EIB and the Project Bonds Initiative responsible? The EIB has internal mechanisms for analysing and closely monitoring the economic, social and environmental impacts of its investments. It is a public bank and has to take these precautions. But the investments were hurried. In the Castor case, one of the payment deadlines for the project bond exerted a lot of pressure for the indemnity to be implemented.

Far from evaluating the pilot phase of the project bonds critically, the European Commission proposed their universal use for Projects of Common Interest (PCI) and for the European Fund for Strategic Investments (EFSI), also known as the Juncker Plan. The PCIs are the manifestation of the Energy Union's European strategy, which aims to improve the energy security of the EU and strengthen internal markets. The PCIs are projects for the interconnection of gas and electricity supplies, which often cross borders between member states and between the EU and Algeria, Azerbaijan, Turkmenistan, Iceland and Israel. These huge gas pipelines and extremely high voltage powerlines have multimillion euro budgets coming from large transnational companies, and, as well as benefitting from Project Bonds, they receive direct public funding through funds created for this purpose. This is the case of the Connecting Europe Facility (CEF),

4. *Ecologistes en Acció, Observatori del Deute en la Globalització, Plataforma per l'Auditoria Ciutadana del Deute & Plataforma Ciutadana en Defensa de les Terres del Sènia* http://www.odg.cat/sites/default/files/comunicado_castor_final.pdf.

which was given 5,350 million euros for funding PCIs in the period 2014-2020⁵. The use of public funds for the PCIs has been criticised by organisations which consider such mega-infrastructure unnecessary and believe in a distributed, renewable energy model (Pérez, 2017).

We see the same happening in the case of the EFSI: public money is used to support and reassure investors. In this case, the fund is meant to provide 315,000 million euros for European infrastructure. The mechanism for gathering this large sum is that the European Union will contribute 16,000 million in government guarantees, the EIB will contribute 5,000 million and private investment will make up the rest. In this case, main criticisms concern the lack of information about how projects are prioritised. Is it more important that the project plays a role in the energy transition or that it is financed, and therefore attractive? We can find the answer in a fragment of the report on the state of the Energy Union⁶ from 2015.

Financing investments in energy efficiency continues to be a significant challenge. Investments need to effectively increase five-fold by 2030. As a first step, the European Commission, in collaboration with its members, created mechanisms for aggregating small energy efficiency projects. These mechanisms were intended to give investors larger investment opportunities in energy efficiency and make capital more accessible for national, regional and local energy efficiency platforms and programmes, especially in the states with the greatest need for them.

What does all of this tell us? That small projects have trouble finding funding. Large banks and the financial schemes they use favour mega-projects and the large corporations behind them. The BIG-BIG-BIG model (big projects, big investments, and big

5. European Commission <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-energy>

6. The Energy Union is a European Commission strategy which, according to its promoters, was formed to make energy more secure, clean and accessible.

companies) captures both the attention and economic resources of investors and subordinates small projects. This has large repercussions for how the energy transition will pan out and who will direct it.

Which ideas can break the BIG-BIG-BIG philosophy?

Numerous ideas for financial instruments exist which do not come with the risks discussed earlier, and which could help democratise the energy transition. These ideas still need much support to arrive at the volume and availability of funding required but they are examples of another way of doing things.

Ethical banks and credit cooperatives such as Triodos Bank, Fiare, Coop57, Oikocredit and others offer products which fund energy transition projects. Their investment criteria and ethical codes are a necessary filter to ensure that funding get to transformative projects. Many of them fund renewables, energy efficiency projects and other projects within the area of environmental sustainability. Triodos, for example, has financed more than 400 projects, entities and SMEs in the energy sector⁷.

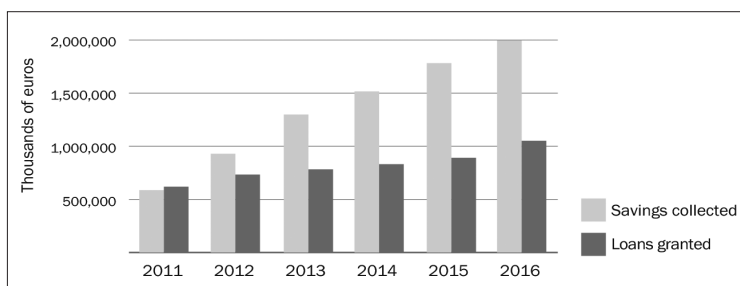
The last evaluation of ethical finance⁸ showed the total sum of loans given by ethical finance entities⁹ in 2016 to be more than 1,000 million euros (figure 6). Although this is a considerable sum, it should be noted that this includes all types of loans, not only those related to the energy transition, and remains considerably less than the large figures mentioned previously.

7. Triodos has also been criticised for financing companies such as Abertis, Enagás, BMW, Renault and Volkswagen.

8. *Finançament Ètic i Solidari* <http://fets.org/wp-content/uploads/2017/05/BAR%C3%92METREFINANCES%C3%88TIQUES.2016-alta.pdf>

9. Includes Triodos España, Fiare Banca Etica, Coop 57, Oikocredit España, Acció solidària contra l'atur ideas comercio justo, Banca Etica Badajoz, GAP, Estalvi Solidari, Elkarcredit, ABA Mérida, ACAE, AIS O'Peto, Fondo de solidaridad «Paz y Esperanza»

Figure 6
Evolution of savings and loans 2011-2016



Elaborated using data from the 2016 ethical finance study.¹⁰

Another method for financing the energy transition is through service cooperatives that offer integrated guidance to projects. An example is Energy4All in the UK, which assists communities who want to start renewable energy projects with its experience in industry, finance, administration and law. Its focus is on involving the community in the project from the beginning so that they feel ownership for the project, become empowered and create their own forms of organisation. This way of carrying out projects dilutes the NIMBY («Not in my backyard») effect, by which local communities reject projects they consider alien, and ensures a better alignment of the project with the local territory.

Another idea is crowdfunding, which works by accumulating contributions from people interested in the project. There are numerous successful examples of crowdfunding such as «Errekaleor», «Som Energia» and «Viure de l'aire del cel».

Errekaleor is a neighbourhood in Gasteiz (Spain) built in 1959 to accommodate people from all over the peninsula who came to work in factories. Over time, those families left the neighbourhood and in 2013 a group of students decided to occupy it. After

10. *Finançament Ètic i Solidari* <http://fets.org/wp-content/uploads/2017/05/BAR%C3%92METREFINANCES%C3%88TIQUES.2016-alta.pdf>.

Iberdrola disconnected their electricity supply on the 18th May 2017, they started a coopfunding campaign for 100,000 euros to build a 70kW installation which could guarantee the energy required by the community. «Errekaleor bizirik!!»¹¹ collected more than 108,000 euros in 40 days and successfully implemented their project¹².

Another crowdfund campaign came from the green energy cooperative Som Energia, which offered members the opportunity to participate in collective purchase projects. In 2015, the cooperative planned to buy the 1MW microhydropower installation La Valteina in Peñafiel, Valladolid. The voluntary contributions of capital gathered by the cooperative for the acquisition of the installation reached 900,000 euros in less than two hours. In 2017, they planned another initiative, this time to buy three photovoltaic plants: Planta de Tahal in Tahal, Almeria (841kW), Planta La Florida in Lora del Río, Seville (1.5MW) and Planta Matallana, also in Lora del Río (2MW). The 5 million euros required were obtained in 10 days, despite limiting the participation of each member for the first few days. Som Energia has also started an even more innovative financing method that breaks with the usual ideas of return on investment: the Generation kWh. Differently to capital contributions which earn an annual interest set by the committee (1.75% in 2017), contributions to Generation do not earn interest. However, the people who contribute can enjoy a Generation energy tariff where the price is determined by cost of running Som's energy plants, which is significantly lower than the standard tariff 2.0.

Lastly, the project «Viure de l'aire del cel» («Living from the air of the sky» in Catalan) has managed to install a 2.35MW wind turbine in the town of Pujalt (Alta Anoia), through the participation of people and organisations. The turbine, owned jointly, generates clean, green energy using the «air of the sky»

11. Errekaleor lives!! in Basque.

12. Errekaleor bizirik! <https://www.errekaleorbizirik.org/index.php/es/>.

and generates enough to supply 2,000 families. One funding idea is to compensate CO2 emissions by calculating the consumption of a person, family or business and working out how much it would cost to produce this amount of energy from the turbine. Shares in the turbine could then be sold to offset these CO2 emissions¹³.

Is this enough?

Despite growing interest in ethical finance and its use for energy projects, more and more successful autonomous and collective experiences, and the growing amounts of committed people and capital accumulated by green energy cooperatives, the answer to this question is certainly: no, it isn't enough.

It is important to stress, however, that the diversity and heterogeneity of the projects we have described are enormously necessary: they reach places that profit-seeking initiatives can't. This «capillary action» is their great strength.

Although we strongly believe in the ideas discussed, we have to recognise that, whether we touch on structural ideas about how and what we produce and consume, or try to bring about a deep transformation which will include a large renovation of technology, we need to find funding.

In the previous sections we have spoken of private finance, but what about public funds? The proclaimed scarcity of public funding and tough austerity context do not seem to apply to the energy sector. If we were able to assess all the payments made to energy systems from public funds and evaluate their efficiency, the idea that private management is more effective and efficient might be disproved. If we take the Spanish electricity system and assess the impacts of its privatisation in since 1998, we can see that many payments have been made which have little to do with the production and supply of electricity but which do offer

13. Viure de l'aire <http://www.viuredelaire.cat>.

juicy profits to the large companies of the electricity Oligopoly. Some studies estimate the total value of these payments at over 100,000 million euros (Cotarelo, 2015). Auditing the electricity system would undoubtedly shed light on the situation and aid decision-making which avoids wasting public funds by slipping them into the pockets of large companies.

But we can go further. The Network for energy sovereignty has always promoted a localised, bottom-up energy model. The ownership and management of this at local level could be another source of funding for the energy transition and an opportunity to formulate local energy policies. For example, if municipalities offered their own electricity supply (both distribution and sale), the profits could be reinvested in municipal or county energy transition programmes. As discussed in *Chapter II: Taking energy back: (re)localisation and distribution networks*, it is essential that the government model for these services guarantees citizen participation, but it is also essential to open debate on why there is seemingly little interest from all stakeholders in a regulated activity paid for with public funds. In 2016, of the 5,163 million euros spent on distribution, 93% ended up with the electricity Oligopoly. If, in addition, we consider that these companies do not carry out the work themselves but instead outsource it, keeping a profit margin, we have to ask if this is really the most efficient way of spending public funds.

If we want to take another step further and find ways to find funding quickly (don't get scared!) we need a public bank. 10 years after the financial crisis, the amount of public money given to private banks is an estimated 60,000 million euros, and this will never be returned. This accumulation of capital in the hands of the financial sector and its alignment with the family of large energy companies leads us to think that, if the change of model happens in this context, it will be a captive transition, allowed only in accordance with the interests of these actors.

The *Banca Pública* (Public Bank) is also the entity that the PSOE (Spanish Socialist Workers' Party) finished with the purchase of

Argentaria by BBV in 1999¹⁴. And no, this isn't returning to the past, on the contrary. Many so-called «advanced» European countries, which are criticised for their expansionist economic policy, have public banks. Germany has the KfW (*Kreditanstalt für Wiederaufbau* – Credit Institute for Reconstruction), a public bank that finances energy efficiency projects and promotes the German energy transition, known as the *Energiewende*. France has the *Caisse de Dépôts* (Post Office Bank), and Iceland and the Netherlands nationalised the banks BNG and BNWB during the financial crisis.

Conventional private banks would rather invest in one 100 million euro project than 100 million euro projects. In the same way, they prefer to sign a simple mortgage than analyse a complex technical energy project. We need a bank that prioritises social and environmental responsibility and decisively supports the energy transition (Centelles, 2017).

In conclusion, with this combination of ethical banks and cooperatives, service cooperatives, autonomous projects, collective finance, (re)municipalisations and the central pillar of a public bank, it seems possible to advance towards energy sovereignty. If we want to own energy, we have to be especially careful, and ambitious, in using this array of financing options.

Bibliography

International Energy Agency (2017), «Perspectives for the Energy Transition», available at: https://www.energiewende2017.com/wp-content/uploads/2017/03/Perspectives-for-the-Energy-Transition_WEB.pdf.

14. The PSOE (Partido Socialista Obrero Español, Spanish Socialist Workers' Party), a social democratic party, started an intensive privatisation process during the 1990s during which public companies such as Telefónica (telephone), Endesa (energy), Repsol (energy), Tabacalera (tobacco) and Argentaria (banking) passed into private hands. Argentaria was created through a merger of various banks and public credit entities and was finally privatised through its integration into the Banco Bilbao Vizcaya in 1999.

- (2014), «Energy Technology Perspectives 2014», available at <http://www.iea.org/publications/freepublications/publication/energy-technology-perspectives-2014.html>.
- (2012), «Energy Technology Perspectives 2012», available at: <http://www.iea.org/publications/freepublications/publication/energy-technology-perspectives-2012.html>.
- Bloomberg New Energy Finance (2017), «Global Trends in Energy and Electric Mobility», in https://www.agora-energiewende.de/fileadmin/Projekte/2017/VAs_sonstige/Clean_Energy_Electric_Mobility/Liebreich_Global_Trends_Event_10052017.pdf.
- CENTELLES, J. (2017), «Cómo financiar la transición energética», [eldiario.es](http://www.eldiario.es/alternativaseconomicas/Energia-renovables_6_624747546.html), available at: http://www.eldiario.es/alternativaseconomicas/Energia-renovables_6_624747546.html.
- COTARELO, P. (2015), *El cost real de l'energia*, Observatori del Deute en la Globalització, Barcelona.
- LLISTAR, D. & PÉREZ, A. (2016), *El acaparamiento energético del Estado Español*, Observatori del Deute en la Globalització, Barcelona.
- Observatorio de Multinacionales en América Latina (2008), «Atlas de la Energía en América Latina», available at: http://www.bibliotecavirtual.info/wp-content/uploads/2011/04/Atlas_Energia_1.pdf.
- PÉREZ, A. (2017), *La Trampa Global del Gas*, Rosa Luxemburg Shiftung, Brussel·les
- Re:Common (2016), «Highway to Hell - European money fuelling controversial infrastructure projects», available at: http://www.counter-balance.org/wp-content/uploads/2016/04/HIGHWAY-TO-HELL_web-1.pdf.

VI. EXPERIENCES IN THE GLOBAL SOUTH: RESISTANCE AND ALTERNATIVES FROM IMPOVERISHED COMMUNITIES

From the beginning, the Network for energy sovereignty has been well aware of the external impacts of energy models. We've put on our bifocals to see the impacts and act locally, whilst also looking far away to connect with other peoples and communities who are suffering the negative impacts of the current energy model and whose tenacity and collective organisation are a source of inspiration in our own resistance.

We think it makes no sense not to. The EU, the Spanish state and Catalonia are all highly dependent on energy imports. Therefore, to discuss energy in Europe also implies discussing territories well beyond our borders.

Despite this, European (and also Spanish and Catalan) institutions focus only on risks to importing countries through power outages when they analyse these dependencies. Despite what one may think, EU energy policies are aimed at securing supplies and not at reducing dependency. Energy security doctrine perpetuates these dependencies through actions which may be more or less aggressive, depending on the context, but which definitely do not seek to increase self-sufficiency or to unravel the tangle of unequal relationships established with exporting territories (Hildyard, Lohmann & Sexton, 2012).

It is especially important to understand that these dependencies also affect exporting countries, especially their populations.

When energy extraction activities dominate, extractivist regimes are born with certain common characteristics: national budgets highly dependent on the sale of energy resources and an increase in domestic consumption, deindustrialisation (or no industrialisation) of other sectors and the emergence of national and transnational elites which control the lion's share of the business. This last point is key to understanding the profound asymmetries generated by the fossil fuel model. In countries with a long history of fuel extraction, such as Nigeria, Equatorial Guinea, Algeria, Qatar or Saudi Arabia, a large proportion of the population lives below the poverty line. In many cases, the population is impoverished by the riches found beneath their soil. It is the so-called paradox of plenty: communities which inhabit regions rich in natural resources do not benefit from them, instead suffering environmental consequences such as pollution, water stress, land grabs and so on.

It is also important to be aware of the numerous countries which are just beginning to enter the energy export market. International organisations such as the International Monetary Fund use their annual reports to countries like Mozambique (Melina & Yi, 2013) and Tanzania¹ to encourage them to use public funds to enter the export market for fossil fuels, assuring them of short- and mid-term profits. In a similar way, the EU, using energy diplomacy in its hurry to find suppliers outside the zone of influence of the Russian Federation, stimulates extractivism in countries including Azerbaijan, Israel, Lebanon, Angola and Colombia.

Sadly, we can find many examples of mechanisms described in the previous paragraphs. In Nigeria, more than 30 years of oil and gas exploitation by companies such as Shell and BP have devastated the extraction zone of Ogoniland in the Niger delta. Local populations suffer from air pollution, loss of fertile soil and a dramatic fall in fish populations, whilst transnationals make abundant profits. In Algeria, on the other hand, it is national elites who control most of the business in hydrocarbons, buying

1. International Monetary Fund <http://www.imf.org/>.

peace by subsidising basic products and maintaining low gas and petrol prices. The strong dividing line between the rich North of the country and the impoverished South it feeds on generates tension, which reached a peak in 2015 with the controversial decision to use fracking to further exploit oil and gas resources. The Amazigh community in the south revolted to defend its aquifers, and forced the Bouteflika government to back down (Pérez & Hamouchene, 2016). The case of Azerbaijan, a brand new energy ally of the European Union, is also illustrative. One family has ruled the Caucasian republic since 1991. In 2012 Ilham Aliyev, who succeeded his father as leader, was named the most corrupt of the year by Transparency International². It is well known that the Aliyev family makes money from selling oil and gas, and systematically represses anyone who opposes the regime (European Stability Initiative, 2012).

A good bad example: Colombia

Despite not being generally associated with energy issues, Colombia is a country full of energy conflicts. According to the English NGO ABColombia, 80% of violations of human rights or international humanitarian laws in Colombia have happened in energy-producing or mining regions (Balch, 2013). Both the EU and the Spanish state have strengthened their relationships with Colombia regarding energy through increased energy imports and the penetration of European (especially Spanish) companies into Colombian markets. That is to say, Colombia is entrenching its role as an extractivist exporter of raw materials to serve European needs, by exporting coal for electricity generation, and also promoting the deregulation of its electricity sector to allow entry to large European energy transnationals. And all of this has consequences. Therefore Colombia is, sadly, a good territory to choose for evaluating the impacts of this wave of extraction and

2. Transparency International <https://www.transparency.org/>.

deregulation, an evaluation which can also be extrapolated to other parts of the world.

Of all the current conflicts, we will go into detail for three cases which connect with other chapters of this books and which have suitable characteristics to explain how the current transnational system works: i) coal mining for export in the regions of Cesar and La Guajira, ii) electricity distribution in the Caribbean region managed by Electricaribe, a company which forms part of Gas Natural Fenosa, and iii) the construction and operation of Quimbo hydroelectric plant in the region of Huila, run by Emgesa, a Colombian branch of Endesa, S. A.

Coal mining for export in the regions of Cesar and La Guajira

Colombia is not a country with a mining tradition like Peru or Chile, but in 2015 it became the primary exporter of coal in Latin America and the tenth largest in the world. What is more, it is home to the largest open pit mine in the world, the mine of Cerrejón.

The impacts of mining in Colombia are well-documented. Various national organisations such as Tierra Digna or Censat Agua Viva have worked to expose abuses and permanently support communities affected by mining, because it is recognised that the context of armed conflict and violence interacts dangerously with the interests of multinational companies and the extractive industry (OCMAL & Censat Agua Viva, 2016).

Organised crime has found various ways to infiltrate mining in Colombia, whether by using intermediaries to exploit mines or by selling protection to the large companies. (OCMAL & Censat Agua Viva, 2016)

Companies like Drummond (USA) or Prodeco, part of Glencore (Swiss) have been accused of financing paramilitaries or evicting communities from mining areas (El Espectador, 2014). It

is worth bearing in mind that most of what they produce is sold to European companies like E.ON, GDF Suez, EDF, Enel, RWE, Iberdrola and Vattenfall.

Although large companies are taking advantage of their power at all levels, communities are organising themselves to expose their situation. In the case of El Cerrejón, the Wayú population are the main victims of more than 69,000 hectares of mining concessions, exploited by Xstrata (Switzerland – UK), Anglo American (South Africa – UK) and BHP Billiton (Australia – UK). There have been cases of forced displacement, human rights violations, air and water pollution, and deaths of animals run over by the trains carrying coal to coastal ports³.

[...] In their eagerness, the Cerrejón companies, Pacific Rubiales i MPX, have acted through their officials to hire indigenous brothers and haphazardly break into indigenous communities of African origin, dividing families, ignoring the customs, traditions, community authorities, ways of life and autonomy of the owners of the land; they have called meetings and made agreements with certain people, in ignorance of the fact that the territory belongs to the whole community, and 100% of the people must participate.

Declaration of the Wayú population⁴

Meanwhile, in the region of Cesar, the Boquerón community is surrounded by large-scale mining projects and the air they breathe is made toxic by the dense, harmful layer of coal dust. The Colombian Environment Ministry made two resolutions in 2010 to order the resettlement of three communities, which included Boquerón due to the air pollution⁵. Six years later, the community is still demanding and waiting for definitive resettlement. A similar

3. <http://www.christianaid.org.uk/images/giving-it-away-colombia-mining-report.pdf>.

4. <http://notiwayuu.blogspot.com.es/2011/11/pronunciamiento-de-pueblos-y.html>.

5. Wayú community manifestó <http://tierradigna.org/pdfs/informe-carbon.pdf>.

situation is happening with the fishing community of Don Jaca. The operation of ports for coal exports has dramatically reduced fisheries and impoverished the community.

In [Don Jaca] we lived easily from fisheries and were not bothered by the multinationals. The catch was greater. We used to catch 100-200 kg of fish, but now we are bankrupt. Disgracefully, the Colombian state and the multinationals didn't take account of us, the fishermen who live in their areas of influence, under the coal docks, trying to make the meagre living we still can [...] The noise [from port construction and barge transport] has scared away the fish which we relied on to live, to educate ourselves, feed ourselves or buy fuel. But since this disaster we don't even have enough to feed our children⁶.

Fisherman and community member, Don Jaca (Santa Marta, Magdalena)

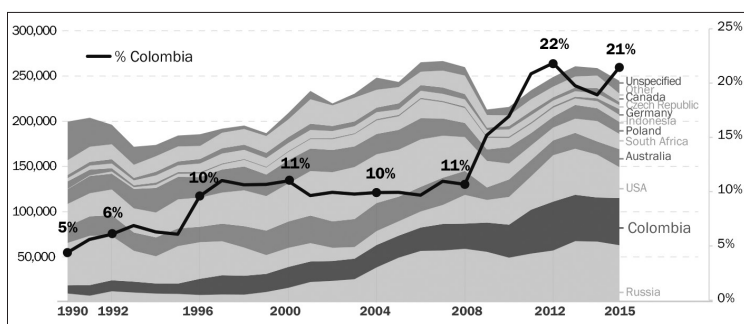
But if we take a step back and try to look for causes we need to ask ourselves: why did Colombia become a coal exporter? The conditions enabling Colombia to export coal are obviously geological (its subsoils are rich in coal), but adjustments to the legal framework to favour mining and send signals to companies and investors that Colombia is a good place for mining also play their part. President Álvaro Uribe opened a treasure chest of almost 9,000 mining permits, without respecting national parks, indigenous reserves, *páramos*⁷, springs, etc. His successor, Juan Manuel Santos, coupled mining to the development of the country, calling it the «mining locomotive».

Looking at the demand side and to the EU, we can see a considerable increase from 2008 to 2012, during which period the EU doubled its imports from Colombia (figure 7).

6. Interview by Tierra Digna, Don Jaca (Santa Marta, Magdalena).

7. *Páramos* are a type of ecosystem only found in the high Northern planes of the Andes, at between 3,000m and 4,500m above sea level (above the tree line). They are characterised by an absence of trees and an abundance of grasses and shrubs, and play an important role in the supply of water to downstream areas (Gran enciclopèdia catalana).

Figure 7
Volume of imports from Colombia to the EU



Elaborated using data from Eurostat.

The Netherlands, Germany, the UK and Spain are the largest



Protest against mining in La Guajira.
August 2017. Bogotá, Colombia.

importers of thermal coal in the EU, but they have very different characteristics. The Netherlands receives coal at the port of Rotterdam and exports it to other European countries. Germany and the UK, on the other hand, have maintained a degree of stability since 2000 but have increased their imports and tangibly decreased internal production. The Spanish state maintained a constant consumption until the year 2006. The shock of the financial crisis provoked a sharp fall in internal coal consumption, with a recovery starting from 2010, mainly based on imports.

Leaving the Netherlands to one side, the other three countries have closed domestic mines in favour of imports. This «outsourcing» of extraction services and coal supplies has enabled them to externalise mining and all its impacts, as well as progressively weakening the strong European mining unions.

But how can importing coal from Colombia possibly be cheaper than buying «zero kilometre» coal at home? Well, because outsourcing production avoids the need to protect labour rights and take responsibility for social and environmental impacts, and for an aggressive activity such as mining, this pays dividends, whether in euros or dollars.

ii) Unión Fenosa in the Caribbean

And how's it going with Electricaribe?
Pfff, it's the worst company ever to do business in Colombia.
Poor people of the coast, who have had to suffer it.

If you ask Colombian men and women for their opinion of Electricaribe, these are the answers you are likely to get. Since Unión Fenosa (since 2009, Gas Natural Fenosa (GNF)) entered the Colombian electricity market in 2000 by buying three private companies (Electrocosta, Electricaribe and Energía del Pacífico (EPSA)) and acquiring distribution and sale rights along the Caribbean coast, the complaints about poor service and abusive pricing have been constant. In 2002, for example, a person on a low income in the city of Barranquilla would need to spend more than 50% of their salary on their electricity bill.

The organisations and people affected by GNF joined forces through the Caribbean Public Service Users' Network (*Red Caribe de Usuarios de Servicios Públicos*), which registered 529 electrocutions (García, 2013), power cuts longer than 30 hours, and fraudulent charges, with a charge increase of over 30% in one single year (OMAL, 2016). The Network has organised numerous protests, from roadblocks to *quematonas*, collective bonfires of electricity bills.

Trade unions such as Sintraelecol and the Redes Union of CODENSA employees have also denounced violations of fundamental rights of workers on several occasions, mostly through the chain of subcontractors which undermines the right to union membership, collective negotiation and employment security.

Despite the open conflict between GNF and the population, the Colombian government has prioritised the interests of the transnational and tried to show itself the world as a state which supports and legally protects foreign investment. The government has come up with various disguised plans to rescue GNF, which have involved the payment of vulnerable families' unpaid bills from public funds⁸ and supports for electricity infrastructure costing 600 million euros.

Despite these assistances, GNF claims that it is owed a debt of 1,259 million euros from unpaid bills and threatened to take the Colombian state in front of the CIADI, an arbitration tribunal dependent on the World Bank. The pressure exercised by the company and the meetings between president Santos and Isidre Fainé, ex-president of CaixaBank and president of GNF, seemed to go unnoticed until the Superintendency of Public Services dropped the bombshell of Electricaribe's intervention. This announcement even provoked the president of the CEOE (Spanish Confederation of Business Organisations; CEOE after its Spanish acronym), Joan Rosell, to send a letter to the European Commission categorically condemning the situation, claiming «a precedent will be established which could have devastating consequences for current and future European investments around the world», and demanding that the European Commissioner for Trade intervene in the conflict (OMAL, 2017).

The prognoses for the company's future are various: some believe that a pact will be reached whereby, whether or not GNF continues operating Electricaribe, it will not be prosecuted.

Despite this, the Users' Network demands the nationalisation of the company and the return of ownership of the energy network to public hands. The debate is open, even more so now that the

8. 87% of the total public grant ended in the hands of Electricaribe.

Colombian government, after the signing of the peace agreement in Havana, seems to be planning to continue opening the country to foreign investment.

iii) Quimbo hydroelectric scheme

In the Colombian context, where leaders of the majority of critical organisations or campaigns have been repressed, threatened, or even made to disappear or killed, cases such as Quimbo can pass unnoticed. Even so, the Quimbo hydroelectric scheme is a prime example of what David Harvey would call accumulation by dispossession (Harvey, 2004). The imposition of this megaproject did not lead to direct physical violence, but to a more subtle violence which has profoundly changed the local territory, economy and social fabric.

In 2008, the Mining and Energy Ministry announced that the planned project at Quimbo, a 400MW hydroelectric scheme, would meet Colombia's future energy needs. Emgesa, a branch of Endesa, began the construction in 2011. From the beginning, the project was very controversial as it involved flooding the most fertile and productive land in the region. Resistance to the project was organised through the Victim's Association of the Quimbo Hydroelectric Scheme (ASOQUIMBO), which condemned the impacts and irregularities of the project. The first irregularity was the juicy contract given to Endesa by Álvaro Uribe's government, which promised the payment of a quota from electricity bills for 20 years, even if Quimbo did not generate any electricity⁹. In addition, the sum paid for the land to be flooded was far below its market value and additional land was needed where trees felled during the destruction of 7,400 hectares of the Protected Amazon Forest Reserve could be piled to rot. Illegal removal and destruction of archaeological items was also exposed. The full list of impacts recounted in the book «*El Quimbo: extractivismo, despojo, ecocidio y Resistencia*» is never-ending (Armín & Calderón, 2017).

9. Capacity payments are known in Colombia as reliability payments.

Despite all this, if one thing defines the project it is the dismantling of the local social and economic fabric. The flooding of 5,300 hectares of land used for cocoa, sorghum, corn and rice etc. and the drastic fall in available fisheries downstream has had dramatic consequences. The first victims were those who worked on the river banks themselves: day labourers and fisherwomen¹⁰. When Emgesa began to offer compensation for flooded plots, they negotiated with the owners, landowners that, in most cases, did not live in the region. Initially, some owners resisted the sale, but over time, pressure and negotiations forced them to give in. Day labourers had no say or vote in the matter. Within a few years they lost work and saw that the promise to relocate some of the plots didn't guarantee them a living, not by a long way. In the case of the fisherwomen, the construction of the dam caused a sharp fall in fish populations. The catch was reduced by a factor of 10, and fisherwomen could no longer even feed their families. This started a chain reaction of impacts. The fisherwomen and day labourers' reduced income caused remaining local businesses to fail. It is calculated that these consequences affected almost 30,000 people. Local transport companies now had no workers to transport and construction companies weren't required to build houses for them; the local market could no longer rely on local products and had to source them from other regions; the artisan miners working on the river banks could no longer get there; traders saw their sales diminishing; and people were forced to migrate or struggle on despite their poverty.

The dam at Quimbo caused the local economy to fall into disarray in every single dimension. The arrival of the energy megaproject, which was initially supposed to bring employment and wealth, has turned into a nightmare. The full-frontal, asymmetric clash between the «formality and legality» of the compensation and the informality of the local economy of the victims resulted in the penalisation of the poorest families. Without a work contract,

10. Here we use the feminine plural to refer to all people, independent of gender, who work in the mentioned profession.

land or title deeds, a census registration, or an ID card, you do not exist inside the formal system and so you are expelled from it. Emgesa-Endesa, however, is now operating the dam and makes profits on every kWh it generates.

Transformative initiatives in Mexico, India, Brazil, Guatemala and Colombia

Luckily, in the places suffering the most unjust situations, we find the responses with the largest potential to transform the system. Despite the abuses and manoeuvring of national and international Oligopolies eager to keep control over such a strategic essential service, the urgent desire for change in the energy sector becomes apparent in many movements, communities and municipalities around the world. Nevertheless, they do not share one definitive common road map. Every community responds to its own specific needs, in the context of its own political past; imagines and dreams of possible or utopic futures; and defies the apparent impossibility of change.

These stories inspire and support us. They offer a rich array of experiences and suggestions that expose different visions of energy and its use. Every one of these stories responds to one or many of the questions which we think are essential on the journey to energy sovereignty: why do we need to change the model? Which energy sources are suitable? Who must they serve? Who should drive the change? Who should accompany them?

Mexico: the Oaxaca wind power corridor and community alternatives

The case of the Tehuantepec Isthmus, in the Mexican state of Oaxaca, is an interesting one. Since the 1980s the isthmus region has been in the sights of large wind power companies, which, together with the incumbent governments, conceived the creation of a «large scale wind power corridor, inside Zapotec and Huave community land». Since then, these plans have been facilitated by the economic liberalisation reforms implemented in Mexico,

which has transformed the energy sector and land ownership law in favour of private interests.

The development of the corridor began in 1994 and advanced with the adoption of the Climate Change and Energy Reform Laws (*Leyes de Cambio Climático y Reforma Energética*). In 2016 the corridor contained 17 projects¹¹, comprised of 1,780 turbines installed in land used for fishing and farming by the local indigenous communities. Of the total capacity, 65.5% was dedicated to the electrical consumption of large national and transnational companies¹², and the rest was left for public distribution (Avila-Calero, 2017).

The conditions the wind power corridor was developed under provoked alarm and resistance from local communities. Since 1994, community groups called *ejidos*¹³, human rights organisations, community radio stations and grassroots movements started a dialogue process. The resistance network grew progressively more organised, especially through the Assembly of Indigenous Peoples of the Tehuantepec Isthmus in Defence of Land and Territory (*Asamblea de Pueblos Indígenas del Istmo de Tehuantepec en Defensa de la Tierra y el Territorio*). The resistance was centred on the lack of information, transparency and consultation accompanying the process of privatisation of common lands and the socioenvironmental impacts of the corridor. However, above all, the movement generated explicit criticism of green energy as a mechanism for the recolonization of indigenous culture and means of subsistence.

From the year 2009, the Assembly and other entities began to develop their own proposals. This new era was marked by a forum on «Indigenous Communities, Self-determination and Energy Sovereignty» («*Comunidades Indígenas, Autodeterminación y Soberanía Energética*») (APIITDTT, 2009), where the concept of «energy

11. These belonged to Iberdrola, Enel Green Power, Renovalia Energy, Gamesa, Acciona, Gas Natural Fenosa, and others.

12. The favoured companies include (among others) Walmart, Nestle, Bimbo, Cemex, mining and oil companies, and other industrial groups.

13. *Ejidos* are common pieces of land found on the outskirts of a settlement.

sovereignty» was probably discussed for the first time on the planet (Ariza-Montobbio, 2015). Among other themes, the forum opened a space for discussion of the possibility of realising community wind power projects as a concrete alternative to private megaprojects. In the context of this dialogue, a social foundation (Yansa) promoted the possibility to members of the Ixtepec community.

Learning from experiences in Denmark, Germany and the United States, Yansa proposed a pilot project which was accepted by the general assembly of the Ixtepec community. The plan included 44 turbines with an installed capacity of 1,000MW, to be operated as an Independent Energy Producer. It also anticipated the sale of electricity to the Federal Electricity Commission (CFE, after its Spanish acronym) at a fixed price for 20 years. The following table (Avila-Calero, 2017) summarises the main difference between this cooperative and wind mega-projects.

Differences between the Yansa-Ixtepec cooperative wind power proposal and private wind power megaprojects

Aspect	Description	Difference respect to private megaprojects
Property	Social enterprise (serves interests of Yansa and the community)	The company retains communal ownership of land, installations and profits.
Finance	Loans from social and development banks (75% of costs)	No specific difference
	Social investment loans (25% of costs)	Low-interest credit
Distribution of profits	Ixtepec community 50%	25% to land owners and 25% to community projects
	Yansa foundations 50%	Funds to replicate the project in other areas
Decision-making	Committee managed using local customs	-Community assembly -Farmer associations -Women's forum -Youth forum

To sign the contract with CFE, the Yansa-Ixtepec project had to participate in an auction in 2012, during which authorities rejected the project as they did not recognise its legal status as a «Social Enterprise». Afterwards, the authorities opened two more auctions in the region, under conditions which made the participation of small enterprises impossible.

Despite criticism from many, including Congress itself (Méndez & Garduño, 2012; Gaceta Parlamentaria, 2012), which has positioned itself in favour of alternative energy projects and the protection of indigenous rights, at the time of writing in 2017, the controversy still continues. Despite this, the experiences on the Isthmus show that resistance movements can lead to viable community alternatives, which defy the neoliberal thinking of the energy Oligopoly. This opens new fronts where we can fight to change the legal and regulatory system to make these alternatives a reality. The political process followed by the community has opened a space for reflection and change against the plundering processes implicit in the dominant green energy discourse.

India: resisting coal to defend basic rights in Sompeta

In the town of Sompeta, in the central-southern Indian state of Andhra Pradesh, we find another initiative which, sadly, was born from a severe environmental conflict. Since 2009, the population there has been fighting against the impacts on the coast and wetlands (common land locally known as *beela*) caused by the construction of a 2,600MW coal-fired power station, owned by the Nagarjuna Construction Company. The company required 607 hectares of land for the project, a large part of which was public land ceded to them by the government. Farmers and fisherwomen, seeing how public and corporate interests threatened their livelihoods, protested strongly and formed the Paryavarana Parirakshana Sangh (PPS) movement. In December 2009, the fisherwomen began a hunger strike in shifts, which lasted several months. There was more or less no reaction. The following July, on the day work was planned to start, more than 3,000 members

of the community turned out to protest against the company. However, they were brutally repressed by the 5,000 police guarding the area. Three protesters died during the face-off. After these events, the tension between the community and the government and company increased exponentially. In this context, the community chose to appeal using a previous order of the Chief Commissioner of Land Administration (B2/2225/2003) which ordered the protection of water sources in the area and which Nagarjuna was flagrantly violating. Finally, in June 2011, the judge of the Supreme Court annulled the concession of land to the company and cancelled the project.

This environmental conflict originated from the socioenvironmental impacts of an energy project, the violence through which the project was imposed, and the risks it posed to the water sources the population depended on. After suspending the coal project, the same company proposed another project on the same land, this time to produce biofuel. However, the people continued to oppose it, promising to continue fighting to protect biodiversity and the region's water supply.

What is more, in these places, communities have been developing solar energy projects using subsidies for families, commerce and services¹⁴. Through this initiative, solar panels were installed on private houses (more than 2,000 households were interested), and the town hospital (a small installation of 5kW). Currently, a 1MW installation is being planned to supply the community's productive activities. The price of electricity has reduced considerably, which is yet another reason to defy the dogma of the coal industry and the lobbies of its constructors. Large energy projects aren't needed to satisfy citizens', farmers' or fisherwomen's needs. If the solar panels work, why should people accept coal-fired power stations (or other sources of energy) in the name of development and poverty elimination, if these impose such high costs on the

14. Jawaharlal Nehru National Solar Mission, <http://www.mnre.gov.in/solar-mission/jnnsn/introduction-2/>.

local population? How is it possible that such indifference, and even violence, is tolerated from the police force of a supposedly democratic country in the defence of the coal and construction lobbies? All that was required was a discussion, within the community, about what its needs were for a decent, environmentally-friendly life – and that authorities and business respect both this decision and the law. «Opposing the construction of a power plant does not mean that we are against local development, but that we are able to satisfy our own needs without putting the environment at risk»¹⁵.

Brazil: the MAB and the MAR in Latin America. An alliance of resistance and creation of alternatives

A friend from Guatemala told us that in Mayan language, sovereignty is a relational concept. It is connected with knowledge of one's own territory and its relationship with others, and the responsibility associated with this knowledge. We could say that this is one of the keys to understanding the necessity of forming alliances and cooperating with other activist groups and grassroots organisations which emerge in defence of their territory. The case of the Movement of Dam Affected People (MAB, after its Brazilian acronym) in Brazil in particular highlights the immense results which can be achieved by alliances between territories or social sectors.

The MAB was born at the end of the 1970s from an autonomous popular resistance movement, a grassroots movement which intended to organise the population threatened or affected by (largely hydroelectric) dams. Through the years, it has become a national movement with many regional committees spread throughout the country, and a global reference for other organisations working on similar issues. The MAB organises protests against large dams because of their enormous environmental and social

15. Ecowatch. <https://www.ecowatch.com/how-solar-energy-is-moving-india-beyond-coal-1881659238.html>.

impacts, which are abundantly recognised by scientists and political actors everywhere. Even so, interest in these gigantic projects has not diminished, on the contrary. In Brazil today, transnational corporations dominate the national electricity system, foreign capital invested in it, and its profits. Such transnationals include Suez Tractebel, AES, Odebrecht, Queiroz Galvão, Iberdrola, Vale, Alcoa, BHP, Alstom, Siemens, etc., and their control of the system stems from the privatisations of the 1990s. Now, even state companies have come into private hands: 60% of Eletrobras, 80% of Cemig (an enterprise from Minas Gerais) and 65% of the CESP (Sao Paulo Energy Company, CESP after its Brazilian acronym) are privately owned.

Today, the MAB is a movement aiming to protect the rights of populations affected or threatened by these projects, principally the right to land. But, at the same time, it is contributing to the construction of a new, alternative, popular energy model for Brazil. Its work in forming alliances follows three main lines:

- Alliances with the food and water supply sectors, an alliance formed under the slogan «Energy, food and water are not for sale!». They believe that it is important not to think about these sectors separately, but as a naturally interdependent whole. Work can't be done on the energy sector without thinking about the role agriculture plays in its consumption, for example, or the part biofuels play in land and water grabs in the name of sustainability and clean energy. In Brazil, the MAB promotes agroecological initiatives as part of PAIS (Integrated Sustainable Agroecological Production; PAIS after its Brazilian acronym) projects, of which there are now 800 all over Brazil.
- Alliances between cities and the countryside. That is to say, between populations affected in the region of a generation megaproject and the population affected by the same energy Oligopoly in the principal centres of energy consumption (cities) through high electricity prices, disconnections and fuel poverty.

- Alliances between grassroots organisations for the environment, social rights and energy-sector employees. Employee organisations play a fundamental role in exposing crimes and malpractice committed by the large companies of the Oligopoly. However, they are also essential actors for formulating proposals for collective change and to avoid that these become merely a small number of linked initiatives. In 2010, the MAB, working with other Brazilian entities, launched the Workers' and Farmers' Energy Platform, formed of members of social movements, energy and oil sector workers, engineers, victims of dams and farmers. It serves as a platform for debate about a new energy model (MAB, 2014).



From the protest of the Movement of Dam Affected People (*Movimento dos Atengidos per Barragens*) with elements related to feminism, antimilitarism, child protection, protection of workers, and the slogan «Water and energy are not for sale!».

The MAB called a meeting in Bilbao in 2013 along with many other organisations, including Mundobat, to discuss and

reflect on these three points and reinforce alliances both within the Iberian peninsula and in Europe, not to mention condemn the Iberian corporations behind Latin American socioenvironmental disasters, such as Iberdrola¹⁶. The Bilbao Charter states precisely that:

We cannot allow capital to act with impunity. The fight must go on in every corner of the world. We need to incorporate our forms of international solidarity with those excluded by the system into a unified struggle. Our task is to organise workers, victims of imposed projects and rural and urban consumers at all levels: local, national and international¹⁷.

What is more, in 2016 the Anti-dam Movement (MAR, after its Brazilian acronym), a network of entities from all over Latin America, started a new phase of collective responses to large hydroelectric projects and the extractivism they feed. A Colombian member of the organisation told us that the dams, in Colombia as in the rest of the world, are the tip of the iceberg, and that is why they command such attention from social protests. Opposing them, questioning them and looking for alternatives implies opposition to an exploitative, colonial technocapitalist system. In a recent communication, the organisation stresses:

We reaffirm our commitment to the construction of a NEW SOCIAL PARADIGM, which stands on the pillar of a new POPULAR ENERGY MODEL which is just, decentralised, and respectful of diversity in culture, faith and ways of life, which is why we call on all organisations representing victims of

16. On this occasion, a Popular Tribunal took place in Bilbao to decry the presence of Iberdrola in many destructive projects on the American continent. <https://www.ekologistakmartxan.org/2013/10/30/cronica-del-tribunal-popular-contra-iberdrola/>.

17. Bilbao Charter. <http://www.mabnacional.org.br/noticia/carta-bilbao-alimento-agua-y-energ-no-son-mercanc>.

dams and other megaprojects, workers, neighbourhoods, women, indigenous populations or other sections of society to organise themselves and focus their work towards POPULAR SOVEREIGNTY and self-determination for all the peoples of the world. Our objective is to form a alliances to jointly resist all forms of privatisation and commercialisation of water and energy, the plunder of our natural resources and the violation of our rights [...]. (MAR, 2017)

Guatemala: the fight for energy autonomy

The history of Unión Fenosa (UF) in Latin America has been conflict-ridden since it arrived in countries such as Mexico, Colombia, Nicaragua, Costa Rica, Panama and the Dominican Republic. In 1998 UF joined the Guatemalan market, buying two electricity distribution companies DEORSA and DEOCSA (González, Sáez & Lago, 2008). Domestic electricity tariffs climbed vertiginously and entirely without justification. The quality of the service declined as a consequence of poor maintenance of the networks. The poorest users could not pay the bills and suffered from an intermittent supply, causing constant breakdowns of the few electrical appliances they owned.

The victims organised themselves to fight against the abuses perpetrated by UF (which became Gas Natural Fenosa (GNF) in 2009). In the region of San Marcos, Guatemala, the Front for Defence of Natural Resources and People's Rights (FRENA, after its Guatemalan acronym) led a collective organisation and resistance process. Affected families refused to pay electricity bills in protest of the astronomical prices. GNF carried out several power cuts in response but families continued to resist. During the power cut of the 15th December 2009, for example, there were food and running water shortages and 40,000 vaccines meant for children went bad. The closeness to Christmas increased the people's indignation, and they decided to block roads between Mexico and Guatemala, causing a state of alarm to be called in the region of

San Marcos. During this state of alarm called by the Guatemalan government, seven activists who had participated in the exposure of GNF's malpractice were killed.

Despite the context of conflict and extreme violence, FRENA always remained clear that the resistance movement, beyond opposing GNF, had to be fed by proposals of alternatives. Therefore, some of the communities in the organisation began to conceive a project which would liberate them completely from what they felt was submission to a transnational, and allow them to achieve energy autonomy.

The FRENA leaders' visit to Catalonia, organised as part of a protection plan since their lives were threatened in Guatemala, tightened the links between the Guatemalan organisation and the Olivera Cooperative¹⁸, and was fundamental in securing funding for the project. In this way, a consortium of Catalan and Guatemalan entities was formed. On the Catalan side these were the Olivera Cooperative, the Aguiasol cooperative (an advisory agency for energy efficiency, renewable energy and energy-efficient buildings), Tandem Social (an advisory service for projects by businesses with objectives including social transformation, collective equality and environmental sustainability), and the governments of Navàs and Bagà. The Guatemalan side comprised FRENA, Juventud en la Misión Unidos por el Agua (a youth organisation defending water supplies), the San Pablo SA hydroelectric company created by the project, Cocode San Pablo Tacaná (a town community development council) and the Auxiliatura de San Pablo Tacaná (a municipal entity of San Pablo).

The initial plan for the autonomy project was the construction of two photovoltaic microinstallations and a microhydropower scheme which would supply both the San Pablo de Tacaná community and its neighbours. The total production of 700,000 kWh

18. The Olivera Cooperative is a social integration cooperative which grows vines and olive trees for making wine and oil, caring for the soil and giving work to people with special needs.

would be enough to supply 590 consumption units. The cost of the project was \$583,487.

The first step was to present the «Luz de todos» («Everyone's electricity», roughly translated) project to the Council of Barcelona. The project was approved and allowed for viability studies and two trainings, one in Catalonia and one in Guatemala. It is important to note that the training given in topography, data collection, installation maintenance and so on to the communities in Guatemala allowed the second phase of the project to be carried out purely by Guatemalan staff. The second phase «Luz de todos 2» included three more microhydropower installations: Hidroeléctrica Maya Comunitaria, Hidroeléctrica Cabuz and Hidroeléctrica San Antonio. Using the same resources from Barcelona, the results were tripled. This new phase is valued at more than 6 million dollars and entities like BANRURAL (the second largest financer in Guatemala, which funds farming cooperatives, small shareholders and NGOs) are interested in investing in the project. BANRURAL is holding internal discussions about the energy model and believes that small-scale projects could be an opportunity for the energy transition.

Certainly, the highlight of the experiences of San Pablo, Guatemala, is that the people who take up the fight against transnational companies, despite the repression they suffer, always remember that an alternative needs to be constructed. This led them to find strategic partners and the funding they needed to carry out an energy autonomy project, and they are even planning to repeat the exercise with other communities.

Colombia: putting life and nature in the limelight

Moving away from purely energy-focused movements, Colombia has produced some unique and inspiring ideas. For example, the inexhaustible work by various entities in Chocó such as the Chocó Interethnic Solidarity Forum (*Foro Interétnico Solidaridad Chocó*) and the Cuenca Basin Community Councils (*Consejos Comunitarios Mayores de la Cuenca del Atrato*), and the central support and

representation provided by Tierra Digna¹⁹, a social justice centre, enabled a protection act to be lodged with the Colombian Constitutional Court. The act sought to guarantee the basic rights of communities along the Atrato river affected by its contamination and degradation, principally caused by mechanised mining. The Constitutional Court's verdict (T-622 of 2016) recognised the river as an entity with rights including the rights to protection, conservation, maintenance and restoration. There is no doubt that enforcing the verdict poses a large challenge to the organisations driving the appeal and to authorities. However, it is also an unprecedented victory for communities who, accompanied by organisations with legal expertise such as Tierra Digna, and aided by advanced constitutions such as Colombia's, are generating new forms of biocentric environmental protection, which give rights to nature. Can we imagine a similar verdict being issued for the rivers Ter, Llobregat, Cinca, Gállego, Tinto or Guadiana²⁰?

Beyond this historic verdict, we can find even more sources of inspiration in the Colombian context. Undoubtedly, indigenous people, very present in Colombia, are a living link to other ways to relate ourselves to the environment. The Arhuaco, Wiwa, Kankuamo and Kogi peoples, for example, are organising themselves to defend the Sierra Nevada de Santa Marta, the highest coastal mountain system on the planet and a unique ecosystem as declared by the UNESCO World Heritage Sites and Biosphere Reserves report in 1979. Above all, the Sierra Nevada is their ancestral homeland and is threatened by over 300 mining permits. The *mamos*, spiritual leaders charged with maintaining natural order on Earth through song, meditation and ritual offerings, warn how damaging mining could be for their spirituality. The majority of worldviews of indigenous peoples and of communities rooted in their own territorial ecology celebrate the sun, wind and other atmospheric elements as sources of good energy and

19. Tierra digna <http://tierradigna.org/>.

20. Translator's note: these are all rivers in Spain.

life, gifts from spirits and Mother Earth. Extracting coal or oil from the subsoil is, therefore an act of abuse and violence which penetrates the planet, disrespects its ecology and causes unforeseeable damage. Despite the fact that this may seem infinitely alien our day-to-day reality and to the energy transition, the simple knowledge that, today, different ways of looking at the planet Earth and at nature coexist, worldviews which see nature as a carer who shelters us and not as a resource for human activity is transformative in itself.



Arhuaco woman occupying a mine. July 2017, Valledupar, Colombia.

Bibliography

APIITDDT (2009), «Asamblea en Defensa de la Tierra y el Territorio de Juchitán, Foro Comunidades Indígenas, Auto-determinación y Soberanía Energética», available at: <https://tierrayterritorio.wordpress.com/2009/08/15/foro-comunidades-indigenas-autodeterminacion-y-soberania-energetica/>

- ARIZA-MONTOBBIO, P. (2015), *Energy sovereignty: politicising an energy transition*, EJOLT, Barcelona, pp. 79-84. Available at: <http://www.ejolt.org/wordpress/wp-content/uploads/2015/09/EJOLT-6.79-84.pdf>.
- ARMÍN, M. & CALDERÓN, D. (2017), *El Quimbo: extractivismo, despojo, ecocidio y resistencia*, Torre Gráfica Limitada, Bogotá.
- AVILA-CALERO, S. (2017), *Contesting energy transitions: wind power and conflicts in the Isthmus of Tehuantepec*, Journal of Political Ecology, 24, pp. 992-1012, Available at: http://jpe.library.arizona.edu/volume_24/Avila.pdf.
- BALCH, O. (2013), «Cerrejón mine in Colombia: can it address its human rights risks?», *The Guardian*, available at: <https://www.theguardian.com/sustainable-business/cerrejon-mine-colombia-human-rights>.
- El Espectador (2014), «Drummond y Prodeco financiaron a los paramilitares entre 1996 i 2006», available at: <https://www.elespectador.com/noticias/elmundo/drummond-y-prodeco-financiaron-los-paramilitares-entre-articulo-500456>.
- European Stability Initiative (2012), «Caviar Diplomacy. How Azerbaijan silenced the Council of Europe», available at: http://www.esiweb.org/pdf/esi_document_id_131.pdf.
- GARCÍA, E. (2013), «La Costa Caribe registra 529 electrocutados», *El Heraldo*, available at: <https://www.elheraldo.co/region/la-costa-caribe-registra-529-electrocutados-132302>.
- Gazeta del Parlamento (2012), Con punto de acuerdo, por el que se exhorta a la CFE a detener las licitaciones sobre contratos de parques eólicos en curso y las programadas para el futuro próximo, n.3627-III.
- GONZÁLEZ, E., SÁEZ, K. & LAGO, J. (2008), «Atlas de la Energía en América Latina y Caribe. Las inversiones de las multinacionales españolas y sus impactos económicos, sociales y ambientales», available at: http://www.bibliotecavirtual.info/wp-content/uploads/2011/04/Atlas_Energia_1.pdf.
- HARVEY, D. (2004), «El nuevo imperialismo: Acumulación

- por desposesión», *Social register*, available at: <http://www.socialistregister.com/index.php/srv/article/viewFile/14997/11983>.
- HILDYARD, N., LOHMANN, L. & SEXTON, S. (2012), «Energy Security For Whom? For What?», *The Corner House*, available at: <http://www.thecornerhouse.org.uk/sites/thecornerhouse.org.uk/files/Energy%20Security%20For%20Whom%20For%20What.pdf>.
- MAB (2014), «Propostas para um projeto energético popular com soberania, distribuição da riqueza e controle popular: compromissos com o povo brasileiro na Política Energética Nacional», available at: <http://periodicos.unb.br/index.php/insurgencia/article/view/23464>.
- MAR (2017), *Seguiremos soñando con intensidad por la defensa de las aguas y la vida*, Río de Janeiro, available at: <https://defensa-territorios.wordpress.com/2017/10/25/seguiremos-sonando-con-intensidad-por-la-defensa-de-las-aguas-y-la-vida/>.
- MELINA, G. & YI, X. (2013), «IMF Working Paper. Natural Gas, Public Investment and Debt Sustainability in Mozambique», *International Monetary Fund*, available at: <https://www.imf.org/external/pubs/ft/wp/2013/wp13261.pdf>.
- MÉNDEZ, E. & GARDUÑO, R. (2012), «Proponen plan eólico alterno para Oaxaca», *La Jornada*, available at: <http://www.jornada.unam.mx/2012/10/19/estados/037n1est>.
- OCMAL & Censat Agua Viva (2016), «Minería, violencia y criminalización en América Latina», available at: <http://censat.org/es/publicaciones/mineria-violencia-y-criminalizacion-en-america-latina>.
- OMAL (2017), «Electricaribe la controvertida filial de Gas Natural Fenosa en Colombia», available at: <http://omal.info/spip.php?article8338>.
- OMAL (2016), «Gas Natural Fenosa reclama 1.103 millones a Colombia por fraudes e impagos», available at: <http://omal.info/spip.php?article8071>.
- PÉREZ, A. & HAMOUCHENE, H. (2016), «Colonialisme énergi-

co: El acaparamiento de gas de la UE en Argelia», Observatori del Deute en la Globalització, available at: <http://www.odg.cat/ca/publication/colonialisme-energetic-acaparament-gas-ue-argelia>

VII. NETWORKING RESISTANCES AND ALTERNATIVES AT HOME AND LEARNING FROM OTHER CASES IN THE GLOBAL NORTH

The current energy model produces relationships of authority and subordination between the countries of the Global North and South, but also within the borders of each group of countries. Territories have suffered pollution, large infrastructure and extraction projects and have to accept it in the name of the development economy and economies of scale.

In Catalonia we have many examples of these «development services». The extra-high voltage line in Girona provoked huge opposition and six people are still being prosecuted for a protest action against the construction of tower 66. Marine oil prospection along the Costa Brava was opposed by environmental groups such as *Naturalistes de Girona* and *IAEDEN-Salvem l'Empordà*. The Martorell-Figueres gas pipeline and its continuation, the MidCat, is closely followed by the MidCat Response Platform (*Plataforma en Resposta al MidCat*). Slurry treatment plants have been criticised for their ineffectiveness and inefficiency by the River Ter Protection Group (*Grup de defensa del Ter*). The abuse of the people of Vall Fosca by Endesa has awoken a region already producing large amounts of hydropower, and intermittently threatened by the Congost de Mont-Rebei hydroelectric project promoted by the same company. Also noteworthy, along with so many other examples, is the fast, organised response to the arrival of fracking in Catalonia by the Stop Fracking Platform (*Plataforma Aturem el Fracking*). There are also examples not strictly related with energy

which reflect the intensive use of land for the benefit of the extractive elites. The Cogulló dump, a mountain of salt from Israeli company Iberpotash that is salinating the aquifers of the Bages, has been decried by the Enough Salt (*Prou Sal*) collective. The extreme pollution caused by the Ercros factory at Flix, was responded to by the Flixnet platform. And the BCNWorld megacasino which spawned the group Stop BCNWorld (*Aturem BCNWorld*).

However, if we speak of territories sacrificed to the energy system, of geographical spaces used for national development, of the places with the largest concentration of hazardous or polluting industries operated to produce energy at a large scale, we have to speak of the region of Tarragona. Tarragona is home to one of the largest petrochemical plants in Europe (owned by Repsol), the Vandellòs and Ascó nuclear plants, three combined-cycle power plants, the Castor project¹, and numerous extra-high voltage power lines. This large concentration of infrastructure is out of all proportion with the needs of the region. This fact has been condemned by the Southern Network, a group of environmental and social organisations in the region of Tarragona. In addition, groups such as Cel Net, who have carried out independent analyses of the polluting emissions of the Repsol petrochemical plant, the «25 years since the Vandellòs I accident» (*«25 anys de l'accident de Vandellòs I»*) campaign for the closure of nuclear power stations and the Citizen's Platform for the Defence of the Lands of the Sènia River (*Plataforma Ciutadana en Defensa de les Terres del Sènia*) which campaigns against the Castor project, continue to do laudable work in condemning and responding to the fossil-nuclear energy model.

Within the Spanish state, the historic struggles against the extra-high voltage lines in the Pyrenees headed by the Unified Platform against the Electrical Highway (*Plataforma Unitaria contra la Autopista Eléctrica*), against the Garoña nuclear plant and, most recently, against fracking and the gas storage facility

1. Despite being situated in Vinaròs (Spain), the impact of the tremors was also felt in Catalonia.

in Doñana national park, demonstrate that the fossil regime, but also resistance to it, persist.

As we said at the beginning of this book, the birth of the Xse came from our very own social movements here at home, and therefore, we have always been very aware of the importance of recognising the transformative power these movements have had. Many of the mentioned groups have promoted and driven alternatives within our territory and the Xse has been compiling them and incorporating them in its own ideas, the result of its four years of life and interaction with groups within Catalonia, around the Spanish state and internationally.

Although we could go into detail on many of the struggles mentioned, in the geographical context of the North, we would like to highlight two resistances based on their potential to inspire and transform which, in very different contexts (fossil fuels and renewables), have taken place in Canada and Greece.

Canada: Piitapan Solar Project, Alberta

The Canadian state of Alberta is known worldwide for its enormous reserves of bituminous sand, a source of low-quality and extremely polluting oil. The International Energy Agency calculates that the reserve contains around 180 million barrels of oil, which would make it the third largest known reserve in the world, after Saudi Arabia and the Orinoco Oil Basin in Venezuela. In 2011, extractive activities caused a spill equivalent to 28,000 barrels of crude oil 10km from the city of Little Buffalo, in the north of the state. The disaster was traumatic for the First Nation community living close to the deposit, both through psychological and environmental impacts as well as its effects on means of production (land, farms, water sources and so on). This spurred activists and young people from the Lubicon Cree First Nation group to decide that it is possible to abandon fossil fuels and choose renewable sources. They did not apply for public or corporate funding, but decided to launch a crowdfunding campaign between members

of the community, friends and foundations. Thus, in 2016, the Piitapan Solar Project was born, managed by Lubicon Solar, which currently supplies clean electricity to the community health centre from a 20.8kW installation.

According to the principal promoters of the project, the initiative took strength from the pain and trauma caused by the spill, but also from the conviction that communities who find themselves on the front line suffering impacts of dirty energy can also, proudly take the lead in looking for solutions, or other perspectives on energy production and the management of energy sources².... In the case of the Piitapan Solar Project, an environmental disaster caused by fossil fuel capitalism has become the fuel driving concrete initiatives for change, a strong increase in awareness amongst the community, and the collective construction of alternatives, even including employment alternatives for some members of the community.

Greece: the movement against industrial-scale renewable projects

During the last decade, the Greek islands have drawn the attention of large wind power corporations, due to high winds and the presence of enough land to install large-scale projects. Initially, these projects seemed to include attractive elements for the island communities but collective inspection of the documents revealed a different reality. One of the most problematic aspects for the community was that the projects were to supply energy to continental Greece via underwater high voltage power lines (EjAtlas, 2016). Other controversial points were the private ownership of the profits generated by a project highly subsidised by the EU, and the use of technologies considered obsolete in other regions.

The citizens reacted immediately and formed an organisation called Citizens of Chios Against Wind Turbines. A publicity

2. Interview with Melina Miyowapan Laboucan-Massimo, of the Lubicon Cree First Nation of Alberta. <https://youtu.be/FtmLsH1By7g>.

campaign, a project to document investment in the project and a painstaking evaluation of possible impacts on the island soon followed. The organisation found that the Environmental Impact Assessment for the project was very opaque and that the design of the projects was extremely questionable, not only in environmental terms, but also socially and economically³. The fact that a company like Iberdrola was behind the Greek branches promoting the project generated distrust within the community. From their perspective, Iberdrola was not a legitimate actor in a process to promote genuinely clean, alternative energy. At the same time, they considered the investment to be out of proportion with local needs and to perpetuate an undemocratic, industrial energy model. To date, the Greek islands of the north of the Aegean have never been interconnected with continental Greece, functioning instead with their own energy production systems which fundamentally depend on thermoelectric generators and diesel supplied by sea. In this context, the proposal to implement large scale projects for the supply of energy to the rest of the country did not only generate new forms of inequality between the «consumption centres» and «production peripheries» (Avila-Calero, 2018), but would also not contribute to reducing the local dependency on polluting fossil fuels.

The resistance in Chios shows that the collective generation and socialisation of knowledge enables a community to go through a process of empowerment and slow or stop the invasion of unwanted new ways of life, and alternatives are already taking shape on the Greek islands: concretely, on the island of Sifnos, in the region of the Cyclades. Inspired by neighbouring resistances, citizens of Sifnos used the European ideas of REScoop⁴ to design their own wind power cooperative governed by the principles of solidarity, cooperation, autonomy and

3. Interview with Aristotle Tympas, researcher at the National and Kapodistrian University of Athens and member of the Resistance on Quios movement (21/12/2017).

4. REScoop <https://www.rescoop.eu>.

decentralisation⁵. The Sifnos movement started in 2012 with a proposal that pre-empted the arrival of large private investments by taking collective control of the energy transition and the island's future. For the citizens of Sifnos, going for energy autonomy was a logical response to the energy situation of the group of Greek islands. The need to maintain the system of generators and diesel supplied from outside, along with subsidised electricity bills, resulted in a dependent energy model which generated few opportunities for citizens and their environment. The cooperative would not only promote a renewable energy controlled and owned by the community, but would also make sure that profits were reinvested in basic infrastructure for a welfare state: from schools to hospitals.

In these three years, the cooperative has managed to establish itself and evaluate which is the best way to construct a project which obeys social and environmental principles. Taking into consideration the specific characteristics of the island and with the support of a team of specialists in different areas, the cooperative has submitted a proposal for a hybrid renewable energy production scheme for public consultation. The proposal includes the construction of a medium-sized artificial reservoir in the mountainous region of the island, far from the homes of the inhabitants. When the wind is blowing, wind power will pump water into the reservoir; when it is calm, the stored water will be used to generate hydroelectric power before returning to the sea. In this way, the project does not depend on polluting batteries and can adapt supplies to annual changes in consumption and population.

Let's continue networking and touring

Inspired by the *Toxic Tours* of Ecuador and the USA, the Xse has organised a yearly «Oligotoxic Tour» («*Volt oligotòxic*») round

5. Interview with Apostolos Dimopoulos, President of the Cooperative Governing Body on Sifnos (21/12/2017).

Catalonia since 2014, along with sister organisations. The aim of the tour is to create a «mobile coexistence space» in which a handful of people make a coach tour of different places with socio-environmental conflicts or alternatives to the dominant model, with the desire to hear from the different places and learn from the people who live there and suffer the impacts.

Until now we have run three tours and are preparing the fourth, and we have been able to connect ourselves with the underlying thinking and consequences of projects such as the Castor project, the extra-high voltage lines in the north and in Aragón, the nuclear plants of Ascó and Vandellós, the MidCat pipeline, the petrochemical complex in Tarragona, the Ercros factory in Flix, Iberpotash's salt mountain and other threats surrounding us including fracking, marine oil prospection, intensive livestock farming and the BCN-World complex. As mentioned at the beginning of this chapter, these experiences have broadened the Xse's ideas.

The Tours have become a way to weave relationships between entities and platforms related to the topic and to move from concrete conflicts to systematic problems. There have been moments of collective celebration, but also of learning, empowerment and the establishment of common agendas for social mobilisation, solidarity and mutual support. It is certainly recognition of a lot of work done by a lot of people.

Therefore, we would like to say thank you to entities including *Associació d'Afectats/des per la Plataforma Castor*, *Plataforma Ciutadana en Defensa de les Terres del Sénia*, *Plataforma Unitaria contra la Autopista Eléctrica*, *Plataforma Aturem el Fracking*, *Aturem BCN World*, *Som Energia*, *Grup de Defensa del Ter*, *Aturem les prospeccions a la costa catalana*, *No a la MAT*, *Col·lectiu PROU SAL!*, *Naturalistes de Girona*, *IAEDEN-Salvem l'Empordà*, *Plataforma en Defensa de les Terres del Sénia*, *Plataforma Gasoducte Martorell-Figueres*, *Cal Gorina*, *Flixnet*, *Xarxa Sud*, *La Garsa*, *l'Adenc* and *Plataforma Cel Net*, *Ecologistes en Acció*, *Entrepobles*, *Alternativa Intercanvi amb Pobles indígenes*, *Engineers Without Borders* and *Observatori del Deute en la Globalització*. It is thanks to them that we have been able to run the Tour!



The Tour stops, for the second time, in front of the installations of the Castor project. Tour 3, October 2016, Terres del Sénia.



The Tour stops in front of the Red Eléctrica Española building. Tour 3, October 2016, Barcelona.

Bibliography

- AVILA-CALERO, S. (2018), *Wind power and environmental conflicts: placing environmental justice into the debate*, Journal of Sustainability Science.
- EJATLAS (2016), «Movement against industrial Renewable Energy Resources (RES) in Chios, Greece», *Atlas of Environmental Justice*, available at: <https://ejatlas.org/conflict/movement-against-industrial-renewable-energy-resources-res-in-chios>.

VIII. EPILOGUE: A MANIFESTO FULL OF ENERGY

The next step is to collectively bring ourselves closer to decision-making, every day, and it all aspects of social life.

Marina Garcés, *Excepcionalitats permanents*¹

The Xse was born from the conviction that we can supply ourselves with energy in another way. We believe that we, all of us equally, should decide what we use it for and what are the basic criteria for its generation. We think that energy should principally be used to enable the activities required for a decent quality of life, without putting the lives of other communities, here or abroad, or future generations at risk.

Energy generated primarily to generate market value without taking into account the many people who lack basic services is of no use to us. The overconsumption of energy in the Global North does not compensate the shortfalls in the places where the raw materials required for its production are extracted. Neither does it serve a planet which cannot keep up with our rate of consumption, now or in the future. Fossil fuels do not help us, nor the communities that see their wells and fields dry up, or their coast flood, or their people devastated by the impacts of extreme weather. Nor do they serve other living organisms which live in ever more degraded and fragmented habitats. Those served by

1. Opinion article in the newspaper Ara on the 24 December 2017 after the Catalan elections on the 21 December. Available in Catalan at https://www.ara.cat/opinio/Excepcionalitats-permanents_0_1930007033.html.

the current energy model are a handful of energy multinationals which control every kilowatt-hour we consume.

The tentacles of the energy Oligopoly reach to the very roots of the current energy model. They feed and perpetuate each other symbiotically. The tentacles of the Oligopoly are only interested in profits. They do not care whether they leave people (to die) without access to the essential services they control. They are blind to the inequalities which lie heavily on the shoulders of the people and which they feed off. They have no scruples about expelling communities and plundering their land to impose the structures they desire. They ignore the cries of alarm and reality checks manifested by our exhausted planet. The tentacles of the Oligopoly suck away our energy, the resources we need and our chance to lead a decent life.

Despite this, numerous people worldwide have shown that they have the energy to collectively construct alternatives and make space for them in the cracks between the tentacles. Protests defending land and basic services and movements to guarantee our rights abundantly demonstrate that we have energy. We've got the energy to drive a new energy model which respects the planet's natural cycles and the biophysical limits of places. We've got the energy to find our own mechanisms and financial resources to make it happen. We've got the energy to decide locally how we want to supply ourselves with energy. We've got the energy to govern its generation, transport, distribution and consumption collectively, without excluding anyone. We've got the energy to use it to meet our own needs, and to share and show solidarity with our neighbours.

We've got the energy to contest the power of the Oligopoly. We are aware that this requires profound changes in the roots of the current energy model, and the capitalist model that rules its dynamics at all levels: from the people who control it to its objectives and methods of operation. But we've got the energy find ways to collectively empower ourselves. We've got the energy to protect life.

IX. SOME CLARIFICATIONS

We will use this chapter to explain the Network for energy sovereignty's interpretation of various terms repeated throughout the book. However, these are not intended as exhaustive or academic definitions.

Global North and South

Typically, we use «Global North» and «Global South» to refer to two different groups of countries separated by the structural position they occupy in the modern «world system» as a result of globalisation, along with other factors. Although the countries comprising these groups are politically and culturally heterogeneous, the countries of the Global North are those which were historically called the «First World» or «developed countries» and are often, but not always, situated in the Northern hemisphere. The countries of the Global South, on the other hand, include those previously known as the «Third World» or «developing countries» and are, again with exceptions, mainly located in the Southern hemisphere.

Even so, in certain parts of the book, we change the scale of this classification and identify Norths within countries typically classified as of the Global South, and vice versa. In this way, we also use «Global North» to refer to the global elites of the extractive industry, whichever countries they come from. And, in the same way, sometimes we use «Global South» to refer to social strata, people, or places in the Global North which have been plundered, impoverished or put at risk by abuses perpetrated by others.

The electricity system of the Spanish state and the Oligopoly which controls it

The current electricity system of the Spanish state, characterised by centralised energy production (CEP) is organised into four activities: generation, transmission, distribution and sale (figure 8). At the end of the 1990s, with the liberalisation of the electricity system (*Law 45/1997, 27th November, of the Electrical Sector*), generation and supply were liberalised, whilst distribution and transmission remained regulated. The five large companies controlling most of the energy market in the Spanish state, which we call the Oligopoly, are: Endesa, Iberdrola, Gas Natural Fenosa and, to a lesser extent, Viesgo (previously E.ON) and EDP (all five are members of UNESA, the Spanish Electricity Industry Association (UNESA after its Spanish acronym)).

1. Generation: this consists of the production of electrical energy. Generation is marked by the centralisation of the current energy model. Generation happens in many forms, including nuclear, thermal, hydroelectric and other renewable sources. Currently the Oligopoly concentrates almost 70% of generation within the Spanish state.

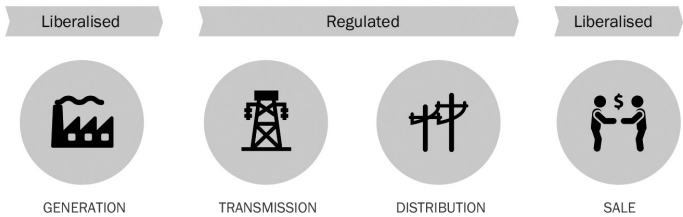
2. Transmission: this involves transporting energy over a transmission network to national actors interested in using or distributing it or to other states as part of exchanges. The electricity transmission network consists of a primary transmission network (with a voltage larger than or equal to 380 kV) and a secondary transmission network (up to 220kV). The whole network, originally privately owned, was expropriated by the then-public Spanish Electrical Grid (REE, after its Spanish acronym). However, the subsequent floating of the organisation on the stock market returned control of the system to private hands, with a small public participation.

3. Distribution: this involves distributing energy to end users, generally from the transmission network but also from other distribution networks or from the points of generation themselves.

Currently the five large companies of the Oligopoly control 93% of distribution in the Spanish state.

4. Sale: this is the sale of electrical energy from the distribution of transmission networks to consumers and other users, in accordance with regulations. Almost 90% of electricity sale in the Spanish state is in the hands of the Oligopoly.

Figure 8
Structure of the Spanish electricity market



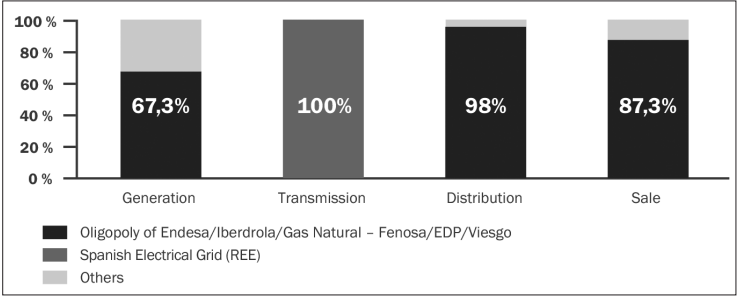
Source: Recovering control of energy: Actions to (re)localise electricity distribution

Despite the separation of function and ownership of the different activities of the electrical sector, the Spanish state has allowed vertical integration of the sector by a group of enterprises. This means that the five large groups of the Oligopoly do not only enjoy the privileges of natural monopolies (electricity distribution, for example) but also enjoy a dominant position in the electricity market in general (figure 9). For example, in the case of Endesa, although each activity is officially managed by a different company (Endesa Generación SA, Endesa Distribución Eléctrica SL, Endesa Energía XXI SLU, Endesa Energía SA Unipersonal, etc.), in practice these companies are vertically integrated as one group. This situation generates numerous privileges for the Oligopoly, through the remuneration they receive, their ability to interfere with the executive and legislative power of the state and the impunity with which they can act. It is also a source of inequalities and imbalances in access to the market, whether regulated or liberalised.

The situation in Catalonia is very similar to that in the rest of the Spanish state: Endesa and Iberdrola control 76% of installed

generation capacity, whilst control over the distribution network is held almost exclusively by Endesa, which controls 94% of the sector.

Figure 9
Distribution of activities in the electricity market in 2015. Adapted from *Periódico Diagonal*



Adapted from *Periódico Diagonal*

In 2016, of the 5,163 million euros spent by the government on electricity distribution, 93% ended up in the hands of the electricity Oligopoly (figure 10).

Figure 10
Remuneration of Oligopoly companies for electricity distribution 2016

