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Trade Unions' Participation in International Networks for Energy Democracy and Climate Change Mitigation

(Topic of thesis)

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List of Abbreviations

Campaign Against Climate Change (CCC)

Canadian Auto Workers (CAW)

Dakota Access Pipeline (DAPL)

Energy Intensive unions (EI-unions)

International Confederation of Free Trade Unions (ICFTU)

International Labour Organization (ILO)

International Trade Union Confederation (ITUC)

Less Energy Intensive unions (LEI-unions)

Public and Commercial Services Union (PCS)

The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO)

Trade Unions for Energy Democracy (TUED)

Transport Salaried Staffs Association (TSSA)

United Nations (U.N.)

United Nations Environment Program (UNEP)

Summary

The field of environmental labor studies, which seeks to combine labor in connection to environmental issues, is new and appears to be growing due to the present climate crisis. There are several issues that connect both fields. One of them being the reconciliation of labor protecting a sustainable environment for the well-being of workers and at the same time protecting jobs, that contribute to the deterioration of that same environment. In order to analyze this line of study more profoundly I intend to explore and compare the interests, difficulties and opportunity costs two different trade union sectors have for participating in a climate initiative for energy democratization. The trade unions were chosen from the network Trade Unions for Energy Democracy (TUED) and the samples were divided into energy-intensive and less-energy intensive unions. I chose a comparative case study that makes use of interviews to inductively create categories through content analysis that will answer the research question, since there is not much research and theory in the field of trade unions and climate change. So the data mostly served to qualitatively describe the phenomenon of unions getting involved in a climate mitigation strategy. However some key concepts found in literature were expected to be mentioned by trade unionists. The theoretical framework I focused on to analyze the results, is mostly based on the concepts of social movement unionism, the so-called job vs environment dilemma and on the Marxist concept of class. The results show that both groups have a class interest in participating in TUED. However, less-energy intensive union representatives suggest a more general/society-wide interest and a more consolidated identity with environmental issues. Energy-intensive unions, on the other hand, suggest a higher focus on interests related to jobs, reputation, membership, etc..The unions appear to have been able to respond to the new challenge of climate change and are beginning to renew their discourses in different degrees from more traditional grounds into elements of social movement unionism. Furthermore, a differing degree of involvement in the

project is identified, less-energy intensive unions being more participatory in the network. This is explained through the different effects an energy transition can have on the two sectors and the consequential ‘job vs environment’ dilemma. The dilemma is identified as a key difficulty in trade unions, present in both groups though in different degrees and with different outcomes. The dilemma expresses as a material tension between jobs and environment and is specially strong in energy-intensive sectors. Although this being an important setback in the project it is also shown, that this is not a fix phenomenon in unions and can change given political and economic circumstances.

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Chapter 1. Introduction

Several actors have emerged over the last decades as possible influencers on climate action. Academic research has shown that when it comes to climate governance more bottom-up initiatives have developed over the last years (Jordan et al., 2015). Trade unions, which are the scope of this work, are considered an important actor when it comes to climate action from the bottom-up (Rosemberg, 2012).

There are several fields of study in regards to trade unions and labor in general. But when it comes to labor and the environment and more specifically climate change, not much has been explored (Uzzell & Räthzel, 2012). The overall history of trade unions in relation to environmental issues has shown to be contradictory at certain points. Uzzell and Räthzel (2012) discuss the different relations unions have had with the environment during past and present times, showing that a concern in environmental issues is present in trade unions. This focus in unions has even been called ‘green unionism’ by Silverman (2006). However, tensions between trade unions and environmental movements have grown in the neoliberal era, especially since some workers have perceived environmental concerns as job threatening (Baker, Stock, & Velazquez, 2011, pp. 708-709). This has contributed to the reputation of trade unions as being anti-environmental (Baker et al., 2011) and given rise to the concept of the ‘job vs environment’ dilemma. This dynamic, however, seems to be changing in this new era of climate change. Uzzell and Räthzel (2012) describe that unions around the world have been rapidly incorporating climate change issues into their policies. This new phenomenon is to be explored in the upcoming chapters. In the following a short summary on the present state of the art of research on trade unions in general and their relation to environmental issues will be presented to have a short overview on present discussions in those fields. The specific focus of this work will be explained later on.

The literature on trade unions without a specific focus on the environment is vast and also important to analyze unions' relationship with it. Moreover as already mentioned, the combined fields of labor and environment have not been widely examined (Uzzell & Räthzel, 2012). This is why some of the already explored elements in the fields of industrial relations/labor studies and social movement theory are needed in general and in this work to understand the new relationship between unions and climate change. Some of the elements that have been studied in these areas are: revitalization strategies, i.e. union renewal, in relation to union decline (Frege & Kelly, 2003); the role identity has played in union strategy (Frege, Heery, & Turner, 2010); the effect of institutions on trade union structure and identity (Hyman, 2001b); research on social movement unionism (Moody, 1997; Turner & Hurd, 2001) and the historical reasons for union density decline in the last decades (Vachon, Wallace, & Hyde, 2016), amongst others.

From the few research studies that can be found in the field of trade unions and the environment one can point out several topics (some of which will be clarified in more depth during the next chapters), i.e. the 'job vs environment' dilemma and the level of commitment of specific industry branches to climate action (Hrynyshyn & Ross, 2011); the different institutional strategies trade unions have followed for a possible energy transition (e.g. Green New Deal, eco-liberalism) (Nugent, 2011); discourse analysis of trade unions in relation to the protection of jobs and the environment (Uzzell & Räthzel, 2012); case studies on trade unions' actions for cleaner production (Roelofs, 1999), etc.

Some of the most important points mentioned in the reviewed literature on trade unions and climate change, that will be thoroughly presented in the next chapters, still revolve around the 'jobs vs environment' dilemma. Moreover, Räthzel and Uzzell (2011) identify that workers from different sectors of the economy will be differently affected either by environmental policies or climate change and that this has brought differing responses from trade unions.

Hampton (2015, p. 39) even states, that workers in society will be the largest bearers of the harm produced by climate change.

As can be assumed by the last paragraph, there are several reasons why a study on trade unions and climate change can be an important contributor to the field of climate politics, labor studies, among others. So first, even though it is important to understand the relationship between labor and climate, there is not much research on this field as has been pointed out by Räthzel & Uzzell (2012). The scholars (ibid.) have identified that the relationship between labor and the environment has not been widely discussed in academic research, a new field they have called *environmental labor studies* and which needs more exploration. Second, the rise of this new field has come with an interest by some trade unions to incorporate climate change into their agenda and with a class based conception (ibid.), even though the reputation for being anti-environmental still remains present in others. Third, it is important and necessary to have a focus on labor and therefore trade unions, when it comes to climate politics, if the intention is to tackle the issue in a socially just manner (Hampton, 2015, p. 199). Finally, the literature review shows that there are still many open questions when it comes to e.g. the different strategies used by unions to manage the conflict between jobs and the environment; the degree on which this dilemma will affect some unions more than others; the difficulties unions face in regards to climate change; the interests trade unions have for engaging in climate initiatives; the formation of trade union identity in the times of climate change and the specific strategies used for the advancement of climate protection initiatives in society, etc. For these reasons I decided to design a study that could qualitatively and descriptively contribute to some of these open questions.

There are many possible focuses that could have followed several unexplored topics in this field. The purpose of this comparative case study is to explore and provide an explanation for and description of what the interests,

encountered difficulties and opportunity costs of trade unions in Trade Unions for Energy Democracy (TUED) from energy intensive and less-energy intensive sectors could be. TUED is an international network of trade unions that seeks to tackle climate change while also defending workers rights (TUEDa, n.d.). Given the different effects climate change policies will have on different economic sectors (Uzzell & Räthzel, 2011) I intend to compare the qualitative differences and simmilarities stated by union representatives from both sectors. Moreover, derived from the literature review I also want to examine if the often-appearing problem of 'job vs environment' (Silverman, 2006; Hrynyshyn & Ross, 2011), the concept of social movement unionism by Moody (1997) and the Marxist concept of class by Wright (2005) in relation to the environment as expressed by Hampton (2015) can be expected to be part of the interests, difficulties and opportunity costs mentioned by the unionists. The theoretical framework I use in this work to analyze the results, is mostly based on the three concepts mentioned before, but also on other concepts of labor studies, that will be explained in the following chapter. Furthermore, the scope of my study does not envision to analyze whether trade union engagement in energy democratization can or can not quantitatively contribute to climate change mitigation.

The subject of study, TUED, involves more then 50 trade unions worldwide and describes itself as a "global, multisector initiative to advance democratic direction and control of energy in a way that promotes solutions to the climate crisis, energy poverty, the degradation of both land and people, and responds to the attacks on workers' rights and protections" (TUEDa, n.d.). Overall I have chosen six unions (three energy intensive and three less energy intensive sectors) for interviews that provide qualitative data for further content analysis. The chosen research design intends to create inductive descriptions of the phenomenon, so results from the content analysis provide only inductively derived information to answer the research questions.

On the following a short guide on the next chapters will be provided. Chapter 2 intends to give an overview into the most important theoretical aspects and contributions related to trade unions and labor-environment relations. In order to better comprehend the purpose of trade unions' existence a short history of their emergence is delivered in the first section of this chapter. Later on, the concept of union identity by Hyman (2001b) and class by Wright (2005) are explained. Furthermore an overview on union decline during the neoliberal era and the related emergence of revitalization strategies of unions, such as social movement unionism, in response to this crisis is given. The next section focuses on trade unions and their relation to environmental issues and the 'job vs environment' dilemma. Moreover the last two sections of this chapter deal with concepts of trade union origin: just transition and green jobs; and with a short summary of TUED's main goals and objectives. Finally, I will explain why these concepts were chosen to analyze the results of my comparative case study.

Chapter 3 deals with the methodology choices made for this study. First, the choice for a comparative case study is explained. All decisions regarding the sampling, the strategy for creating the semi-structured guided interviews, the recording and transcription of recordings, methods for a qualitative content analysis, etc. are further clarified in this chapter.

Chapters 4, 5 and 6 deal with the results of the study, the interpretation and conclusion of the information collected through the interviews. Results show qualitative differences and also some similarities between energy intensive and less energy intensive unions in TUED when it comes to their interests, difficulties and opportunity costs for participating in energy democracy. The 'job vs environment' dilemma proves to be a latent issue in these unions, albeit to different degrees depending on the sector. A class-based understanding of climate change and elements of social movement unionism are also identified.

Chapter 2. Theoretical framework and research question

On the following chapter a literature review will be presented with the most important points esteemed necessary to understand the dynamics of unions and their relation with environmental issues. The literature and theoretical framework will serve as a basis for the creation of the research question and the interpretation of the results and their discussion.

2.1 Trade Unions and Identity

> Die Arbeit ist zunächst ein Prozeß zwischen Mensch und Natur, ein Prozeß, worin der Mensch seinen Stoffwechsel mit der Natur durch seine eigne Tat vermittelt, regelt und kontrolliert. Er tritt dem Naturstoff selbst als eine Naturmacht gegenüber. Die seiner Leiblichkeit angehörigen Naturkräfte […] setzt er in Bewegung, um sich den Naturstoff in einer für sein eignes Leben brauchbaren Form anzueignen. Indem er durch diese Bewegung auf die Natur außer ihm wirkt und sie verändert, verändert er zugleich seine eigne Natur.
>
> - Karl Marx, *Das Kapital Bd. I*

2.1.1 Short history

In order to better understand the 'nature' or purpose of a trade union and therefore their possible role in climate mitigation, a short historical overview following the work of Pelling (1992) on trade unions' origins will be made and their different present standpoints will also be presented.

As is well known trade unions' history has as a starting point the emergence of capitalism in Britain during the eighteenth century. From the eighteenth to the nineteenth century the commerce was growing rapidly, communication was being improved, the industry was specializing in different branches and machinery was introduced into the process of production, thus, changing the way society was structured. This had several effects in the world of workers. The interests of the masters and of working men became more and more

separated. Prior methods of wage regulation by the state and other regulations of workers, through the so-called gilds of craftsmen, started to be neglected by the masters and the state during the increasing industrial change. That is, the British parliament saw the old gilds and wage regulations as out-of-date and followed a line of non-involvement. Therefore, the need to reclaim that growing loss of rights led the worksmen to "combine separately from their employers" (Pelling, 1992, p. 8). The so-called *combinations* were formed, which would resort to strikes and sometimes violent acts to fight for their goals. Out of fear for further unrest, the state prohibited the combinations that had grown as a response to changes in the structure of industry. As can be taken from this the period of the Industrial Revolution was not representative of a smooth transition to capitalism. Different layers of society saw themselves affected in different ways and the new processes in production expanded gradually and unequally from one industry to the other. It can be affirmed, that combinations formed the nucleus of the modern trade unions, a term that would only be used in the early nineteenth century. One can therefore state, that trade unions emerged out as a historical response that made the workers need to defend or fight for what they regarded would allow them better conditions of living and work.

Since then trade unions have gone through several different historical periods in different geographical constellations. For example, in the 1880s the demand for the eight-hours day played a decisive role in the labor movement; between 1914-21 workplace organization and shop stewards (factory level union representatives) made the headlines; in the 1930s it was the time for the forty hour work week, and so on (Moody, 1997). Those early periods of mass organizations and strike movements have been named today as a period characterized by social movement unionism (Turner & Hurd, 2001), a term that will be explained in more detail later on in this text.

Over the post-war period until about the 1980s trade unions in the Western world followed more or less forms of unionism characterized first, as business unionism, which meant collective bargains (negotiations between employers and workers) through enforcement of contracts, and representational services for the union members and other forms of occupational interests (Turner & Hurd, 2001; Upchurch, Taylor, & Mathers, 2009) and second, social democratic unionism, or 'social partners', focused on social integration and cohesion (Hyman, 2007; Upchurch et al., 2009).

When neoliberalism (high capital mobility, free markets, privatization, deregulation, free trade and a reduced role of the state) was implemented around the 1970s through the governments of Ronald Reagan in the U.S. and Margaret Thatcher in the UK trade unions saw a decline in membership and, thus, power in society (Vachon et al., 2016). Several reasons are associated with the situation of declining union density (ratio of workers members of trade unions to all employees in a country) throughout the world that still has its effects today. Decline of density can be taken from Table 1.. It needs to be noticed that some countries have seen more dramatic decline rates (e.g. Australia) than others, e.g. Norway, which has remained relatively stable.

Table 1. Selected countries and their percentages of union members who are employees in relation to the total number of employees throughout the years

Countries	2001	2003	2005	2007	2009	2011	2013
Germany	23.7	23.0	21.7	19.9	18.9	18.0	17.7
UK	29.5	29.6	28.4	27.9	27.1	25.6	25.4
Philippines	-	-	11.7	11.0	10.6	8.7	8.5
U.S.	12.9	12.4	12.0	11.6	11.8	11.3	10.8
South Africa	44.9	34.5	31.8	29.5	29.7	29.0	-
Norway	53.9	55.1	54.9	53.0	53.6	53.5	53.5
Denmark	73.3	71.6	70.7	67.9	67.7	66.4	66.8
Australia	24.5	23.0	22.3	18.5	19.3	18.5	17.0

Source: Data from International Labour Organization, ILOSTAT (n.d.). Trade union density rate.

Some of the reasons analyzed by academics on why trade union membership has declined since the introduction of the neoliberal era are, the increasing integration of the global economy as a constraint to employment regulation at national level that undermined the regulatory capacity of unions in real wages and social benefits (Hyman, 2007). Also related to this last point, are further changes in the demography of employees and employers, such as the shrinking of the average size of private firms (through e.g. subcontracting), that tended to make unionization more difficult (ibid.). A growth in private services and decline in the manufacturing sector have also been important union decline contributors (ibid.). Other changes in the labor market such as flexible employment contracts, part-time work and unemployment have also been stated to be responsible for union decline (Bryson, Ebbinghaus, & Visser, 2011). Another reason is termed of ideological nature, linked to a loss of unions' reputation. In the case of European unions, they thrived when collective regulation, employment regulation and the welfare state were part of the main discourse (Hyman, 2007). With the arrival of a neoliberal ideology, trade unions were put in a defensive situation, thus, seen as representatives of vested interests, that is, of those who had a more stable work situation and not the most vulnerable, therefore causing a discursive loss of status (ibid.). Furthermore, Turner (2001) affirms that, historically, business unionism had a demobilizing force, that made unions defenseless in the face of deregulation. Related to this, Bryson et al. (2011) also recognize a problem in union inaction in relation to youth integration, new social movements and competition from alternative providers, such as the welfare state and social insurance. Moreover, in the political arena a shift of traditionally left parties to centrist positions regarding the welfare state and markets have also contributed to the erosion of unions (Vachon et al., 2016). Finally, the neoliberal feature of trade openness put workers from advanced capitalist economies in 'competition' with workers from other parts of the world (Vachon et al., 2016). These workers have often less legal protection, lower minimum wage standards and their regions lower environmental protection standards (ibid.). Thus, employers see themselves

closing shops, moving to less unionized areas or moving to other countries. It is in this same epoch that the rise of neoliberalism was accompanied by a massive growth of insecurity, specially fear of job loss, in the workplace (Hyman, 1999).

It is important to mention, however, that not all unions in the world need to rely on their membership density in order to fulfill their function (Bryson et al., 2011). In Europe, e.g., some unions are so institutionally embedded into society that they still can exercise influence. This does not mean, however, that numbers do not count at all, but that European unions face different choices on ameliorating decline. Anglo-American unions, on the other hand, depend heavily on their membership to survive financially, making loss of membership have a strong influence on these unions' practices.

The list of explanations to why unions have declined and failed to renew themselves could continue, but that would diverge too much from the scope of this work. More on the identities of unions, their renewal and its relation to the environmental question will be discussed further on in this chapter. On the following an overview will be given to the different terms and concepts academics have used to describe the essence of unions.

2.1.2 Trade union's essence and class

Literature on trade unionism as a study topic is very wide and varied (Hodder & Edwards, 2015). In order to first understand this field of study it is necessary to define what trade unions actually are and stand for. They are primarily defined by Hyman (2007, p. 1) as strategic actors that "provide a formal mechanism of collective representation" in the industrial arena, thus their organizational structures are indirectly shaped by the division of labor and by the practices of the member's employers. Moreover, in the socio-political arena unions are shaped in reaction to the dominant institutional arrangements (Hyman, 2007). And lastly, "their terrain of action is largely

bounded by the contours of the nation-state" (ibid., p. 1). Moreover, Allen (as cited in Hodder & Edwards (2015)) explains trade unions as organizations, that exist primarily for the representation of member's interests, both individual and collective. For Moody (1997, p. 54) unions are ambiguous organizations, that on the one hand fight capital in the defense of labor and on the other hand "attempt to hold the lines of defense through long-term stable bargaining relations, a rudimentary type of social partnership". In the varied Marxist tradition, trade unions are products of capitalist society and represent, thus, a distinct class of wage workers against a class of capitalists, or owners of the means of production (Hodder & Edwards, 2015). They have, therefore, a very specific function in society, which is to represent the interests of the class of workers (ibid.). Class, as defined in Marxist terms, means "a general description of structures of material inequality and, second, actual or potential social forces, or social actors, which have the capacity to transform society" (Hampton, 2015, p. 30). In Marxist terms this concept is based on the understanding that capitalist society is formed by the exploitation, i.e. the appropriation of part of the product of labor, of one class, that only owns its labor power, by another class, those who own the means of production (tools and resources) and the results of the use of the product (Hampton, 2015; Wright, 2005). The sum of the rights and power over the inputs and over the results of a production process creates what is called social relations of production (Wright, 2005, p. 10). So, class represents those that have a common position within the social relations of production (Hampton, 2015, p. 30). Different classes in society form what is called a class relation, i.e., when some have more rights and powers over resources when deploying them in the production process than others (Wright, 2005). Furthermore, class interest, is a further important term in order to understand the existence of trade unions. Class interests are defined by Wright (2005, p. 20) as "the material interests of people derived from their location-within-class-relations". The material interests, such as standards of living, working conditions, leisure, material security, etc. are considered belonging to a specific 'class' because "the

opportunities and trade-offs people face in pursuing these interests are structured by [their belonging to that specific class]" (ibid.). In relation to this last aspect, class consciousness is "the subjective awareness people have of their class interests and the conditions for advancing them" (Wright, 2005, p. 21). Trade unions fit into what is termed class formation, i.e., collectivities that facilitate the pursuit of class interests, such as, political parties, employers associations, etc. (ibid.). The continued existence of formations in representation of the so-called 'working class', such as trade unions, make sense when exploitation and inequalities still exist (ibid).

Unions not only represent a specific class in society but also have different forms, depending on several factors in society, of defending its members interests. This can be explained through Hyman's analysis (as cited in Upchurch et al. (2009)) of the historical development trade unions have been through and which has shaped roughly three union orientations, the so-called 'triple polarization': 1) towards a revolutionary anti-capitalist orientation; 2) a focus on social integration and cohesion and/or 3) an orientation towards narrow occupational (i.e. profession related) interests. This concept will be explained in depth in the next sub-chapter on 'identities'.

In the extensive debate on trade unionism in academy several terms have been used to describe the types and essence of unionism, i.e., character, function, identity, ideology and purpose (Hodder & Edwards, 2015). Academic work has mostly focused on the use of these categories to describe and better understand trade unions. Hodder & Edwards (2015) make an extensive literature review on the debate around these categories. For example, purpose, as described by Martin (as cited in Hodder & Edwards (2015)), is a unionist aim, goal or objective and a function is the method or mode of action to achieve a purpose. Moreover, ideology, is described by Hyman and Brough (1975) as a frame of reference or *Weltanschauung* and according to Gumbrell-McCormick (2013) union ideology may derive from external influences, such

as Churches or political parties, and are internalized within. Moreover, identity is described by Gumbrell-McCormick (2013) as,

> the relatively stable characteristics and orientations of an organization, tending to persist regardless of changes in personnel, which have both an internal dimension (assuring members, activists and officials what the union is and does) and an external one (proclaiming the nature of the union in the broader industrial relations and public sphere).

Hodder & Edwards (2015) summarize these categories and, thus, the essence of trade unions as follows,

> The purpose of a union is to pursue objectives that reflect its identity. Its ideology is the set of values and ideas that inform and give meaning to purpose. Strategies are concrete plans and objectives which arise from the complex interaction between the leadership and the rank and file and lead to specific actions such as campaigns to organize certain groups of workers.

Additionally, several elements can influence purposes, strategies, identities, ideologies, etc., and further categories that shape and make specific trade unions what they are. Some of these internal and/or external influences worth mentioning are, political or economical historical moments in which class struggles take new shapes, institutional arrangements, relation to state and employers, affiliation to parties or other organizations, market or class orientation of unions, etc. (Hodder & Edwards, 2015).

2.1.3 Identities and social movement unionism

As explained before, Hyman (2001b) recognizes three different orientations of union identity (‘triple polarization’): business unionism, social democratic unionism and class opposition. The author further states that this polarization in trade union models stems from a single theme, which is “a triple tension at the heart of union identity and purpose” (ibid.). He calls this, the eternal triangle, in which, visually, each point of a triangle represents respectively, class, society and the market. Unions face each of these directions, i.e. business unionism focuses on the market through collective bargaining, occupational interests and an autonomy from politics (found e.g. in the UK and the US), integrative or social-democratic unions focus on society through

social welfare and social cohesion (found in Germany) and class oppositional unions focus on class through militancy and socio-political mobilization (found in Italy and Spain) (Frege & Kelly, 2003; Hyman, 2001b). It needs mentioning, however, that there is no fixation on only one model; since trade unions cannot ignore altogether the effects each of the other points might have on themselves (Hyman, 2001b). The different orientational combinations, explains Hyman (2001b), are a reflection of material circumstances and ideological tradition.

Furthermore, going back to the mentioned decline trade unions have experienced in the last couple of decades due to the introduction of neoliberalism, this has resulted in membership loss, declining effectiveness on collective bargaining, a difficulty for defining common interests, low mobilizing capacity, etc. (Frege & Kelly, 2003). As a response to this 'crisis' unions have sought new ways to tackle and potentially reverse these problems, a process called revitalization (ibid.).

Frege and Kelly (2003) have identified six major strategies for revitalization. Those six strategies will be shortly mentioned. First, *organizing*, a method use to gain new members, but also to strengthen representation at the workplace and mobilizing capacity. Second, c*oalition building,* which is the formation of coalitions with other social movements, such as the anti-globalization and environmental movements. This is supposed to help in acquiring more resources, such as access to key individuals or networks, broaden the range of interests unions represent and thus, better their "appeal to poorly represented segments of the labor force" (Hyman as cited in Frege & Kelly (2003, p. 9)). Third, *partnerships with employers* at distinct levels (national, industrial or workplace). Unions can develop bargaining institutions and employer cooperation to pursue new kinds of interests, e.g. increase the perceptions of union instrumentality to non-members and thus, reduce a possible negative image of conflict builder. Fourth, *political action,* could help in having access

to ‘power resources’, that could allow a more favorable labor legislation or corporatist labor market regulation. Lastly, *international links*, can facilitate the exchange of information about multinational corporation, improve union’s bargaining power and political power through international lobbying and aid in the mobilization of members in campaigns.

Another important revitalization strategy mentioned by Moody (1997), is the aspect of identity as social movement unionism. Social movement unionism is an orientation that incorporates not only the immediate union members’ demands but also other aspects that affect working people locally or nationally (Moody, 1997). Moreover, unions and their members take an active lead in the streets and politics (Moody, 1997) and it requires alliances with other organizations that share equal goals (Engeman, 2015). Turner and Hurd (2001) have stated that other strategies of revitalization, also mentioned before by Frege and Kelly (2003), like grassroots political action, organizing of ‘the unorganized’, international solidarity and labor-management partnerships are more or less also connected to the essence of social movement unionism, which for Turner and Hurd (2001) is an emphasis on rank-and-file participation or mobilization. So, some of the revitalization strategies presented before are essentially in part what constitutes a social movement unionism. Furthermore, following this logic one could state that *coalition building*, is one of the specific tools used by unions to translate their social movement orientation (Frege et al., 2010; Hampton, 2015). Since social movement unionism is the broadening of interests to be defended by unions, one would consider coalition building with representatives of those interests to be the most important strategy. Coalition building is, however, a narrow definition for joint activity with organizations from civil society (Frege et al., 2010). Joint action between two or several unions (like TUED’s case), between unions and political parties and other state agents, however, are not considered coalitions in literature (ibid.). So, the incorporation of social movement goals into the unions, such as environmental concern in TUED’s

unions, strengthen the orientation of unions toward social movement unionism, but are not considered as coalitions by Frege et al. (2010). One could therefore state that the incorporation of other interests to be pursued, be it racial, ethnical, gendered or environmental complement the identity of unions (Hodder & Edwards, 2015; Hyman, 2007).

Social movement unionism is considered by many scholars to be in the heart of a current revitalization process, in which a shift is seen from a postwar unionism to a new form of social movement unionism (Turner & Hurd, 2001). Some important scholars in the field of industrial relations, such as Hyman (1999), have focused on the urgency to transform unions' agendas (mostly from the West) to a broader constituency and to move away from the sole focus of achieving payment for 'family wage', reducing the standard working week, constraining the employers ability to hire and fire freely, etc.. This change must come, so the same author, because of the overall dynamics that came and transformed the working world since the inception of neoliberalism. Hyman (1999), further states that this change towards social movement unionism is not only driven by the material problems working people have had to adapt to, but also by the moral indignation this decline and material changes have brought along. In order to "resist the hostile forces" (Hyman, 1999, p. 3) trade unions are confronted with, unions most mobilize to attract, inspire and win support of a broader public, in other words, it is a "battle for ideas" (ibid., p. 4). The exhaustion of a traditional union discourse and the failure to respond to new challenges have contributed to the decline of unions, so Hyman (1999). An example to this, is the situation described by Turner and Hurd (2001) in the United States during the 1960s and 1970s. It was a time when the country saw many new social movements rise, e.g. the civil rights, antiwar, women's and environmental movements, but because of the non-participatory and conservative business unionist character of American unions, many labor leaders gave primary loyalty to their members and the status quo, thus, missing the opportunity to get involved and participate in major transformative

processes that could have reinvigorated the unions themselves. How much effect the non-participation of unions in major national social movements had on them can be nicely exemplified through the situation of unions in the public sector at that time (ibid.). Because of their more open activism encompassing a broader membership (black, Hispanic, women and youths), that was mobilized by the social movements, this sector grew throughout the 1970s and by the 1980s membership density was double compared to the declining private sector, which for its part was reluctant to broaden its activist base.

Hyman (2007) asserts that a return to the historical role of trade unions as an identity of 'sword of justice' (or social movement unionism) in which contesting oppression, inequality and discrimination are part of the agenda could redefine unions as outsiders and place them out of their comfort zones. Nonetheless a necessary step towards renewal and survival (Hyman, 2007; Ross, 2007).

In this last section, several points were made and explained in relation to trade unions' history and essence. The most important aspects will be briefly summarized in the following. The section began with a compressed narration of trade unions emergence in Britain during the nineteenth century as a consequence of the historical process of changing of production (Pelling, 1992). Following their historical emergence and later history, trade unions can be described as strategic actors in society influenced in their strategies and identities by class, society and the market (Hyman, 2007). Their several identities are termed in the field of industrial relations as business unionism, social-democratic unionism and class opposition (Hyman, 2001a). Finally, unionism saw a decline through the commencement of the neoliberal era (Vachon et al., 2016). Several reasons explained throughout the text showed the decline of unions as a worldwide phenomenon. As a response to tackle this crisis unions have sought new strategies to revitalize and renew themselves, one of them being e.g. the creation of international links between unions and

another the incorporation of social movement unionism into their identity and thus, broadening their appeal to other groups in society (Frege et al., 2010; Frege & Kelly, 2003; Moody, 1997; Ross, 2007; Turner & Hurd, 2001).

2.2 Trade unions and the environment

The relationship of trade unions and the environment can be boiled down toward one crucial point, so Hampton (2015, p. 38), on "whether workers and their organizations have a coherent interest in ecological matters". The author states that the best way to reconstruct the interest of workers with respect to ecology is the conception of exploitation of waged labor force, i.e. of appropriation of the product of labor of others. Hampton (ibid.) explains climate change from the lens of class as, the affluent benefiting at the expense of the world's poor. It is the same mechanisms that give rise to exploitation, i.e. a longer working day and the reorganization and mechanization of the labor process, that at the same time creates growing ecological damage (Hampton, 2015, p. 39). This connection means that workers who have a motive to fight against their own exploitation, have at the same time the means to abolish the processes that create environmental degradation (ibid.). Hampton (2015, p. 39) further states, that therein lies the value of class as "potentially capable of embracing the general, universal interest of ecology as its own special interest". He identifies in this specific class an important potential for agents of change (Hampton, 2015, p. 32). The working class as the collective producer in capitalist society "has the objective capacity to found a new, non-exploitative mode of production" (Mulhern as cited in Hampton (2015, p. 32)). Or as Marxist economist Paul Burkett (2006, p. 300) has stated,

> It [the working class] is the only systematically essential group that directly experiences the limitations of purely economic struggles over wages and working conditions as ways of achieving human development, given the increasingly communal and global character of the environmental problems produced by capitalist production. It is, therefore, the only agency capable not just of envisioning but of practically undertaking a planned and life-guided recombination of economic and environmental reproduction.

Furthermore, a working class interest in environmental issues and in climate change is also due, so Hampton (2015, p. 39), to the working class being the principal victims of ecological degradation. The working class is most vulnerable to the impacts of climate change, due to their limited resources for adaptation "given their levels of wages and limited access to means of production" (ibid.), and to climate policies, when they are designed to shift costs of mitigation and adaptation from capital onto labor. For these reasons Hampton (2015, p. 47) expects that workers in the struggle against the impacts of climate change and policy in a way will generate further class antagonisms.

The specific relation of unions and the environment so far will be explained in the following sections.

2.2.1 Job vs. Environment dilemma

In order to understand the most pressing conflicts inside the labor movement about its relationship with the environment and more specifically climate change, a thorough explanation is needed regarding what is known as the 'job vs. environment' dilemma.

It would not be correct to state that trade unions have historically not had an interest on overall matters concerning the environment. Uzzell and Räthzel (2012) analyze two important ways in which the labor movement has shown its relation to the environment. At first in the beginning of the 20th century "trade unions were more organized like we think of social movements today" (ibid., p. 1). Concerns that were not necessarily associated to workplace problems were an important part of the labor movement, including the environment. For example, the act of mass trespass in 1932, where environmentalists and workers walked through the privately owned moors of Kinder Scout to protest the lack of green space in industrial cities of North England. The second way, as described by Uzzell and Räthzel (2012), is when

it comes to advocating for direct environmental issues affecting workers or nearby communities, e.g. in matters of occupational health and safety, exposure to pollution, toxic waste and other workplace hazards (Baker et al., 2011). These concerns, tackled by trade unionists, have also had a positive effect on the protection of the surrounding environment (Baker et al., 2011, p. 704). A good example is the fight won in the 1970s in the U.S. through trade union pressure that resulted in the Occupational Safety and Health Act (ibid.). This act later on helped with the passage of the Clean Water Act amendments.

However despite the obvious interest of trade unions in the safety of their own workers, around the 1980s during the economic decline tensions between trade unions and the environmental movements grew, so Baker et al. (2011, pp. 708-709). Environmental movements on one hand advocating for cleaner production, or for the elimination of certain productive sectors and trade unions on the other hand protecting their jobs. Some union jobs have been lost to environmentally damaging companies that have had to close down. It has also been the case that the threat of closure has been used by companies to gain labor support for the continuation of production. This dynamic, which is not to be seen unrelated to the specifics in sector and region trade unions work, has contributed to the reputation of trade unions as being anti-environmental. Workers viewed environmental concerns as job threatening and their own concerns as not being taken seriously. Since one of the principal interests of workers and trade unions in general is job protection (Snell & Fairbrother, 2011), it is but logical that whatever threatens or seems to threat jobs will be seen antagonistically. Barry (2012, p. 227), claims on a more identity-type argument, that trade unionism's support and promotion of unsustainable production stems from the fact that there is an "uncritical embracing of orthodox economic growth (capital accumulation) and consequently an overly narrow focus on issues around formal employment, pay and conditions". This entire problematic has been termed the 'jobs vs environment' dilemma (Silvermann, 2006). As can be taken from this

paragraph, on one hand in jobs vs environment there is a phenomenon of protecting jobs for members and on the other the promotion of jobs because of the expansionist logic accepted by trade unions, even if this means environmental costs.

A good example on this phenomenon, is the case of the CAW (Canadian Auto Workers). This union, though not free of inner frictions, has historically shown a commitment to environmental issues, due to its known engagement in social unionism (Hrynyshyn & Ross, 2011). The union's policy statements have gone far enough to "have recognized the need to rethink the structure of the transportation industry itself [and] the dominance of the private automobile" (Hrynyshyn & Ross, 2011, p. 19) and therefore put into question some fundamental characteristics of their branch of industry. Some specific examples worth mentioning to show the kind of commitment the CAW has shown for the environment are: 1) in the 1980s CAW activists joined residents in Windsor (Canada) to organize against a Ford foundry that was producing toxic emissions and giving health problems to the community (Hrynyshyn & Ross, 2011); 2) the CAW has also used its bargaining power for environmental issues, like in 2002 when the bargaining requirements included a ban on mercury in the production of cars in order to preserve water quality in the regions where most of the Canadian car industry was located (Hrynyshyn & Ross, 2011). However a change has been seen since about the 2000s, especially from 2004 onward when Canadian manufacturing suffered a crisis and 500.000 jobs were lost until 2009 (Nugent, 2011). The CAW changed its rhetoric to one more protective of its jobs and wages. This defensive position has been translated into that every environmental policy that discriminated against the production of large vehicles, as e.g fuel efficiency standards (Hrynyshyn & Ross, 2011), has been perceived as a direct threat to the CAW (Nugent, 2011). Or as Hargrove, the former President of CAW, has expressed it, "the environment, I repeat, is important, but our members' jobs are much more important to me" (as cited in Hrynyshyn & Ross (2011, p. 24)).

There exists, therefore, a contradiction. On the one hand an existence of union environmentalism or green unionism as defined by Silverman (2006) has been present during most of the history of the labor movement. On the other hand labor has been associated with "an instrumental view of nature [...in which...] more jobs […], whatever the environmental costs, are the solution's to workers needs" (ibid., p. 1126). Silverman (2006, p. 1128) associates the existence of the dilemma of jobs vs environment because the pursue of "bettering the economic conditions of workers sometimes leads labor to accept environmental degradation and unsustainable development". So it can be stated, as have Hrynyshyn and Ross (2011), that workers do not have an inherent tendency to defend a narrow view on jobs. But there is a real material tension between the defense of jobs and the environment entrenched in the mode of production that exists today (Hrynyshyn & Ross, 2011). When it comes to climate change, the dilemma is further stimulated also by a great insecurity in matters of how much the phenomenon and its policies will affect workers, either through job losses, gains or changes, specially since unions saw the international debate marginalizing the importance of workers (Hampton, 2015, p. 59). Furthermore, the insecurity in job losses or gains in relation to climate change mitigation is also based on the fact that even if net gains were higher than job losses, as some scholars defend, it does not mean that those same workers that lost their jobs, would be the ones promised a new one and this could certainly pose strains in unions (Hampton, 2015, p. 62).

There is, thus, a big divide between parts of the labor movement favoring an engagement with the environmental question and others that see in it a draining of resources, a distraction of the main purpose and receiving little in return (Silverman, 2006). In recent years, however, with the growing concern climate change has given rise to, this dichotomy has been growingly contested. Unions around the world have been fast incorporating climate change issues into their policies (Uzzell & Räthzel, 2012). The main rhetoric

being the argument that an active participation in building a ‘green economy’ might provide more green and just jobs than what might be lost if nothing is undertaken (Uzzell & Räthzel, 2012).

When it comes to climate change scholars have recognized that it will have an impact on work, be it directly through climates change’s effects or through environmental policies affecting the production process (Räthzel & Uzzell, 2011). Changes or impacts might affect workers through the loss of jobs, the changing of jobs, or/and the creation of new jobs, e.g. green jobs (ibid.).

On the following, two cases will exemplify the vanguard and antagonistic approaches unions have shown in relation to the climate crisis. First, the creation of the campaign for one million climate jobs in the UK by the Trade union group of the Campaign Against Climate Change (CCC) (CCC, n.d.) and, second, the recent case of the Dakota Access Pipeline (DAPL) and the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) (Trumka, 2017).

The CCC sees to link the problem of unemployment in the UK and climate change, by uniting several trade unions like the Public and Commercial Services Union (PCS), Transport Salaried Staffs Association (TSSA), UNITE etc. and environmental activists (Neale, 2014). To halt climate change and to solve unemployment the campaign sees the need for government intervention and investment for the creation of what they call ‘climate jobs’ in “wind power, solar power, wave power and tidal power to meet all [...] energy needs”, in the insulation of buildings to conserve energy and in public transportation powered by renewable energy (Neale, 2014, p. 4). Moreover, the campaign has claimed that a further intention of ‘climate jobs’ is to cap emissions and secure workers that could lose their jobs through the creation of these new jobs (Neale, 2014). Although there have been frictions with unions inside the campaign as the following citation states, “While all the unions

involved support the general argument, not all of them agree with every demand" (Neale, 2014, p. on Contributors), the project assures that "[a]ll of us, however, are united in the demand for a million jobs to save the planet" (ibid.). A common argument between different interests has been the solution for different unions to help mitigate climate change.

On the other hand the case of the DAPL shows an exact opposite involvement of some unions in regards to environmental protection. The protests against the construction of the DAPL, although led by the Native American tribe Standing Rock Sioux, also saw the involvement of environmentalists and unions, which not only supported the protection for ground water and cultural aspects, but also the fight against climate change, since the pipeline would continue the exploitation of fossil fuels for energy (Brecher, 2016; Wehelie, n.d.). Despite the impact of this movement, e.g. through Obama's administrative halt of construction, Richard Trumka, president of the AFL-CIO, issued a statement, that falls into the dilemma of either protecting the economical security of their members or supporting a society-wide issue, such as environmental protection:

> We believe that community involvement in decisions about constructing and locating pipelines is important and necessary, particularly in sensitive situations like those involving places of significance to Native Americans. However, once these processes have been completed, it is *fundamentally unfair to hold union members' livelihoods and their families' financial security hostage* [emphasis added] to endless delay. The Dakota Access Pipeline is providing over 4,500 high-quality, family supporting jobs. (Trumka, 2017)

The statement of Trumka shows that the job vs environment can still be an important issue in future union negotiations involving climate change issues, even though unions appear to be integrating the matter more and more into their agendas (Uzzell & Räthzel, 2012).

In the following some of the discourses scholars have found in unions in relation to climate change will be presented. These will later on help in orienting the positions unions' show towards the phenomenon.

Räthzel and Uzzell (2011) have analyzed through in-depth interviews with international unions the different discourses unions might show in relation to the protection of jobs and the environment. The authors observed the following four different discourses used by unionists. First, the 'technological fix' discourse that does not perceive a contradiction between job and environmental protection. This conciliatory perspective sees technological innovation as a means to modernize industry, pursue economic growth, safeguard jobs and protect the environment by reducing emissions. Second, the 'social transformation' discourse, "proposes a comprehensive policy in which environmental protection and societal change are interconnected" (Räthzel & Uzzell, 2011, p. 1221). Herein, a transformation of production must take into account the identities and socially constructed images of professions developed by workers in their specific sectors. Third, the 'mutual interest' discourse, which sees a necessary dialogue inside unions. Instead of confronting workers with a moral stance on the protection of the environment, this discourse stands for a dialogue that allows the interests of workers as the point of departure and how these can be re-defined. It focuses on interests, cooperation and solidarity. Last, the 'social movement' discourse, intends to transcend the boundaries of immediate interests in the workplace and even of the union's membership into an interest of unions on social issues, such as environmental protection. Unions are, therefore, actors that can engage in the development of new forms of production. Räthzel and Uzzell (2011, p. 1221) claim that all of the four discourses tend to "tear down the invisible wall that exists between workers as workers in workplaces and workers as citizens outside their workplaces". The worker is therefore not solely seen in his role as a worker, but also as a citizen affected by all consequences stemming from the production process.

Romain Felli (as cited in Hampton (2015, p. 42)) identifies three essential strategies on international trade unions' climate change discourses: 1) the deliberative, which is characterized by a non-conflictual understanding of social relations, the acceptance of market solutions and fundamental property relations are not challenged; 2) collaborative growth, which assesses the constraints of climate change essentially in terms of the costs and benefits associated with climate policies, i.e. "the employment effects of the losses and gains of national competitiveness due to […] regulations". Competitiveness also against other workers. The strategy uses the rhetoric of cost-cutting through environment-friendly measures and accepts the growth of green companies; 3) the socialist strategy sees the solution at the transformation of the social relations of production, that also means the possible organization of democratic control over the economy.

Hampton (2015, pp. 45-46) uses the concept of the 'eternal triangle' by Hyman (see section 2.1.3), to map the climate discourses of trade unions in regards to markets, society and class. Hampton (ibid.), thus, recognizes three different discourses that shape the policies, behaviors and practices of trade unions in regards to climate change. A neoliberal climate discourse is associated with the market pole; an ecological modernization discourse with the social integration (society) pole; and a Marxist perspective with the class pole. The neoliberal discourse is characterized by a similar concern of unions to their employers (impact of competitiveness, profitability and employment), by a support of market-based instruments and by a so-called 'accomodationist' relation towards employers (Hampton, 2015, p. 45). Trade unions oriented towards social integration can embrace a discourse of ecological modernization, i.e. an emphasis on state and non-state actors as agents for climate alliances and a range of instruments alongside market mechanisms (Hampton, 2015, p. 46). These unions tend to look for the state for an active policy, are concerned with social justice impacts of climate policy and are

likely to ‘accommodate’ to their local states. Trade unions that adopt a class based perspective are more inclined to criticism of current climate politics and are not willing to leave climate action solely on markets and states. Their alternatives are radical and they may ally with communities and other organizations. However Hampton (2015) also makes the point that this is not to be interpreted strictly; the strategic choice of unions will depend on their individual organizational capacity, leadership and their orientation within Hyman’s ‘eternal triangle’. Hampton (ibid., p. 47) also states that the dominant framing of climate change so far are the neoliberal and ecological modernization approaches.

In order to better understand some of the important contributions trade unions have made internationally in regards to the debate around climate change mitigation, a short overview will be provided on some concepts also used in this work. These concepts have been the result of the collective work of trade unions, as will be shown.

2.2.2 ITUC, trade unions and climate

Labor environmentalism or green unionism is considered by some scholars as the most important recent development in trade union history, even as an important revitalizing factor (Silverman, 2006). Trade unions have been important actors in the global talks on the environmental crisis. On the one side trade unions operating at the global institutional level have been fighting to convince other trade unions to recognize sustainable development “as a real balancing of particular trade union interests with general social and environmental requirements” (Silverman, 2006, p. 1128). And on the other hand they have engaged in a constant fight to incorporate labor perspectives into the global institutions (Silverman, 2006).

In 2006 the first trade union Assembly on Labor and Environment organized by the United Nations Environment Program (UNEP) and the International

Labour Organization (ILO) was held in Nairobi, Kenya (Olsen & Kemter, 2012; Rosemberg, 2012). Here, trade unions worked on a number of policies and commitments on environmental issues which were to be included later on in the work program of a newly created International Trade Union Confederation (ITUC) (Rosemberg, 2012). The impact this assembly had on ITUC can be seen through the comparison with its forerunner the International Confederation of Free Trade Unions (ICFTU), which had no mention of environmental issues on its mandate, but had nonetheless followed various United Nations conferences and processes (Rosemberg, 2012). It was as Murillo (2012) states, not only about creating a new international trade union structure, but about configuring a new trade unionism in which environmental issues would play an important role. With its creation, ITUC opened a global union debate on environmentally related policy (Rosemberg, 2012). Rosemberg (2012) states that the ITUC intended at the beginning of its creation to position itself and represent labor in the international debate on climate change as a legitimate actor, in a time where progressive labor approaches to climate change were not entirely developed. During the Bali Summit in 2007 trade unionists received for the first time their status as an observer organization at the United Nations Convention and from that point onwards some trade union organizations became (not without difficulties) more involved and more important actors at the climate conventions (Murillo, 2012).

It is in this framework that some of the most important concepts, that would stimulate the debate between unions and between actors of the climate conventions, were developed and promoted by the Confederation, the ILO and other organizations (Olsen & Kemter, 2012; Rosemberg, 2012). The most important terms being, decent and green jobs, green growth and just transition (Olsen & Kemter, 2012; Rosemberg, 2012).

A) Just transition

As had been stated before, climate change's direct effects and measures taken to mitigate the crisis are acknowledged by trade unions to have an effect on jobs, either through their loss, change or creation of new sectors (Räthzel & Uzzell, 2011). In order for the term *just transition* to make sense, it has to be assumed that the only way to avoid a negative effect on labor is through an international union strategy to advocate for the compliance of workers demands (Tomé Gil, 2012). It is because of this understanding that the term *just transition* was created.

The term is first attributed to Tony Mazzochi, an official from the Oil, Chemical and Atomic Workers Union in the U.S. (Hampton, 2015, pp. 68-69). His inspiration came from finding a solution for workers displaced from their jobs for the good of the environment. His idea was to propose a fund (income and benefits guarantee) for workers in danger of losing their jobs because of environmental protection (ibid.). The concept was later on adopted at the end of the 1990s in Canadian union articles as a path to reconcile the provision of jobs and the protection of the environment (Rosemberg, 2012). The concept, so Rosemberg (2012), recognizes the link between the defense of worker's interests and the need of the community to protect the environment. The concept reached the international climate circles at the Kyoto conference in 1997 (Hampton, 2015, p. 69). In the context of climate change, just transition seeks to incorporate the concern of workers in a possible scenario of change to a low carbon society or away from 'climate threatening' industries to 'climate friendly' industries, through their active involvement, creation of new, green and decent jobs (meaning fair income, provided security and social protection for families, etc.) (Snell & Fairbrother, 2012). The term advocates for an alternative development model that implies industrial planning from the side of workers and communities (Snell & Fairbrother, 2012), training and skills development policies, assessment of employment impacts of climate policies, etc. (Rosemberg, 2012). It has been adopted as one of the *leitmotivs* of the

international trade unions, including ITUC which considers it as *the* approach to fight climate change (Rosemberg, 2012). The term gaining more and more recognition has also been incorporated to the work of the U.N. Framework Convention on Climate Change (Rosemberg, 2012). However since state emissions are nationally determined, just transition is a concept confined to national policy and not between states, thus a long way from real implementation (Hampton, 2015, p. 75).

B) Green jobs and growth

The first study on green jobs was commissioned by the ITUC, the ILO and the UNEP in 2008 (Murillo, 2012). The Green Jobs Initiative created by these three partners (including also the International Organization of Employers) saw the necessity to assess, analyze and promote the creation of decent jobs as a consequence of the environmental policies that needed to be addressed (Olsen & Kemter, 2012). The policies and program of the initiative would lead to a *green economy* with *green jobs,* in "renewable energy, buildings, transportation, basic industry, agriculture and forestry" (ibid., p. 50). Green jobs were seen as the ultimate solution towards an environmentally friendly economy, that would reduce the environmental impacts of enterprises and energy and raw materials, avoid greenhouse gas emissions, minimize waste and pollution and restore ecosystems (Olsen & Kemter, 2012).

Rosemberg (2012) identifies two emerging schools of thought that could have an effect on the labor movement. First, the school of 'green growth' which stands for the reformation of institutions and markets to solve the climate crisis. In some countries this broad concept has been adapted to trade unions' needs through the advocation of an expansion of the state through investments in green sectors and programs of job retraining, and the development of a Green New Deal framework (Rosemberg, 2012). Green New Deal stands for "a national green economy that is achieved through government subsidies to domestic manufacturers and protectionist trade policies" (Nugent, 2011, p.

60). This means a stronger regulatory approach, in opposition to the free-market logic of neoliberalism, than what would be the case of exclusively market-based approaches (Nugent, 2011; Rosemberg, 2012). The second school identified by Rosemberg (2012), the 'no-growth' approach, is represented loosely by several groups, that criticize the 'productivist logic' or that advocate for a better share of natural resources while at the same time enabling development (Rosemberg, 2012). Rosemberg (2012) argues, however, that this last approach has been generally less accepted by trade unions since it is perceived as 'anti-developmental'.

Furthermore, Hampton (2015, pp. 64-68) analyzes the adoption of green jobs and green economy as being part of the ecological modernization discourse, explained before. The green jobs rhetoric take for granted that economic growth is the right approach and it thus does not directly confront the mode of production that has caused the climate crisis (Barry as cited in Hampton (2015, p. 38)). The discourse of green jobs, that has been adopted by some unions, has been put into union debate and three principles have emerged from unions: 1) whether the job is environmentally sustainable; 2) whether the job is well-paid and secure; and 3) when the job replaces another non-green one, whether it is intended for the same worker at the same community (Hampton, 2015, p. 67).

In this last section an overview was intended in regards to the main discussions, discourses and historical events on the environment and trade unions. As was explained at the beginning, historically, environmental concern in trade unions is not a new phenomenon in contrast to popular beliefs (Uzzell & Räthzel, 2012). On one side the environment has been seen by labor as a space of recreation and leisure, like in the example mentioned on the mass trespass in Kinder Scout for more green spaces. And on the other hand, the environment has been defended in regards to direct workplace problems in health and safety. Nevertheless, in time, trade unions have won a reputation of

being anti-environmental for their engagement in job protection, especially when jobs are affronted by environmental policies (Baker et al., 2011, pp. 708-709). This dilemma has created what is known in literature as job vs environment (ibid). However, with the growing concern on climate change, a difference can be seen in several trade unions (Uzzell & Räthzel, 2012). A growing engagement in environmental issues can be identified, e.g. through the creation of the one million jobs campaign in the UK (CCC, n.d.). However, the 'job vs environment' dilemma still seems to have its effect on some unions, as was explained through the recent case of the DAPL (Trumka, 2017). The union engagement against climate change is also reflected in the international arena, where international organizations, such as the ITUC, have been participating in global debates, thus, contributing with own concepts such as, just transition and green jobs (Murillo, 2012; Olsen & Kemter, 2012; Rosemberg, 2012).

2.3 Trade Unions for Energy Democracy

In the following section a short overview will be given to the subject of study in this work, what it stands for, what its goals are and other important aspects that need mentioning. Why I specifically chose this subject of study will be explained at the end of this chapter.

Trade Unions for Energy Democracy (TUED) is an initiative mostly composed of trade unions from around the globe that seeks "to advance democratic direction and control of energy in a way that promotes solutions to the climate crisis, energy poverty, the degradation of both land and people, and responds to the attacks on workers' rights and protections" (TUEDa, n.d.). The initiative acknowledges that the planet is going through a climate and energy emergency and that the only possible solution for a transition to an equitable and sustainable energy system is through a "decisive shift in power towards workers, communities and the public" (TUEDa, n.d.). It was formed in 2012 after a global trade union 'Energy Emergency, Energy Transition' round table

in New York City (TUEDb, n.d.). After this event unions were invited to participate in TUED and designate a representative that would participate in a Global Advisory Group (TUEDb, n.d.). From this point forward TUED has grown in numbers reaching in the present 62 trade union bodies (TUEDc, n.d.).

The main goals of TUED are to build a strong global trade union community for energy democracy that can develop and promote solutions that can on one hand advance social and environmental justice and on another, build unions, workers and community power and secure a strong union presence in the energy sector (TUEDa, n.d.; TUED, 2015). Furthermore, it intends to connect an energy democracy agenda to union struggles and campaigns in a way that it broadens membership engagement and facilitates solidarity with other movements that have similar goals (TUEDa, n.d.). Moreover, the initiative also serves as an educational platform, that seeks to develop "high-impact union educational materials" and to encourage debates between unions to achieve shared analyses on energy and climate issues (TUEDa, n.d.).

The initiative grew out of a context of union discontentment with the development of the global talks being held in regards to the climate emergency (Sweeney, 2013, pp. 2-4). The needed solution was seen by some trade unions (including TUED) as part of a more profound change in the clash of interests, between the priorities of political elites and corporations in opposition to the needs of the masses for a truly sustainable society. Thus, TUED understands itself as growing out of a new understanding of sustainability and green economy that was emerging between some movements and trade unions since the root of the problem was and is not being tackled by the mainstream climate agenda. The further commodification of nature, that would bring the world to a green capitalism is regarded by the initiative as "plainly false and deeply perverse" (Sweeney, 2013, p. i). Green market and regulatory solutions are interpreted as a mere extension of the existing unsustainable economy into

new sectors, that do not confront the power of corporations and their control over energy infrastructure, resources and markets and therefore are doomed to fail. Policies and market approaches are also seen as not having assessed the scope and scale of the urgent climate emergency. The political agenda of the fossil fuel industry is seen by the network as still dominant and market-based approaches to promote renewable energy being so far unsuccessful. Thus, TUED also intends to promote a new discourse that seeks to unite social movements for a sustainable future (Sweeney, 2013, p. 4).

TUED advocates for an energy transition, where renewables could eventually dominate, and although there is no strict rejection on the introduction of carbon pricing or renewable energy standards in certain contexts, the main problem is still regarded in addressing the political and economic power of the fossil fuel industry and "the existing production and consumption model" (Sweeney, 2013, p. 28). Thus, the question on ownership and control of energy resources and infrastructure with a shift in power towards workers is the one that TUED seeks to tackle in view of no better alternative (Sweeney, 2013, p. ii).

Furthermore, TUED describes energy democracy as a truly sustainable energy system that can only be ensured by "[a] transfer of resources, capital and infrastructure from private hands to a democratically controlled public sector" (Sweeney, 2013, p. ii). It is stated by the initiative that a democratization of energy can protect workers' rights and create decent and stable jobs, be responsive to the needs of communities, control and dramatically reduce emissions and pollution, scale up renewable energy, promote energy conservation across sectors and make progress against energy poverty (ibid.). In short, energy democracy "is about workers' and communities' ability to decide who owns and operates [the] energy systems, how energy is produced, and for what purpose" (TUED, 2015, p. 23).

In order to achieve energy democracy an energy transition from a carbon-based to a sustainable, renewables-based and low-carbon system is needed and in order for this to happen TUED defends the argument, that this can only occur with "a radical change in direction, one driven by unions, social movements, and others who want to see a truly sustainable future" (Sweeney, 2013, p. 16).

The initiative has proposed a specific trade union strategy to achieve energy democracy. It is based on the three objectives: resist, reclaim and restructure (Sweeney, 2013, p. ii). *Resist*, the dominant agenda of energy corporations and allies, such as the subsidizing for privatization and marketization of the energy sector, the expansion of fossil fuels, the expansion of new and dangerous extraction methods, etc.; *reclaim* parts of the energy economy that have been privatized, e.g. those that were once publicly owned, those that are currently publicly owned and restore them to the needs and wishes of communities, and develop a new socially owned, fully unionized and renewables-based energy system; and finally *restructure* the energy system, e.g. in power generation and other sectors such as agriculture, waste management and construction, in order to scale up renewable and low-carbon energy, ensure job-creation and democratic control over the energy sector (Sweeney, 2013, pp. 31-48).
Furthermore TUED also sees the importance of non-energy unions in sharing responsibility for an energy transition, thus not leaving coal or carbon-intensive unions in that path alone (Sweeney, 2013, p. 31).

TUED identifies some possible 'fronts', where the struggle for energy control can be found (TUED, 2015, p. 1). First, through cooperatives, that are, however, highly institutionally varied and that thus, can be held accountable to a community or become just a common profit-driven firm (TUED, 2015, pp. 7-22). Second, remunicipalization of certain functions and operations, that can effectively help communities gain control over their energy and shift the power landscape (TUED, 2015, pp. 22-43). Third, 'public works' programs in

the renewable energy sector which suppose a new form of New Deal to create jobs related to renewables, e.g. the One Million Climate Jobs project in the UK (CCC, n.d.) mentioned before (TUED, 2015, pp. 43-55).

An important last aspect to be mentioned in regards to an energy transition and TUED's stance is that, since the initiative seeks to tackle the question on ownership and power shift from corporations to civil society, "unions do not support "renewable energy by any means necessary"" (TUED, 2015, p. 56), i.e. the transfer of power from fossil fuel industry to a renewable energy industry is not the solution sought by TUED.

2.3.1. Overview on TUED

TUED is formed by 62 unions and 10 allied organizations, including the Rosa Luxemburg Stiftung in New York City, representing 21 different countries from the Global North and South (TUEDa, n.d.). The unions range from public services to workers from the energy sector, and from national unions to global and national federations (TUEDb, n.d.) (see Table 2.). The initiative does not have a specific hierarchical structure, but is conformed of union representatives and individuals working on or with trade unions (personal communication Sweeney). Some movement allies include the Global Labour Institute in Geneva, Switzerland, the Worker Institute at Cornell (New York), the Trade Union Campaign Against Climate Change (UK), etc. (TUEDa, n.d.).

Table 2. Information on TUED

Trade union sectors	Energy, health care, government, telecommunications, transportation, gastronomy, education, agriculture, higher and lower education, manufacturing, retail, security, automobile industry, metallurgy, etc.
Geographic location	All 5 continents (21 countries)
Number of members	62 union bodies with varying members from millions to thousands

Source: TUED's official website.

2.4 Thesis statement

This last chapter gives a thorough overview on the most important literature regarding trade unions and on their relationship with the environment. A short history of trade unions was provided in order to understand their root of existence. Moreover some important concepts from labor studies such as union identity, the meaning of class, types of unionism, etc. were presented. Furthermore the key conflict in unions regarding the environment, expressed in the concept of 'job vs environment' dilemma was explained and an overview on the subject of study (TUED) was also presented. Several gaps are observed in this literature review, for example, new research would be needed on how unions manage the conflict between jobs and the environment; the degree on which this dilemma can affect some unions compared to others; the interests trade unions have for engaging in climate initiatives; the formation of trade union identity in regards to climate change and how unions advance the agenda of climate change mitigation initiatives in society, etc.. It is in r elation to these gaps that I developed my research question and since there are not many studies on trade unions and the environment (Uzzell & Räthzel, 2012), I chose some key concepts from labor studies literature and the most important findings on the field of labor and environment in order to provide a framework in which I could partly base or explain my results on. I decided to do a comparative case study on which interests, difficulties and opportunity costs two groups of unions, energy-intensive and less energy-intensive, have for participating in energy democratization in TUED. The study intends to explore the qualitative differences in arguments given by union representatives from these two sectors, since it is expected after Räthzel and Uzzell (2011) that the effects of climate change, including its policies (e.g. energy democracy), will affect economic sectors differently eliciting, thus, different responses from both sectors. So, I am interested in analyzing the different responses unions can give to equal situations, in this case participating in TUED's energy democracy. This being the principal reason why I chose TUED as a subject of

study. Furthermore, I chose three concepts from the literature review that I expect to be part of or mentioned in my results. First, the prevalent problem of the 'job vs environment' dilemma thoroughly explained in section 2.2.1. I expect the dilemma to appear in my results because as provided by the examples in this chapter, it is an important and common conflict in trade unions when related to the environment and could have an effect on their behavior. Another important factor is that since I chose an initiative tackling the energy system where I compare two sectors with different relations to jobs in energy, this dilemma could manifest in both groups of trade unions differently. Second, since environmental issues are considered part of a form of unionism called social movement unionism (Moody, 1997), i.e. a focus on interests beyond the narrow and immediate demands of unions, I also want to explore if the results indicate that unions in times of climate change are experiencing or presenting other forms of organization. Third, since this is a study on trade unions I expect class as theorized from a Marxist perspective to be an important factor influencing unions' overall approach to climate change. Therefore, I make use of Wright's (2005) key concepts and Hampton's (2015) concept of a class-based understanding of the climate crisis. So as a third part of my research question I intend to explore whether a 'job vs environment' dilemma, social movement unionism and a Marxist class-based understanding of climate change explain or constitute part of the interests, difficulties and opportunity costs in the two union groups. In the following chapter I will explain the methodological decisions and design I chose to best answer the research question.

Chapter 3. Methodology

3.1. Study Design

Research is, so Helfferich (2009, p. 26), a process with several steps in which different decisions have to be made, e.g. determining the sampling and subjects of research, the interview form or forms, the data analysis strategy,

etc. These steps have to be decided and molded in a way that can deliver coherent data in order to fit into the research objectives and question (ibid., pp. 26-27). This research process was therefore purposed to deliver at the end an answer to the research question posed within a broader research interest. The type of study, or research design, is chosen between three methodological approaches, qualitative, quantitative or mixed (Creswell, 2014, ch. 7). Quantitative approaches, normally involve experiments or non-experimental designs such as the measurement of correlations between variables through e.g. surveys. Qualitative approaches on the other hand originating from fields such as ethnography, sociology, the humanities, etc. involve strategies such as case studies, grounded theory, ethnography, etc.. Finally, mixed approaches means combining both qualitative and quantitative research and data in a study.

As had been stated at the introduction of this work, there is almost no connection between the fields of environmental studies and labor studies (Uzzell & Räthzel, 2012). Climate motivated labor and production changes or how labor is responding to these changes are rarely discussed in the academy. The phenomenon has gone so far as to calling for the emergence of a new field of study called environmental labor studies, since many of the issues between labor and environment are “multiple, urgent and unsolved” (Uzzell & Räthzel, 2012, p. 10). It is for this main reason that, following the line of Creswell (2014, ch. 7) “if a concept or phenomenon needs to be explored and understood because little research has been done on it, then it merits a qualitative approach”, that I chose a qualitative approach to provide new insights into this rather new field. As shown in the last chapter a more general idea on the relationship between trade unions and environmental issues was derived from the literature on ‘jobs vs environment’ and on other labor/environment related literature. But since no specific research was found on the participation of trade unions in projects of energy democratization that would explore their interests and possible difficulties and opportunity costs for

their climate engagement and that would take into consideration their division between energy intensive and less energy-intensive sectors; the qualitative approach appeared as the most adequate form to explore new outcomes in this phenomenon.

Moreover a research design is a type of inquiry within different methodological approaches that provides a direction of procedures (Creswell, 2014, ch. 7). In the following I will explain how this work fits into a case study design and what is meant by this.

Sturman (as cited in Starman (2013)) defines a case study as a general term for the exploration of an individual, group or phenomenon. It is therefore not limited to only one subject of research, but also to a group or a specific phenomenon. Sagadin, as cited in Starman (2013), goes a bit further and also includes the analysis and description of individual institutions, a problem (or several problems), an event, etc.. In this work a case study is framed as a research design (Creswell, 2014), i.e. it may incorporate a number of methods and is therefore in for itself not a methodological choice, but a choice of what is to be studied (Starman, 2013). Or as Flyvbjerg (as cited in Starman (2013)) has stated, the decision to use a case study in research is not equal to a selection of a method, but rather a selection of what will be explored. Furthermore, in this case it was the focus on a specific and framed phenomenon, which was the participation of trade unions in a climate initiative (TUED) and their specific differing or not-differing interests, difficulties and possible opportunity costs within the project of energy democratization. Moreover, the focus also lies on trade unions in energy intensive and less energy-intensive sectors, since it is expected to show a contrast in results because of the sectors' differing relationship to energy.

A case study has a broad definition so some authors have categorized this research design into different types (Starman, 2013). This classification can

happen according to a time dimension or according to theory formation (ibid.). In this work it was decided that the focus would rely on a so-called comparative case study, which "examines in rich detail the context and features of two or more instances of specific phenomena" and which has as a "goal […] to discover contrasts, similarities, or patterns across the cases. These discoveries may in turn contribute to the development or the confirmation of theory" (Campbell, 2009). I chose this focus because first, the energy intensive and less energy-intensive trade union sectors were expected to present contrasts and possibly also similarities, since climate change policies are expected to elicit different answers from unions (Räthzel & Uzzell, 2011), and could therefore be compared; second, because the key concepts of 'job vs environment', social movement unionism and a class-based understanding of climate change were expected to be confirmed in the results of both groups and third, since there is not much theory on the field of labor and environment an exploratory work could also present new results to help advance this new field in its initial steps. So the end results would help in further developing and refining existing theory on trade unions and climate change.

The more thorough sampling method will be explained further on in this chapter, however, it is important to mention that the comparison of energy-intensive and less energy-intensive unions was structured as a within-case study and that this type of case study "must demonstrate enough commonality to allow for comparison"(Campbell, 2009). A comparative within-case study can include, for example, "several organizations within a specific industry, cohorts from a particular educational institution, or negotiations between a single country and several allies" (ibid.). In this case it was considered 'within' because trade unions were chosen from a common climate initiative (TUED), thus also fulfilling the level of commonality needed for comparison.

Finally, the comparison of each case, i.e. both union sectors, occur when comparing the final “emergent themes” (Campbell, 2009) derived from the results. Therefore the results of this design should provide an inductively derived description of the phenomenon of energy-intensive and less energy-intensive trade unions engaging in energy democratization that could on the one hand leave enough liberty for new insights, since it is a new field, and at the same time explore contrasts and similarities with the help of the expected concepts and their derivatives.

In the following it will be explained how an inductively derived description of the comparative case study was carried out. The methods used in data collection and analysis serve as the general frame of this case study.

3.2 Research methods

This section involves the specific methods used to collect and analyze the data that would best serve to answer the research question and accomplish the research objectives.

In general qualitative data come in the form of texts (Mayring & Fenzl, 2014, p. 543). Texts are ordered and structured symbols in the form of images and also written text (Helfferich, 2014, p. 559). These written texts, which are a form of linguistic symbols structured in a meaningful way, can be generated e.g. from an interview situation (ibid.). Since the research design was based on a qualitative approach and the research question in this work was focused on the information provided by trade unions in regards to their specific interests, difficulties and opportunity costs whilst participating in TUED, interview-derived texts were the source to deliver data.

3.2.1. Sampling

In literature, qualitative research and its sampling has to be relevant and representative for the research question, i.e. the sampling has to have the right combination of features that are relevant for answering the research question (Kelle & Kluge, 2010, p. 40). A selective sampling strategy was, thus, followed (ibid., p. 50). So first, TUED was selected as the pool of which interview partners would be chosen from. TUED had the advantage of conglomerating different types of unions from different countries with a common goal, which fulfilled the aspect of commonality between unions, important for a comparative case study (Campbell, 2009). The selection of specific samples was adopted, since I had a certain *a priori* knowledge of the possible factors that could present an influence on the research field. Therefore a definition of the selection criteria was established and it was, thus, assured that each sample possessed the relevant combination of features (Kelle & Kluge, 2010, p. 50). The criteria that I took into consideration were (ibid.):

1) relevant characteristics for the case
2) combination of characteristics in each sample
3) size of samples

The first point had to be defined with the help of theoretical *a priori* considerations and the research question (Kelle & Kluge, 2010, p. 50-52). As mentioned in Chapter 2. it is expected after Räthzel and Uzzell (2011) that the effects of climate change policies (e.g. energy democracy), will affect economic sectors differently eliciting, thus, different responses from unions. So I wanted to compare the different responses unions can give in equal situations, i.e. while participating in energy democracy. This steered the focus on the possible differences between two groups of unions in TUED. The energy intensive unions (referred hereafter as EI-unions), i.e. with members in the energy industry or manufacturing, and unions with predominantly or exclusively members in public services, i.e. less energy-intensive unions

(referred hereafter as LEI-unions). The creation of these two groups intended to compare the two cases through the generation of concepts in each group.

Furthermore, I pursued a more or less heterogeneous combination of characteristics in each sample after Kelle and Kluge (2010, pp. 48-49). The scholars (2010, p. 52) argue that an important goal in qualitative research sampling is not a statistical representation of characteristics, but the illustration of the heterogeneity of the research field. Thomas (as cited in Starman (2013, p. 35)) states a similar stance, "the subject (the case) is not selected based upon a representative sample, but rather is selected because it is interesting, unusual, striking, and may cause changes in the characteristics and specificities of the object". This heterogeneity could also allow the identification of new unknown phenomena and the creation of new categories (Kelle & Kluge, 2010, p. 55) later on in the analytical phase. Some further characteristics, that would contribute to heterogeneity and that I took into consideration when choosing the samples were: first, trade unions should not belong entirely to only one country, as far as possible different countries were chosen; second, there was no minimum threshold for the number of members a union represented; third, guidance was often asked from the initiator of TUED, Dr. Sean Sweeney (personal communication May, June, July, 2017), in regards to active participation of unions in the network. One important aspect that also needs mentioning, is the fact that since the subject of study was an organization, those with an official post inside each trade union were contacted and served as the representative voice. All representatives were assured their personal anonymity (for a full list of trade unions interviewed see annex, Table. 5).

In regards to the size of the samples, I chose six overall unions, i.e. three for each group, as subjects of study. Helfferich (2009, p. 175) states that samples (apart from case studies) start at six, i.e. case studies in general have a smaller sample size than other research designs. In this case, three were chosen for

each group in order to be able to collect the maximum amount of qualitative data. Moreover, it is important to mention at this point that one of the unions was categorized as a LEI-union, since its amount of energy related workers was very small and most of its members worked in the service area. To avoid confusion, it was specified in the text every time the union representative did make an allusion to their energy related workers.

In the following section the specific method for data collection will be described.

3.2.2. Semi-structured guided interview

Since the research question was focused on the specific interests, difficulties and opportunity costs trade unions have in participating in energy democratization a method to collect data had to be chosen that would deliver direct answers from the views and opinions of the union representatives (Creswell, 2014, ch. 9). For this purpose I decided that interviews (later transformed into written text) would be the source of data. In the following I will explain what important considerations had to be made to create the specific questions that would deliver the data.

Two main principles as explained by Helfferich (2009, pp. 79-80) were taken into consideration when structuring the interview for this qualitative research. First, *communication,* is the process that allows a researcher to gain access to an interviewee's cognition of the world. In a communicative situation both, the researcher and the interviewee bring their own systems of relevance and realities. Therefore, social and communicative effects were taken into consideration while elaborating the interview questions and while interpreting the data later. A second aspect by Helfferich (2009, pp. 114-117) was the principle of *openness*. The interviewee was given enough open 'space' in order to elaborate his or her relevance system and interpretative frame. The interviewee was allowed to structure the communication process in

accordance to his or her understanding. As stated by the same scholar, this *openness* can be achieved, e.g. in the process of listening to the interviewee. Prior theoretical knowledge or opinions did not, in this case, structure the way the interviewer (me) was perceiving and understanding what the interviewee was communicating. Moreover, *openness* was also practiced during the guiding of the interview. Unnecessary questions, opinions and interventions were avoided. That is, during the interview, interventions that could have guided the interviewee into a preconceived relevance system by me were avoided. The authenticity and naturality of the communication process was, thus, pursued. *Openness* can be explained as a conscious awareness, a critical reflection and a control over the prior knowledge, the attention given to the interviewee and the own interview interventions or questions (Helfferich, 2009, p. 117). *Openness*, however, did not mean to let the interviewee speak at free will over any topic he or she thought important (Helfferich, 2014, pp. 562-567). A controlled guidance was necessary in order to gather data that responded the research question, which was the reason of the inquiry. So, I followed the principle of "as open as possible, and as structured as necessary" (ibid.). This meant that an open question was posed, that allowed the interviewee to openly and freely narrate their ideas on the specific question. The scheme of a 'narrative invitation' was followed (ibid.). The main purpose of the research question was to elicit results exclusively from the answers given by the interviewees and the *openness* principle allowed this. When the answer was esteemed not sufficiently rich in new information, further questions or stimuli were used to stimulate the interview process (Helfferich, 2009, p. 102). On the question whether the interview should be highly structured, which would have assured specific information on each relevant question and on the topics the interviewee would not have come up with by him- or herself, but on the other hand would have also signified that answers represented more of an echo on the questions, rather than open narrations (Helfferich, 2014, pp. 562-567); it was decided to follow a midline. This meant that a too structured interview would have hampered the objective of

getting results exclusively from the interviewees and being later able to identify the expected theoretical concepts without me having had an influence on the data. I chose, therefore, a semi-structured guideline (often used in expert interviews (Bohnsack, Flick, Lüders, & Reichertz, 2014, p. 27)) with the same questions for every trade unionist, that would allow the collected data to be easily comparable (Helfferich, 2009, p. 181) and to later interpret common or differing arguments between the trade unions.

The semi-structured guided interview had two main functions (Bohnsack et al., 2014, pp. 27-28). First, it served to structure the topic blocks of the research and, second, it also helped as an instrument of concrete orientation during the interview process.

On the following it will be explained how I elaborated the questions and what aspects were taken into consideration during the interview process.

The concrete process of creating the semi-structured guided interview questions, had besides as a goal to collect data exclusively given by the interviewees to answer the research question, also as a goal a non fixation on detailed questions that could hinder the *openness* principle discussed above (Helfferich, 2014, pp. 562-567). In order to allow, therefore, an *openness* principle and to keep the necessary structure for the research interest, the *SPSS* method, by Helfferich (2009, pp. 182-189), was chosen to elaborate the questions. This method is divided into four working steps. First, ‘S’ stands for the German verb *sammeln*, to collect. In this step, all the possible questions related to the research question and assumptions taken from the literature review, were collected into one big questionnaire. In order to help in this process, the following questions were constantly repeated to have a coherent first questionnaire: “What do I want to know? What interests me?” (ibid.), or more adapted to this case ‘What do I want to know from these different trade unions in regards to a climate initiative, such as energy democracy?’. After

this first step around 40 questions had been collected. The second step was called ‘P’, for the German verb *prüfen,* or to check. For this step several criteria were taken into consideration in order to eliminate or reformulate part of the questions from step ‘S’. All questions that focused on facts were eliminated, since it was assumed that they could be mentioned by the interviewee itself. Secondly, questions that assumed the confirmation of prior knowledge by me, e.g. from literature, were also eliminated, because as already stated the data should only stem from the interviewee. The confirmation of the prior theoretical concepts on the topic, should come from the interviewees’ responses and not from an explicit guidance of my questions. Therefore, it was also checked whether questions were implicitly or explicitly channeling to a specific predetermined direction and therefore constraining the *openness* principle. And as a last criteria, it was checked whether the question could contribute with information for the research interest and question, or if it was rather an abstract formulation that would have meant a reflective cognition from the interviewee’s side, instead of just an informative, narrative formulation of the answer. After these criteria were used to eliminate or reformulate the questions, about half of them were eliminated. The next step was ‘S’, for the German verb *sortieren*, or to sort. The remaining questions were sorted out into theme blocks in regard to their content. In the *SPSS* method described by Helfferich (ibid.) the reformulation of questions into keywords should have been undertaken in the second step. In this case it was preferred to leave the formulation of some questions into keywords to this section, since the formulation was easier done once they belonged to a theme block. About 3-4 blocks were created and some remaining questions, that had no category, were left lose for later use. The last step was ‘S’ for the German verb, *subsumieren*, or to subsume. Here, each block would receive an open-ended question that could prompt an answer that could develop all other keywords or questions mentioned in the same block.

The main question, thus, I wrote in a first column; keywords, that would serve as possible further stimuli in case they were not mentioned during the first main question, were ordered in the second column, and concrete questions, stimuli that were also not mentioned by the interviewee, but that needed structured formulation, were put in a third column (see Table 3.). The order of the questions were followed as in Table 3. and lose questions were made at the end of the content blocks, since there they did not pose a disruption of the interview sequence (Helfferich, 2009). The semi-structured guided interview scheme used can be found at the annex (Table 6.).

Table 3. Guided Interview scheme, modified from Helfferich (2014) and Helfferich (2009)

Main question - by content blocks	Keywords - as stimuli only when not answered	Further inquiry - structured formulation, only when not answered
0. Short introduction from interviewer and short description by interviewee	-	-
1....	...	...
2....	...	...
3...	...	...
...	...	...
X... Lose questions, context related	-	-
X. Is there something else you esteem necessary that was not mentioned before?	-	-
X. Thank you statement	-	

The theoretical framework that resulted from early literature review and its gaps framed the research question. It also gave a preliminary idea on some of the aspects that could be mentioned by the unionists. I expected, as mentioned in Chapter 2., that the interviewees would cite by themselves next to many unexpected aspects, also a ‘job vs environment’ dilemma, characteristics of social movement unionism and a class-based understanding of climate change.

The explained *openness* principle of the questions would therefore allow the interviewees to mention some new and those expected aspects. During the first process of collection and formation of questions (‘S’) the research question and the three theoretical concepts were taken into consideration, albeit not directly mentioned. This meant that the open-ended questions and the keywords were expected to elicit the answers for the research question and mention the theoretical concepts, i.e. I wanted the interviewees to deliver these answers without my direct intervention, this is why this method for designing the questions seemed most accurate. After the collection of many questions and their refinement during the SPSS method, the questions on motivation and gains or benefits from participating in energy democracy (see Table 6.) would deliver the data for the interests of unions. The interests to participate in energy democracy were, thus, divided into why a union wanted to engage (motivation) and what could come out of that engagement (benefit). The open-ended question on the difficulties the union saw in achieving energy democracy would deliver the data on the difficulties and opportunity costs both groups recognized.

3.2.3. Recording and transcription

Once it was decided that semi-structured guided interviews would deliver the necessary data for the research question, the more practical steps were undertaken.

I presented the semi-structured guided interview to two fellow researchers (Dr. Matteo Roggero and M.A. Achim Hagen) in order to check understandability and ask for advice in case I had missed some important aspects before conducting the interviews. After the advice and adjustment of some small details, I familiarized myself with the guideline by rehearsing the questions with several helpers, so as to lose the necessity to be looking at the sheet to often while performing the interviews with the unionists.

Moreover, the first contact with the trade unions I made via a formal e-mail invitation explaining the purpose of the study and politely asking for a possible interview. All of the contacts were provided by Dr. Sean Sweeney (personal communication May, June, July, 2017). Some of the given contacts did not answer after several attempts, but most trade union representatives showed immediate interest in participating. Once the interview dates were set, these were realized through skype and audiotaped with the explicit permission of the interviewee.

I took several aspects into consideration while performing the interviews, following the methods advised by Helfferich (2014, p. 567). The *SPSS* method with its combination of open-ended questions, that permitted the interviewee to develop its own narration, and of questions for further inquiry allowed three requirements to be fulfilled for a successful guided interview. First, as stated before, the *openness* principle, i.e. the 'controlled' freedom given to the interviewee for narrating its answer. Second, it allowed a clear overview of the questions. Helfferich (ibid.) claims that too many questions can limit the generation of text by the interviewee for further analysis. Third, the composition of the questions allowed a flow of thoughts and arguments, that avoided abrupt changes in topic (ibid.). The sequence of the questions had a logic that allowed building confidence between me and interviewee and in the case where the interviewee made explicit desire to follow another topic, relevant for the research question or as an answer to other questions, no intervention was made.

After the recording process, these audio-data had to be converted into text via transcription. In order to save time the first step was to automatically transcribe the audio files into texts via the online program *voicebase*. After the raw texts were downloaded from this program, a 'second' transcription process

was undertaken. The raw texts were checked and corrected with the help of *Express scribe* and *MAXQDA*.

First and foremost it has to be stated that interview transcripts almost always imply a loss of information and are therefore never complete representations of the raw material (Mayring, 2014, pp. 45- 47). During the 'second' transcription process I followed some transcription rules after Mayring (ibid.). Thus, a clean read or smooth verbatim transcript was chosen. The transcription was done word for word and utterances like "uhm", "ah", "you know", etc. were left out. The result was a coherent and simple text representing the original wording and grammatical structure. Moreover, short cut articulations were translated into standard language (e.g. c'mon to come on). This delivered the written texts that I worked upon for analysis.

3.2.4. Data Analysis

The first step after the transcription process and written text formation was to ask what I would like to find out from the data (Mayring, 2014, pp. 48-50). Certainly I made this decision in regards to the research question and the theoretical framework, which would be, thus, the line of inquiry.

Mayring (2014, p. 63) describes that the point of departure for the interpretation of data is the individual text component, which must be analyzed exactly, evaluated in a certain direction and examined in its relation to other textual components. In order to analyze texts the method of content analysis by Mayring and Fenzl (2014, pp. 543-558) is often used. What differentiates qualitative content analytical methods from other text analysis is the creation of categories. These categories express analytical aspects into short formulations, that are generally closely related to the material and can be arranged hierarchically (e.g. into sub-categories). The category system is the actual instrument for analysis, i.e. through it the material is evaluated and only those categorized text sections are taken into account. The so-called inductive

category formation is a form of interpretation that aims to arrive at summarizing categories from the material itself and considers only those parts important to the research question (Mayring, 2014, pp. 79-83). Since the research question of this work was specific and since the interview questions were open-ended and interviewees sometimes wandered away from the topic, it was not esteemed necessary to summarize all the material into categories. Moreover, I considered the inductive formation of categories the best method, not only to respond what the interests, difficulties and opportunity costs of unions in energy democracy were, but also to more easily detect and analyze the expected existence of a 'job vs environment' dilemma, aspects of social movement unionism and a class-based understandings of climate change in the results. This meant that if the formed categories were related to the definitions of these theoretical concepts, their existence in the unions' arguments would be confirmed. Moreover, the formation of categories in both groups of unions and their distribution would derive commonalities or differences between trade unions in each group and between the two groups of trade unions, which fulfills the purpose of a comparative case study. So, the qualitative content analytical method can be roughly divided into two broad steps (Mayring & Fenzl, 2014, p. 544). First, categories were inductively developed from the interview-texts, since, as explained before, the interest of this work lied on the information provided by the material/texts themselves (Mayring, 2014, p.79). This step followed a series of content analytical rules, which will be explained later in detail in this chapter. Although the second step includes an evaluation of the frequency of the formed categories (Mayring & Fenzl, 2014, p. 544) this was not taken into consideration in this analysis.

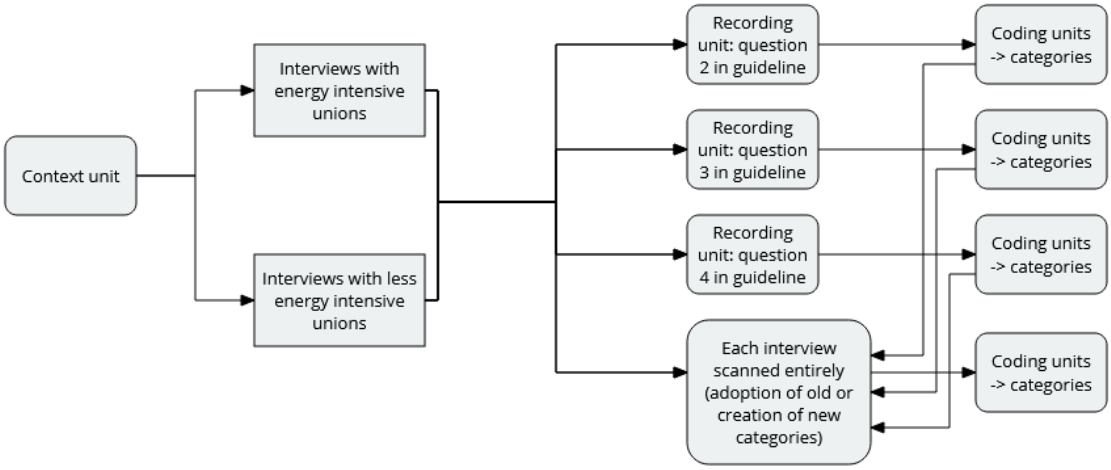
A first step in content analysis is to form segments in the texts to be analyzed, so that the text is not interpreted as a whole, so Mayring (2014, pp. 51-52). The scholar (ibid.) suggests to divide the texts into the following units:

1) **coding unit:** determines the smallest component of material which can be assessed and which can fall within one category.

2) **recording unit:** determines which text portions are confronted with one system of categories. E.g. answer to a specific interview question.
3) **context unit:** determines the largest text component. E.g. the whole case.

For this work I decided that in order to make the comparison between the two union groups, the entire corpus of interviews would be taken as the context unit and each same interview question found in every interview would be a recording unit that would provide specific categories from coding units in relation to the information expected to answer each question (see Figure 1.). This meant that each interview question (recording unit) in all interviews was analyzed for specific categories (coding unit) related to the interview question. But since sometimes the interviewees mentioned some answers in other sections of the interview, the entire interview corpus (context unit) would be included for creating/scanning categories. For example, the answers for question 2 ("What motivated your union in participating in TUED?") (see guideline in annex, Table 6.) of each of the 6 interviews were the recording unit evaluated for coding units. However, the rest of the answers (i.e. 1, 3, 4, etc.) were also scanned in order to find possible categories there. I decided to analyze and form categories throughout the entire corpus of interviews instead of each interview separately, in order to avoid possible overlapping.

Figure 1. Segmentation of material for analysis



As shown in Figure 1. each recording unit (interview question) presented coding units that would create or fit categories (later on called subcategories), that could also be found in other sections of the corpus. For the creation of categories I formed a criterion for the selection process following the guideline by Mayring (2014, pp. 79-83) which I will present as follows. An important step in the formation of categories was the exclusion of unimportant information. For this it was necessary to have a question of analysis that would also give direction to the definition of categories. A second important step in the process of analysis to rule out overlapping category formation, was the statement of abstraction levels of categories for each recording unit (see annex for specific category formation rules followed, Table 7.). The selection criteria (category definition and abstraction level) were closely linked to the questions of the interview, so that the categories formed would deliver results for the research question closely related to the text. Once the selection criteria were established, the text was scanned and the first time a criteria was fulfilled by a coding unit a category was given a name in regard to the abstraction level and closely related to the original text formulation. When a second text section fulfilled the selection criteria, it was checked whether the coding unit could fall under the previous category (*subsumtion*) or if a new category was needed. After large parts of the context unit were scanned in this way and only few

new categories were being formed, the entire category system was revised. It was checked several times whether the categories were fulfilling the goal of the analysis, i.e. contributing to answering the research question, and whether the category definition and abstraction level were appropriate.

The result of this process was a category system on three specific topics (three main questions of interview; three recording units): motivations for participating in TUED, gains or benefits the unions identified in the fight for energy democracy and finally, possible negative outcomes or barriers for union participation in energy democracy/TUED (difficulties and opportunity costs). Specific categories (called later on subcategories) that were derived from each coding unit, were later grouped in main topics (named here categories), so as to have a better overview. This was done by generalizing the abstraction level more, so that several subcategories could fit into a group or category (Mayring, 2014, p. 81). When coding units where very specific and part of a subcategory, sometimes sub-subcategories were formed, to have an overview on specific arguments.

Some rules by Mayring (2014, pp. 82-83) were followed for this specific technique of content analysis:

1. Category definition and level of abstraction

The category definition serves as selection criterion to determine the relevant material from the texts; it has to be an explicit definition.

The level of abstraction defines, how specific or general the categories have to be formulated. Both rules (category definition and level of abstraction) are central for inductive category formation. They have to be defined in advance.

2. Coding the text

The material is read from the beginning, line by line, and checked if material occurs that is related to the category definition. All other material is ignored within this procedure.

A category is formulated near to the text at the level of abstraction and the text is further scanned and checked for subsumtion.

3. Revision

A revision in the sense of a pilot loop is necessary, when the category system seems to become stable (only few new categories). The category

system is checked if it fits the research question. If not, a revision of the category definition would be necessary.

4. Final coding

The whole material has to be worked through with the same rules (category definition and level of abstraction).

5. Results

The result is at first the list of categories and maybe main categories.

The interpretation of the data was based on the category system created. The subcategories would serve to answer the research question, i.e. to derive the qualitative arguments for the interests unions had to engage in TUED and the possible difficulties and opportunity costs they might confront for their participation, also if the chosen theoretical concepts formed part of these arguments and finally to compare both groups. As mentioned also in section 3.2.2 all the data (sub-categories) created was inductive (see codebook in Table 8.). It is important to remember for the interpretative section of this work that the interests trade union had to participate in TUED and in energy democratization combined both questions of motivation to participate in TUED and possible benefits arriving from energy democracy (see section 3.2.2). Sometimes this would lead to similar subcategories (see Figure 8. in annex), but sometimes a motivation would also be completely different from a benefit (e.g. the category 'personal motivation' in 4.1.1 could not have been interpreted as a benefit), this being the major reason why both recording units were created and analyzed separately. Moreover the few similarities between the subcategories of both recording units did not make any difference when discussing the results, since both motivations and benefits were considered unions' interests and the possible frequencies in which subcategories were mentioned, were not important for the research question.

Chapter 4. Results

In the following chapter the results that came out of the inductive formation of categories from the interviews will be presented. For a better understanding

and for the simplest presentation of the results, they will be divided into three general sections. In the first section (4.1) the presentation of the data is parallel to how the original text was coded. Each recording unit (interview question) created categories distinct to answering the research question (see section 3.2.4). Therefore, each recording unit with its own set of categories will be presented as a topic. There are three topics, motivation and/or reasons for participating in TUED (4.1.1), benefits or gains for participating in energy democracy (4.1.2) and difficulties unions identified for achieving energy democracy (4.1.3). Each of these subsections will give an overview on the important categories formed by each union of each group (energy intensive (A) and less energy-intensive (B)). The presentation will start with those categories that were mentioned by more than one union and therefore have the largest amount of arguments in the original texts. Other categories or subcategories mentioned by single unions and that were esteemed important to complement the answering of the research question will also be presented. The data presented was all taken from the respective tables in the annex. Those categories that are not explained in the text, can be consulted out of the codebook in the annex (Table 8.). A general overview on the more abstract levels of categories formed are found in Table 4. Furthermore, a comparison between both groups of unions for each subsection (C) will be presented with overview diagrams.

The second section (4.2) will present some important detailed aspects of the differences between EI- and LEI-unions. This part will take a more thorough stance on the arguments presented by the unions with quotes from the original interviews. The third section (4.3) will make a more thorough presentation on the ‘job vs environment’ dilemma found in the interviews.

Table 4. Overview on general categories

Category	Meaning
Motivations to participate in TUED	
Energy	All subcategories pertaining motivations regarding the energy system
Union identity	Subcategories related to a union identity with some specific motivations
Communication	Communication aspects of TUED that motivated unions to participate
Climate change	Motivations related to aspects of climate change and its effects
Personal motivation	Union representative's own motivation was driving force to participate in TUED
Identification with TUED's principles	Several principles that TUED supports or identifies which have motivated union participation
Benefits or gains to achieve energy democracy	
Negating answers	When specifically asked something and union negates it being a benefit or gain
Communication	Benefits or gains energy democracy can bring on communication aspects between unions and between unions and society
Internal benefits	Benefits/gains identified for the own union or union movement
Society	Benefits/gains from energy democracy for society in general
Difficulties to achieve energy democracy	
Job vs Environment	Those coding units that fit into the dilemma explained in section 2.2
External difficulties	Difficulties external to the union body
Internal difficulties	Difficulties internal to the union body
Energy intensive vs less energy intensive	Difficulties that exalt the conflict and disparities between the two groups of unions
Negating answers	When specifically asked something and union negates it being a difficulty
Renewables	Conflict point of unions and renewables
Difficulties between unions	Conflicts identified between unions

4.1 Results from each group of unions

4.1.1. Motivation and/or reasons for unions to participate in TUED

This subsection will present the data union representatives provided when asked about the motivation or reasons their union had or has to participate in TUED.

A) Energy intensive unions

Table 9. (annex) showed all the categories specified by EI-union representatives when asked about their union's motivation for participating in an international initiative for energy democratization as is TUED. There are several categories that were only mentioned by one of the three unions and others that showed commonalities between the unions. Those categories and subcategories esteemed important for the discussion will be presented (see also Figure 2.).

First, those subcategories cited by more than one union in regards to the phenomenon of 'climate change', were: climate change impact on jobs, that would refer to either direct or policy impacts; the project of TUED as being a feasible strategy to mitigate climate change and a general societal concern about climate change, which was expressed either as a personal concern of the union representative or as a general union concern. Moreover, this last point mentioned leads to one important aspect in this subsection. It was explicitly stated by two of the EI-unions that it was their personal interest and motivation that led their unions to join TUED. Furthermore the 'identification with TUED's principles' was also an important aspect for their official participation, as the following subcategories showed: support for a transition to a low-carbon system, a consequential creation of new jobs, the perception of TUED being a different and unique platform to discuss climate change and

labor and specially a striving for public ownership of the energy system (common to all three unions).

Moreover on those important subcategories mentioned by single unions, it divided into: ‘energy’, i.e. energy price increase and a perception of an inevitable change in the energy system; ‘union identity’, meaning a stable orientation and characteristics of the union (see 2.1.2 for definition) in regards to climate change; the perception that the working class will be strongly impacted by climate change, because of a geographical and institutional predisposition (see also Table 15. in annex for quote I.); the opportunity of engaging in a dialogue with society and/or other unions around climate change and the fact that TUED represents workers interests and stands for the protection of their rights.

It is important to mention that the Australian ETU showed the highest amount of motivation types for participating in TUED, while GMB is the union with the lowest amount of citations (Table 9.).

B) Less-energy intensive unions

This subsection will present the motivations LEI-unions had to participate in TUED as shown in Table 10. (see also Figure 2.).

First, the identification of unions with issues of climate change was mentioned by all three unions as being a motivation for participation. In the category of ‘communication’, the opportunity to have a dialogue with society and/or other unions in regards to climate change and labor was presented by two unions. Further, the category of ‘climate change’ was mentioned in several subcategories, those being: the perception of participation in TUED being a feasible strategy to mitigate climate change and a general union concern with climate change. The category that encompassed an ‘identification with TUED’s principles’ was described specifically by the perception that TUED is

a different and unique platform to discuss climate change and labor; the importance of TUED being a global initiative that shares different experiences in one platform; striving for public ownership and democratic control of energy resources and ending fuel poverty. Climate change was perceived as a more general problem of social justice that goes beyond the question of jobs, that at the same time is connected to other social justice issues in society (common to all three LEI-unions).

Furthermore, motivations mentioned by Unison (UK) in relation to their small amount of energy workers were related to 'energy' and its subcategories: energy prices are increasing; the perception of an inevitable change in the energy system and the provision of poor quality public utilities after privatization of energy.

Moreover other motivations described by single unions were: having had previous environmental engagement; an identity as providers of public services, i.e. providers of services in the interest of their class; climate change impact on jobs, either through policies or direct influences; a perception of a stronger impact by climate change on the working class, because of a higher vulnerability, as can be taken from the quote II. in Table 15. (annex); a low engagement of other unions on climate change issues in general; a support for a transition to a low-carbon system; striving for democratic control of energy resources; TUED as a possible education source for society in general and members; being against further privatization of the energy system or returning to a former nationalized state and creation of new jobs. The protection of workers rights during the energy transition period was mentioned by Unison (UK) in relation to their small percentage of energy workers.

A personal motivation leading to a participation in TUED was indirectly mentioned by one union (Fagforbundet, NO).

C) Comparison of motivations for participating in TUED between both groups

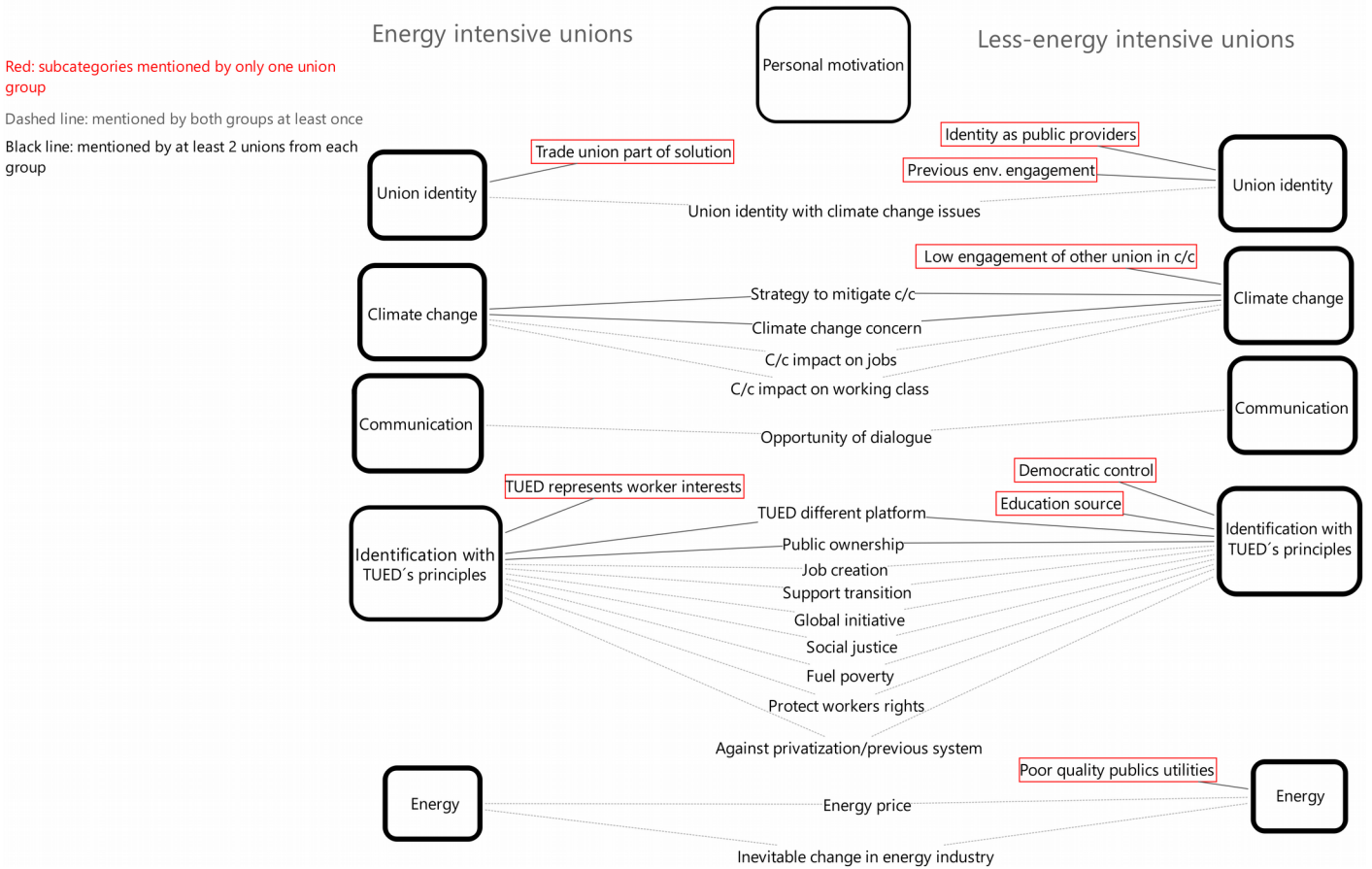
Since the categories and subcategories were already thoroughly explained in the last section this part will serve to have a general overview on the differences and commonalities of both groups (see Figure 2.). Firstly, those motivations specified exclusively by the energy intensive group (red marks on left side in Figure 2.) were that trade unions are seen as part of the solution to climate change and that TUED represents workers interests. LEI-unions also identified motivations solely by them (red marks on right side in Figure 2.): an identity as public providers; having had previous environmental engagements; a low engagement by other unions in climate change mitigation; to have democratic control over resources and TUED as a source of education.

Moreover, on the commonalities between both groups one can state that the strongest subcategories (black lines at the center of Figure 2.), i.e. mentioned at least twice in each group, revolved around 'climate change' (strategy to mitigate climate change and a general concern with climate change) and an 'identification with TUED's principles' (TUED being considered a different and unique platform and public ownership). Further, other common motivations described at least once by each group (dashed lines at the center of Figure 2.) are mostly found in the category 'identification with TUED's principles'. Here it can be found that, job creation, support for energy transition, TUED being a global initiative, social justice, fighting fuel poverty, protecting workers rights and being against further privatization and sometimes for a return to public hands, were common arguments that have motivated these unions to participate in TUED. Furthermore, two EI- and one LEI- unions specified being involved in TUED because of personal conviction of the interviewee. Moreover, other common motivations scattered in the different main categories were: union identification with concerns regarding climate change, the acknowledgment that climate change will affect jobs,

TUED providing an opportunity of dialogue, energy price fluctuations and identifying an inevitable change in the energy system.

To summarize, one can state that the subcategories that all unions have most in common are the identification with aspects TUED seeks to claim, personal motivations to participate and a general concern with climate change and its effects on labor. LEI-unions also claiming the low engagement of other unions in climate change mitigation and having had previous environmental engagement as motivations to participate.

Figure 2. Comparison of motivations for participating in TUED between both groups



4.1.2 Gains and/or benefits unions identify in their participation for energy democracy

In the following section the data representing the gains or benefits identified by the union representatives for their unions in regards to their participation in energy democracy will be presented.

A) Energy intensive unions

The data generated by EI-unions when asked about the possible benefits or gains for participating in energy democracy is presented in Table 11. (see also Figure 3.). The category that had most of the mentions by EI-unions was that which encompassed ‘internal benefits’ for the union. Herein one subcategory that was revealed common to more than one union fell under ‘mobilization’, i.e. of their members. In this case to encourage the workers to engage in participatory solution seeking related to energy democracy. This translated into energy democracy being able to create a motivation in workers to have a voice and opinion when it came to policies and other ideas related to energy transition and democracy. Other points mentioned by two unions encompass the benefits energy democracy can bring with job creation, i.e. green jobs; better reputation for the union because of a wider representation of interests and higher membership either through attraction of younger members or through recruitment campaigns around energy transition. Moreover, on the category that was denominated ‘society’, i.e. benefits not necessarily linked specifically to the union, two important gains were mentioned respectively by two unions: climate change mitigation, meaning the importance to have a functioning planet for the continuance of human existence, and energy price stabilization, as in affordable and accessible energy.

Finally, other aspects were indicated by single unions. Those being: the possibility to mobilize members around the topic of energy democracy or linking it to the protection of wages and job conditions; to ameliorate job

conditions if energy got into public ownership, since the private sector was perceived as more ‘aggressive’ in lowering wages; to create a so-called environmental class consciousness, in which workers could link their lived realities with the pollution they confronted, since the working class was seen to be disproportionately and geographically more prone to be affected by environmental degradation; to make the union more attractive to younger people, who might be more attracted to the topic; to use the opportunity of fighting for energy democracy to educate members and to ultimately protect their rights during a transitional period. In the category ‘society’ single unions identify the following benefits for their engagement in energy democratization: to attain a stable climate that secures the existence of jobs; gaining democratic control over energy resources; to fight current or future unemployment in the energy sector and to have an opportunity to have a historic influence on society.

An important insight is made through the big gap between the Australian ETU and the rest of the EI-unions. The ETU cited a high amount of benefits in regards to energy democracy, while e.g. GMB only mentioned two.

B) Less-energy intensive unions

The data generated by LEI-unions when asked about the possible benefits or gains for participating in energy democracy is presented in Table 12. (see also Figure 3.).

In the first important category ‘communication’, the subcategories mentioned by more than two unions were, that TUED provided the union with information to ameliorate arguments associated with climate change or energy transition, and the sharing of information and experience between the unions. In the category of ‘internal benefits’ the subcategories indicated by two or more unions were: the mobilization of members in topics related to climate change; the instrumentality of the knowledge provided by TUED for the

creation of alliances; a higher attractiveness to younger people and the realization of environmental class consciousness by including energy democracy and TUED's arguments into the workers agenda and by creating thus, a link between environmental damage and workers' lives (see Table 15. in annex for quote III.). Furthermore also related to this last category was the 'negating answers' category. This means, when the unions were explicitly asked about a possible benefit in gaining more members when participating in energy democratization, two unions denied this as a possible gain and one explicitly affirmed it. In the category of 'society', the opportunity to have an influence in designing the wanted future for society was also noted by two unions.

The rest of the aspects were pointed out by single LEI-unions. Starting with the category of 'communication', the following important sub-subcategories were mentioned: the perception that TUED opens up the debate on workers and energy democracy between unions and between unions and the rest of society; the bringing of unions' points of view into the general debate in society and the opportunity as a non-energy union to also be able to express a stance in the energy debate. The 'internal benefits' enumerated by single unions were: the foundation of a new relationship of non-energy unions to the energy system; to encourage workers to engage in participatory solution seeking related to energy democracy and to educate members with TUED's information. In the category of 'society' the following benefits were stated: a mitigation of climate change through the involvement in the project; to hold the government into account in relation to a real commitment to mitigate climate change and to gain democratic control of the energy resources.

C) Comparison of benefits or gains between both groups

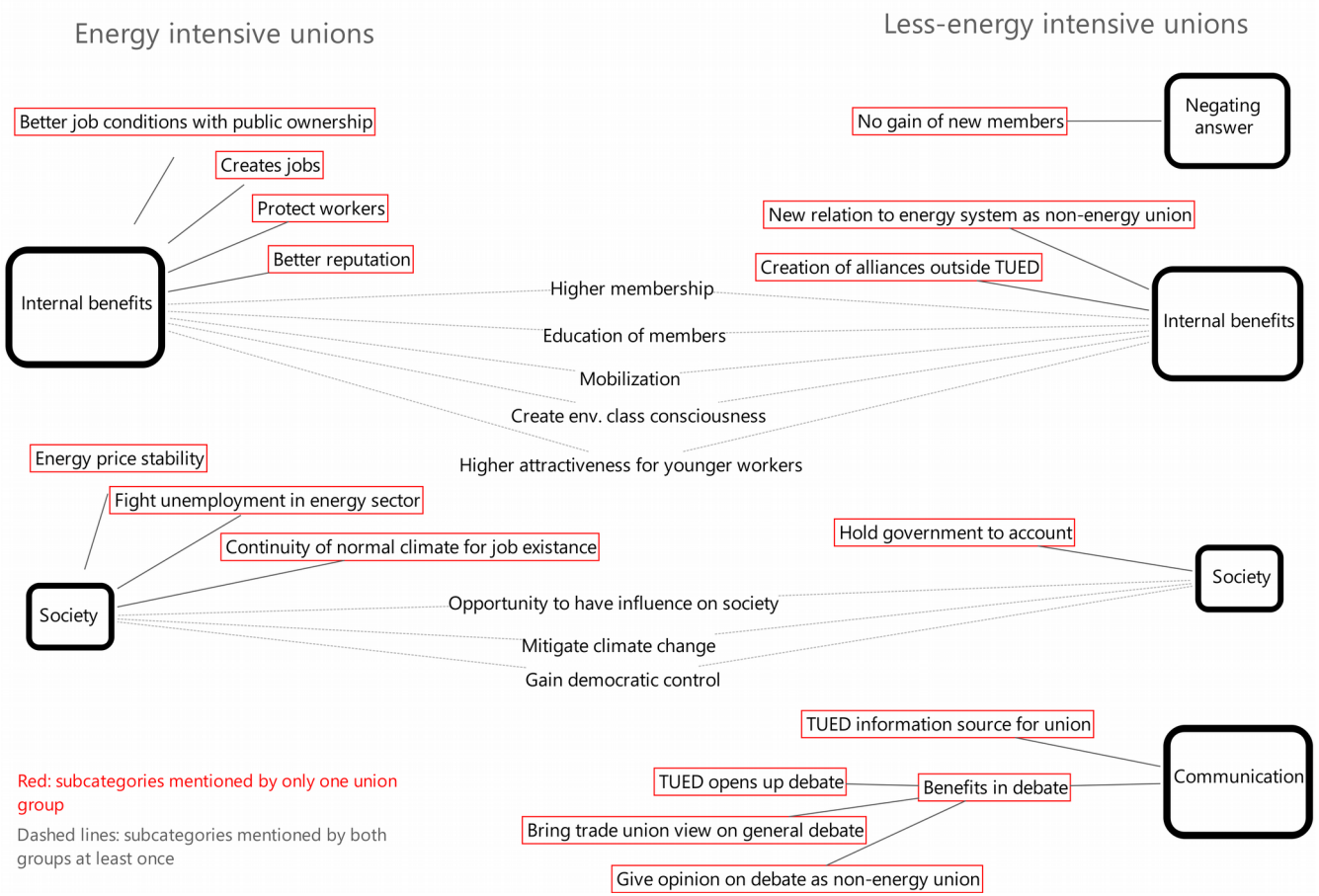
This section will shortly compare both groups' results (see Figure 3.). The arguments used only by EI-unions (see red marks on left side of Figure 3.) illustrates that this group identified benefits mostly in the categories of

‘internal benefits’ and ‘society’. These categories showing a special focus on the topics jobs and workers (better and more jobs, protect workers rights, climate stability for the existence of jobs, fight unemployment in energy sector), also a focus on better reputation and stability in energy prices. On the other hand LEI-unions specified benefits in their ability to show a new relation to the energy sector, the creation of new alliances outside of TUED, to hold the government into account on climate measures and mostly communicative gains, not mentioned by EI-unions.

Moreover, on the common subcategories (dashed lines in the middle of Figure 3.), both concentrate on internal and societal benefits. A higher membership (mentioned by one LEI-union and negated by two), education and mobilization of members, the creation of environmental class consciousness, higher attractiveness for young people, the opportunity to have an influence on society, to mitigate climate change through energy democratization and to gain democratic control on energy resources are the subcategories both groups had in common.

In summary, it can be stated that the categories ‘internal benefits’ and ‘society’ were the most mentioned by EI-unions, with a strong focus on jobs, while the LEI-unions based their answers mostly on the categories of communicative gains and ‘internal benefits’.

Figure 3. Comparison of benefits or gains described by both groups of unions when engaging for energy democracy



4.1.3 Difficulties identified by unions for achieving energy democracy

In this subsequent subsection the data representing the difficulties identified by the union representatives for their unions in regards to achieving energy democracy will be introduced. As in the former sections, results will be divided into the three EI- and three LEI-unions.

A) Energy intensive unions

All data generated by union representatives of energy-intensive sectors when asked about the difficulties their union might face to achieve energy democracy is found in Table 13. (annex) (also see Figure 4.).

First, those categories and subcategories that were identified by two or more unions will be enumerated. The 'job vs environment' dilemma was mentioned by two unions several times in different contexts throughout the interviews. However, a more thorough explanation on the dilemma in this work will be presented later on in this section. Next, in the category named 'external difficulties to the union', i.e. those difficulties that were identified as being outside of the union structure, were derived from the interviews. The difficulties identified herein were: to create alternative jobs with good conditions for those vulnerable of losing theirs; the phenomenon of austerity and/or neoliberalism that unions saw as having left all important decisions to the hands of the private sector, affecting thus a cohesive response to climate change, fuel poverty, energy prices, the wages and conditions of workers and finally, the perception of a dysfunctional or even non-functional climate politics at the national level.

Next, in relation to the 'internal difficulties in the union' that could have an effect on achieving energy democracy the following were pointed out: making climate change a working class issue, i.e. linking the disproportionate effects

of climate change and its policies to the living experiences or day-to-day of the working class (see Table 15. in annex for quote IV.); a constraint from the leadership of the union when it comes to support climate change mitigation and an internal debate on whether to fully support climate change mitigation and thus, TUED's aims.

Furthermore, the category 'energy intensive vs less energy intensive unions' was intended to encompass all arguments that showed the different difficulties the groups of unions identified expressly for themselves and/or for the other group. This category will be more thoroughly explained later on in this section. Finally, when asked about negative arguments on TUED two unions answered that when it came to the workers' opinion on TUED or energy democracy, they would show their support. However this could easily change when job positions were in danger.

The subcategories that were mentioned by single EI-unions will be explained in the following. Under the 'external difficulties' category, the aspects identified by single unions were: the short term view of the present economy since the energy sector had been left to the private profit-driven sector and the time constraint implicated in lowering carbon emissions in the energy industry. The 'internal difficulties' identified by single unions were: the lack of climate change awareness either in society or union members; a fear of losing the already existing good job conditions when transitioning to public ownership; a low or no coherence between leadership and basis, i.e. passing official motions in favor of the environment that are later on not implemented; the lobby of fossil fuels inside energy unions; the disagreement with some aspects of TUED, e.g. in how to reduce emissions in the atmosphere and the capability of running the energy system by themselves, i.e. by workers. Finally, when specifically asked about possible negative arguments heard for participating in TUED, the representative said he/she had never had an experience with unions rejecting energy transition or climate action.

An important final point to be made is the lower amount of difficulties identified by the Australian ETU, specially in regards to the 'internal difficulties', where none were mentioned, in comparison to the other EI-unions. Moreover, the union made also no reference on the 'jobs vs environment' dilemma or on a fear of losing jobs.

B) Less-energy intensive unions

All data generated by union representatives of LEI- sectors when asked about the difficulties their union might face to achieve energy democracy is found in Table 14. (annex) (also see Figure 4.). It has to be taken into consideration that the categories and subcategories mentioned by the following unions could have been introduced in the scope of criticizing EI-unions (not necessarily participating in TUED), i.e not necessarily reflective of their own union. This will be specified when necessary.

In the following those categories and subcategories common to more than one union will be presented. As in the energy-intensive group the 'job vs environment' dilemma was also esteemed an important difficulty by LEI-unions when it came to achieving energy democracy. However, most references were directed toward EI-unions. These results will be introduced later on. The category called 'difficulties between unions', intended to encompass those difficulties that some unions identified in relation to others (not necessarily those interviewed). For this, LEI-unions identified a different engagement level of unions in regards to climate change mitigation. In the category 'external difficulties to the union' the following were mentioned: to create alternative jobs with good conditions mostly in the energy sector; austerity and/or neoliberalism that brings a fear of precarisation and low public spending in key sectors to transition energy; dysfunctional politics in regards to climate and an imbalance of power in society in regards to energy corporations and civil society. Moreover, in the category 'renewables' it is

mentioned that some unions, also energy-intensive ones, are skeptic about renewables being able to deliver complete energy demand. Finally, when asked specifically about possible arguments against TUED in their unions all of them responded that they had never heard of any rejection of the project. One union also mentioned that this was the case because they had an easier position in regards to climate change mitigation, than those that had more to lose in relation to jobs (see quote in 'different degrees of impact' in Figure 5.).

Some further important difficulties mentioned by single unions were the following: as an 'external difficulty' the short term view of the economy constrained any long-term planning for the energy system, since corporations are driven by immediate profits. Under 'internal difficulties' the fear of losing good job conditions if an energy transition is pursued was mentioned by an LEI-union when talking about the LEI-union with the small amount of energy workers. Furthermore running an energy system by workers themselves and making climate change a working class issue where it is seen as an opportunity for the labor movement (see Table 15. in annex for quote V.), were other difficulties described.

C) Comparison of difficulties between both groups

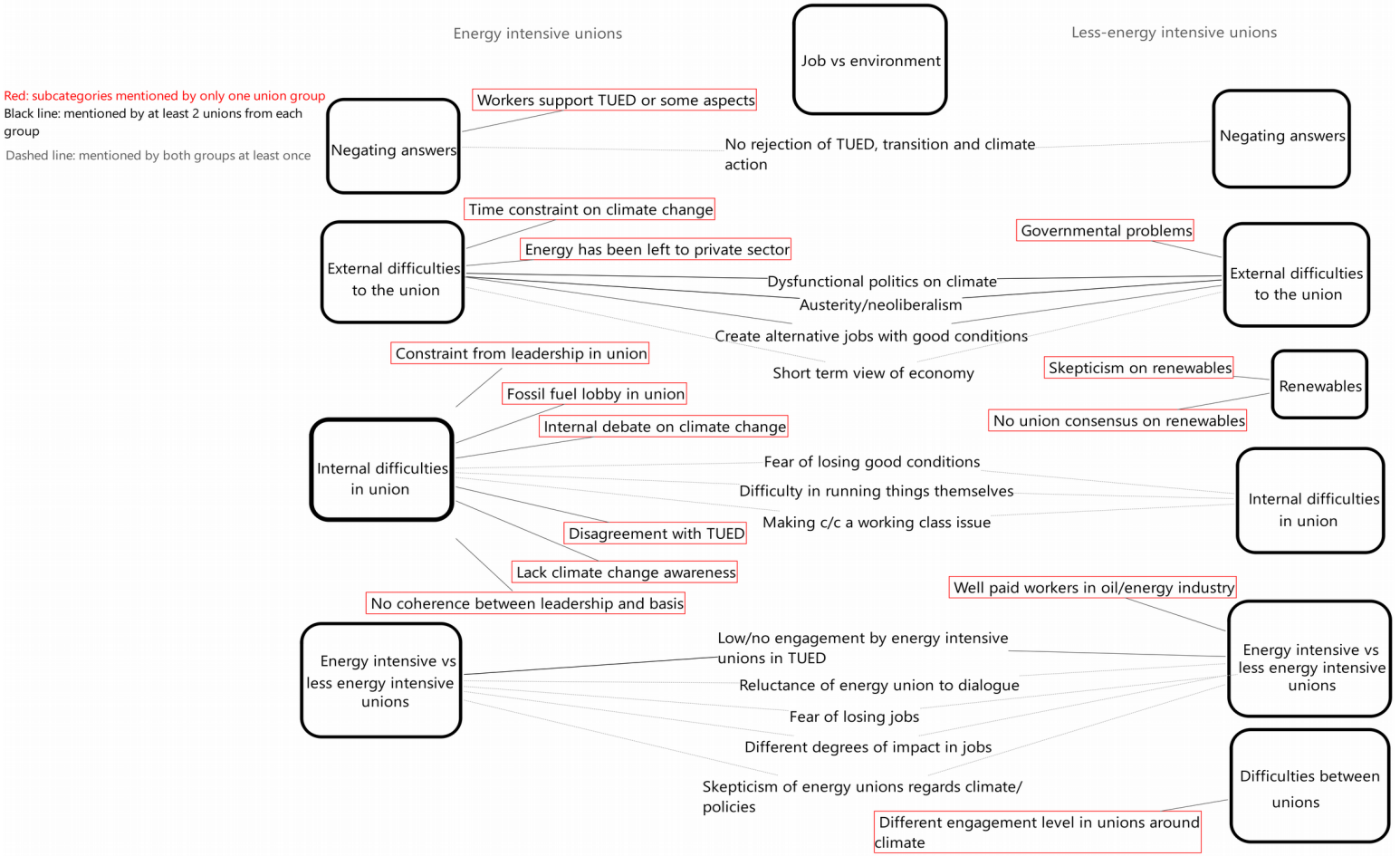
A comparison between both groups, their main differences and commonalities will be shortly presented in the following (see Figure 4.). EI-unions showed several internal difficulties not present in LEI-unions (red marks on left side in Figure 4.), such as a constraint from their leadership in resisting involvement in climate change mitigation; fossil fuel lobby inside their union; internal debates around whether to integrate or not a concern on climate change into their agendas; disagreement with some aspects of TUED, e.g. fracking; a lack of climate change awareness in members and no coherence between leadership and basis. On the other hand LEI-unions' own arguments (red marks on right side in Figure 4.) mostly revolved around renewable energies skepticism and

the perception that there is a different engagement level in unions in general, when it comes to climate change mitigation.

The difficulties to achieve energy democracy specified the most (black lines in the middle of Figure 4.) by both groups were the perception of dysfunctional climate politics by governments, austerity or neoliberalism, the creation of alternative jobs with good conditions and a low or no engagement by EI-unions in TUED. Moreover, other important difficulties identified by both groups (dashed lines in the middle of Figure 4.) revolved around the fear of losing good conditions or jobs when transitioning (both were talking about EI-unions), different impacts on the work sectors, a difficulty in running the energy system themselves, making climate change a class issue and difficulties with EI-unions who tend to be less involved in TUED.

In summary, it can be affirmed that ‘job vs environment’ was an important category mentioned by both union groups. Moreover, EI-unions showed strong mentions under the internal and external difficulties categories to achieve energy democracy. Specially the long list of internal difficulties suggested a difference to LEI-unions. Many EI-unions’ subcategories throughout the categories were related to jobs (create alternative jobs with good conditions, fear of losing good conditions, fear of losing jobs and different degrees of impact in jobs). And when mentioned by the LEI group it was normally referring to fears by EI-unions. On the other hand, LEI-unions had a relative equal distribution in arguments, being the ‘energy intensive vs less energy intensive unions’ and the ‘external difficulties’ categories important issues for these unions.

Figure 4. Overview of difficulties for achieving energy democracy for both groups of unions



4.2 Energy intensive vs less-energy intensive unions in relation to energy democracy

As was presented in the last section the involvement of the interviewed unions in energy democracy and TUED shows some differences when it comes to EI- or LEI-unions. The differences are best illustrated when unions presented the difficulties they had or might have in the project. The different arguments will be illustrated here with some important quotes from the interviews that best represent the category. The quotes and subcategories are found in Figure 5. Union names and other names that could indicate which union is being quoted were changed by a XXX in order to maintain anonymity. This section will start with the subcategory 'fear of losing jobs' on the left of Figure 5. and will continue to explore each argument clockwise.

This first subcategory was mentioned by two EI- and one LEI-union, but all referred to the fear of losing jobs by EI-unions. The statement, "so for instance, there are quite a lot of our senior officers, who are very skeptical about any organizations that talk about climate change, because they see it as a threat to jobs", showed an internal debate in an EI-union with parts of the union being against an involvement with a project that could affect their jobs. A similar argument can be seen in the next quote from another EI-union:

> When the opposition does come is when people are told, well if we want to have any chance of defeating the worst effects of climate change, your jobs are going to have to go. That is when we run into difficulties because people have...People clearly do not want to see their livelihoods disappear. (Figure 5.)

Here, the fear of job loss had also as a consequence the opposition by some members to participate in climate initiatives, specially since those specific jobs were perceived as threatened by climate change. Furthermore, the quote "some of our people would say they (TUED) are anti-gas industry. [...] campaigning for us to lose our jobs [...]" emphasized an identity of the workers with their industry and perceived TUED as a direct attack against that industry.

Next, the subcategory ‘low/no engagement by energy intensive unions in TUED’, exemplified the fact that EI-unions tended to be less active or were not interested in participating in a climate initiative like TUED. The following quote by a LEI-union,

> That is the big problem because although as you would have seen in the U.K. we have got a number of unions that have signed up to the TUED initiative, probably XXX (LEI-union) is the only one that is most actively engaged. XXX (LEI-union) and other public sectors unions are actively engaged and it does tend to be the public sectors unions that have taken the more active role on the agenda of TUED, whereas the other unions (EI-), probably if they came on board and were more outspoken around the TUED agenda, we could make some breakthroughs politically. (Figure 5.)

offered a perceived higher active involvement by LEI-unions that was seen as a difficulty in the project because the lack of engagement by EI-unions could affect the formation of a political force. At the same time, an EI-union stated, “So I would say that [our union] does not highly participate in TUED. Even though we participate, it is very much on one side and I have to be careful not to create a problem at this stage”, meaning that because of the internal debates on climate change and jobs, a fully-committed engagement in TUED was not possible.

Moreover, the subcategory ‘reluctance of energy union to dialogue’, i.e. a reluctance by EI-unions to engage in debates about energy and climate change with other LEI-unions or other members of society can be best exemplified through the following quote by a LEI-union:

> I understand that unions are protecting the interests of their members. That is what we are here for to protect jobs. But they (EI-unions) seem very reluctant to even engage in an honest and hard-headed discussion about energy and some of these issues which is what we have been trying to get them to do for a couple of years. (Figure 5.)

Comparatively, an EI-union clarified, that there existed a conflict on accepting arguments or proposals from a sector that did not directly represent the energy industry,

> I think the resolution (proposed by a LEI-union) made it very easy for my union to oppose it. It was people from outside of our industry talking about what we should do, rather then asking the workers, what you think could be done here, you know, try and create a policy. (Figure 5.)

This last statement was confirmed by a LEI-union: "this is one of the frustrations we have, because we are constantly told, because we do not have members in the energy sector, that we do not really have a voice in this debate around energy".

Furthermore, the subcategory 'skepticism of energy unions regarding climate/ policies', illustrated the arguments some EI-unions have used to position themselves in regards to climate change mitigation. First, climate skepticism seemed to find ground in an EI-union when proposals or critique came from a LEI-union,

> They (LEI-unions) have very few if any members who are working at the energy creation network. So it is very easy for climate change skeptics within the [energy] union to say, they do not know what they are talking about. "They have no members, just ignore them." (Figure 5.)

Second, a division between both groups of unions can be further identified, since EI-unions showed themselves to be critical of climate policies as the following quote by a LEI-union demonstrated,

> ... and I must also say/admit that the question of oil is dividing the unions in XXX. In the way that for example the union which organizes most of the oil workers is not very interested in taking part of this policy and they are very critical. (Figure 5.)

Moreover, the subcategory 'power imbalance between unions' meant the differing level of power and influence unions might have in a society. In this case a LEI-union recognized that in some EI-unions there was a strong structure against participation in the climate mitigation project, that at the same time had a strong influence on the overall response of the labor movement and political parties. This can be taken from the following quote,

> ...and I think a lot of it (low EI-union engagement) has to do with political influences and power structures within some of those unions because the XXX and XXX (EI-unions) are the biggest unions in this country and they

> do wield a lot of power both within the overall trade union movement and within the XXX Party. (Figure 5.)

Finally, the subcategory ‘different degrees of impact on jobs’, i.e. the differing impacts on jobs an energy transition could bring, was also a good example on the difference between EI- and LEI-unions. Both groups agreed and recognized, that climate change policies or mitigation strategies could have different impacts on workers and therefore some unions could also have easier decision-making than others. As an example a quote by a LEI-union:

> It is much easier for our union, also the public sector unions have a much easier position because they are not so strongly affected by the negative effects of climate change policies. We have no workers in the oil industry, no workers in fossil fuel production and distribution and so on. It is easier to take a principled position to a question like climate change. It is much more difficult for those who organize the workers that would be most strongly affected in a negative way. (Figure 5.)

This last statement also showed an understanding by the LEI-union for the possible more hostile positions some EI-unions might incorporate when it came to projects like TUED.

The EI-union expressed a similar concern,

> ...but it would also be fair to say that some are allowed to be a little bit more aggressive in their approach than others and that really stems from the fact that this energy transition [...] it is going to impact some people a lot more directly and a lot harder and faster than others and if you work in a coal mine you are going to be impacted to a much higher degree than somebody that is working on an electricity network and that person that is working on the network, he is going to be much more impacted than somebody that has a white collar job or in that area. (Figure 5.)

Both arguments recognized a difficulty in achieving energy democracy because of the different degrees unions, jobs and workers will be affected by climate change policies and thus, the resulting differing ways they could respond to climate initiatives. This implied that climate policies probably could affect more the energy sector and as a consequence this had made it more difficult for EI-unions to want to participate in energy democracy.

To summarize, it can be affirmed that EI- and LEI-unions have responded in different ways to TUED's climate initiative. Even though EI-unions were officially part of the initiative, the different subcategories explained before showed that there were still differences between both groups. LEI-unions were more actively involved in the project, while EI-unions still had concerns around job losses, some skepticisms around the thematic and a difficulty in engaging in debates with LEI-unions on energy. Both groups nevertheless understood that this problem resulted from the fact that climate policies and strategies will have stronger or softer effects on their respective sectors.

Figure 5. Quotes by EI- and LEI-unions in regards to the difficulties in participating in TUED

4.3 'Job vs environment' dilemma in unions participating in TUED

In the following section the different arguments that indicated a 'job vs environment' dilemma in unions participating in TUED will be presented (Figure 6.). Besides the quotes making direct mention of a conflict between jobs and environment, or in this case climate change mitigation, other aspects that were cited by unions as difficulties could be linked with the quotes (see Table 8. for meaning of subcategories/difficulties). These other subcategories were, thus, considered having an influence on the 'job vs environment' dilemma (Figure 7.). In Figure 7. the black lines connecting subcategories to the job vs environment category indicate the overlapping of both subcategories in the text. The dashed lines represent the connection made by me and explained in the following text. Only subcategories were illustrated in Figure 7. to have an easier overview.

First, important quotes from EI-unions will be introduced. The first phrase mentioned by an EI-union showed that this issue did exist in EI-unions' workers and that when given the dilemma, workers would opt to protect jobs ("And when it comes to a choice between, and people do put it this way, jobs and climate change. People will opt for jobs"). As the second phrase also stated, main opposition by members in regards to climate mitigation projects came when these were confronted with the possibility of losing their job sector: "When the opposition does come is when people are told, well if we want to have any chance of defeating the worst effects of climate change, your jobs are going to have to go". These two quotes were coherent with the subcategory 'fear of losing jobs' from Figure 7.. The third quote from an EI-union made mention of the subcategories 'create alternative jobs with good conditions' and 'fear of losing good conditions' from Figure 7.. This showed that those two aspects were issues, but when given new circumstances workers were willing to change their jobs if these were existent and secured in their

conditions: “If you show us that we can work somewhere else with the same working conditions then great, but until then we will protect the jobs that we have” (Figure 6.). Moreover, quote IV. made reference to the subcategories ‘making c/c a working class issue’ and ‘lack [of] climate change awareness’ (Figure 6.):

> It is in everybody’s interest to join in the fight to stop the worst effects of climate change but for a lot of our members and for a lot of people in general it is not as tangible or it is not as close, or they do not think it is as close to them as their everyday existence. Some people have a very difficult, even in rich countries like this, a very difficult life and concern more with just their jobs.

The EI-union recognized in this last quote the importance of climate change mitigation for their members, but they did not necessarily see it linked to their day-to-day lives (“they do not think it is as close to them as their everyday existence”) and worry thus, more with ‘just their jobs’; showing also a lack of climate change awareness (Figure 7.). Finally, an EI-union mentioned in quote V. the debates that occurred inside the union in regards to climate mitigation projects and how a refusal of some part of the members, because of a possible effect on jobs, could have an effect on the decision to participate, in this case, in energy democracy. This last quote made allusion to the difficulties on ‘internal debate on climate change’, ‘skepticism of EI-unions in regards to climate/policies’ when the union representative mentioned: “so for instance, there are quite a lot of our senior officers, who are very skeptical about any organizations that talk about climate change, because they see it as a threat to jobs [...]”, and the subcategory ‘constraint from leadership in union’ when it was pointed out: “[...] [s]o if the wrong thing is said, they (leadership) will try and block what is going on”, meaning that one group of members had a strong position in the union so as to influence its decisions and to constraint a climate change mitigation response.

Furthermore, in regards to the quotes chosen from the LEI-unions’ data, the first phrase made allusion to the subcategory ‘different degrees of impact on jobs’ (Figure 7.). The acknowledgment that climate change and/or its policies

will affect unions in differing degrees, as presented in 4.2, could also have an effect on how a union decides to react to a climate change mitigation project: “And I understand very well their (energy unions) resistance [to energy democratization], that is one of the reasons why we said that we cannot just roll over these workers. The climate change struggle has to go hand in hand with the social struggle in order to defend people’s jobs, their right to have a job, the income and so on”. Besides that last aspect, the phrase also revealed an understanding from the LEI-union towards the ‘resistance’ of EI-unions, as was also identified in 4.2. The second quote intended to show that LEI-unions might also be affected by the dilemma when it came to increasing job positions: “We are opposed to the expansion of Heathrow airport at national level. And they (some union’s members that work at the airport) do not agree with our national position, they still believe that more planes will mean more jobs for them” (Figure 6). The campaign mentioned by this union against an airport expansion was defended by them because of increased pollution in the area and higher carbon emissions. This was the only mention during the three interviews by a LEI-union in regards to a ‘job vs environment’ dilemma in their own union. Moreover, the third quote also made reference to the difficulties in ‘creat[ing] alternative jobs with good conditions’ and to some degree also on ‘skepticism on renewables’ (Figure 7.), albeit in this case a skepticism towards jobs that can tackle climate change. The LEI-union alluded to the general notion that one cannot have good jobs and at the same time tackle the climate crisis. Factors that could also contribute to unions falling into the ‘job vs environment’ dilemma.

> which is where we are at the moment, stuck in a bit of a binary debate around jobs versus the environment and a kind of, “you either have one but you cannot have both”, or else we will say you can do both things. You can have jobs and also do jobs that tackle the issues of climate change. (Figure 6.)

The union was making reference in this last quote to a debate they had encountered with other unspecified unions. Finally, the last quote by a LEI-union pointed to the ‘fear of losing good conditions’ by the LEI-union that had

a small amount of workers in the energy sector: “Some of their members (LEI-union with energy workers) actually do not like the energy democracy agenda because they think it is going to be worse for them with public ownership [...]”. The union was making reference to the privatization process, in which former public workers could keep good terms and conditions, but new incoming workers would not, so there was a fear among the former workers that an energy democratization strategy could affect their terms and conditions for worse. Furthermore, this quote also made reference to the ‘austerity/neoliberalization’ subcategory, since as was explained by the same union during the interview, the fear of worse job conditions in the public sector could be explained from the cuts the public sector underwent since 2010 (as indicated by union). All of these aspects affected the opinion of some workers of the LEI-union with small amount of energy workers on their participation in energy democratization. Moreover, the topic of austerity and neoliberalization was mentioned by both groups of UK unions, so as to make clear that cuts and privatizations in the economy had contributed to a general sense of uncertainty when it came to governmental investment for climate mitigation and in unions when it came to jobs.

Other aspects, not illustrated by the above quotes, as presented in Figure 7., could also affect the decision of a union in regards to jobs or the environment. The subcategory ‘well paid workers in oil/energy industry’ was mentioned by two unions and in both cases made reference to an added difficulty in winning members for the energy democracy project, since their wages were good. Thus, indicating that well paid workers would prefer to maintain their jobs instead of participating in energy democracy. Moreover, the subcategory ‘fossil fuel lobby in union’ mentioned by one EI-union also made allusion to the EI-union members being difficult to persuade for the energy democracy agenda, since there was a strong lobby for the fossil industry in the union. The same can be stated for the last subcategory ‘oil importance in economy’, that

was used by EI-unions (not in TUED) as an argument to defend their job sector, even if it created environmental damage.

In summarizing, several aspects identified by both groups have shown an influence on the 'jobs vs environment' dilemma. Most quotes cited from LEI-unions made mention on the difficulties in and with EI-unions and also to difficulties of the one LEI-union with its energy workers sector. The only reference a LEI-union made of that problem inside their own organization, was on the conflict about the airport expansion. Furthermore, EI-unions have implied many internal debates/problems and fears in regards to jobs when it came to energy democratization, that have influenced their stronger position towards protecting jobs. Thus, LEI-unions have suggested to be less affected by the dilemma than EI-unions.

Figure 6. Quotes from EI- and LEI- unions that fell under the category job vs environment dilemma

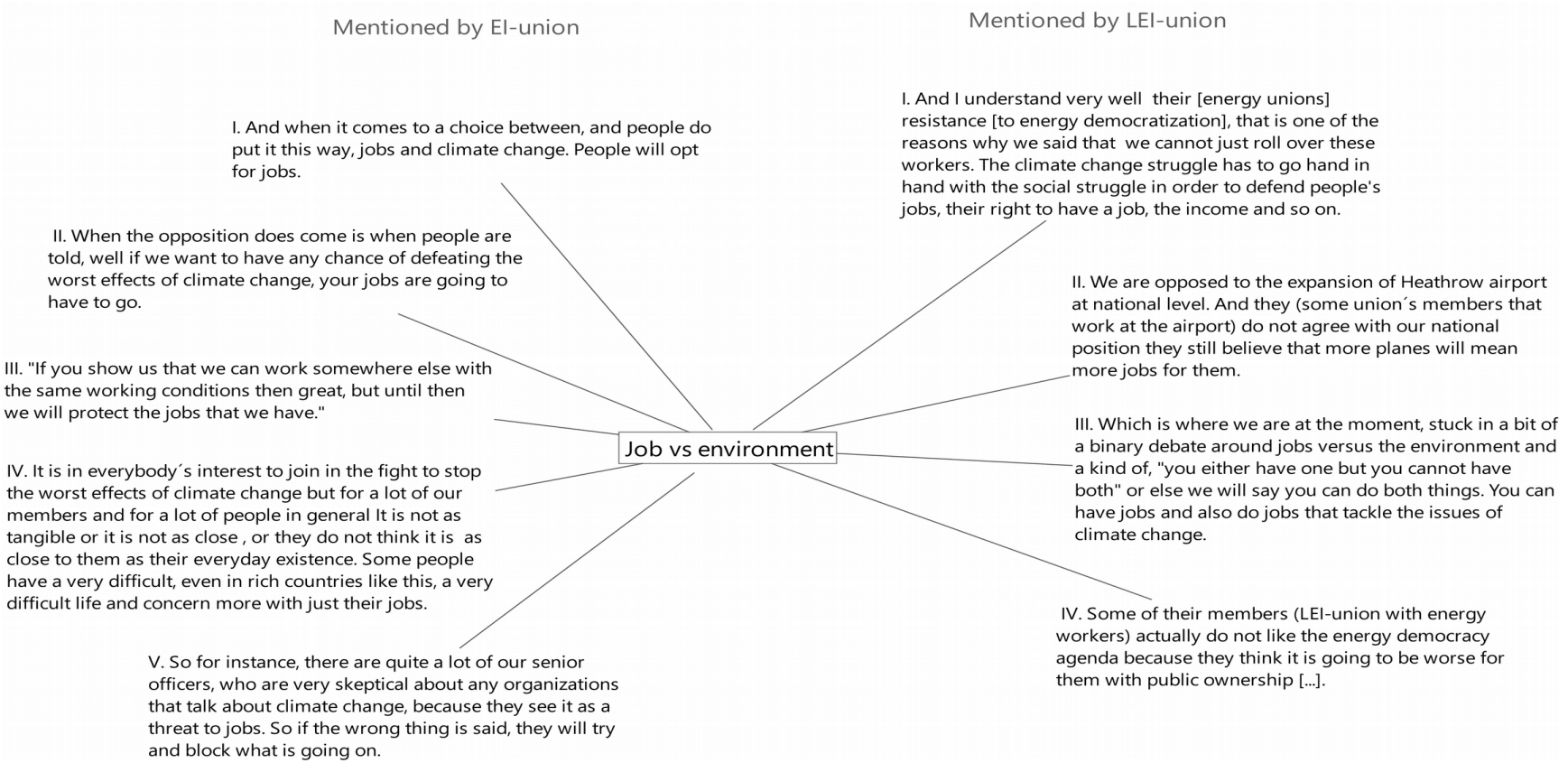
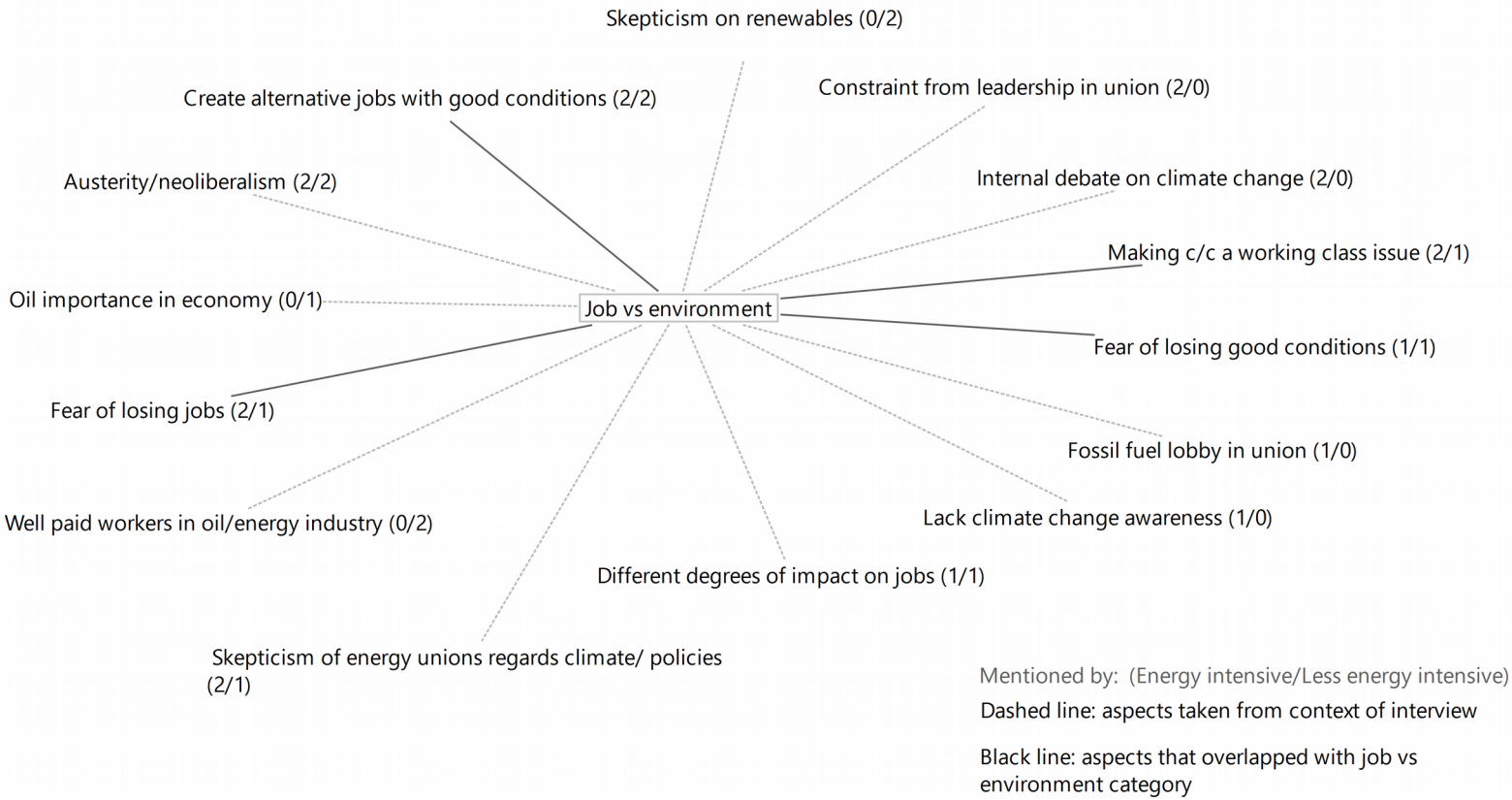


Figure 7. Categories or aspects affecting the job vs environment dilemma in EI- and LEI-unions. All subcategories originate from the difficulties identified by unions in achieving energy democracy.



Chapter 5. Discussion

> […] capital is able to divide and rule over labor and nature because it determines the forms in which they are productively combined within and across individual production units according to the imperatives of exchange value and monetary profitability, not in line with any particular co-evolutionary path of human and extra-human nature.
> -Paul Burkett, *Marx and Nature: A Red and Green Perspective, 2014*

Trade unions can have, what is called a 'typical agenda', shaped particularly by concerns around terms and conditions of employment, e.g. the payment of a 'family wage', defining and reducing the working hours, and constraining the employer's ability to hire and fire (Hyman, 1999). However there have been efforts of change into what defines this more 'classic' understanding of workers concerns, specially with the implementation of neoliberalism and new external situations such as part time work, short-term and casual employment, self-employment, unemployment etc. (Hyman, 1999). In this period of climate change having an effect on all spheres of social life, the phenomenon has become a further external (and internal) challenge for unions, since it is clear that either extreme weather events or policies will eventually affect jobs and thus, unions (Räthzel & Uzzell, 2011). One can therefore state that the 'classical' concerns bound only to the workplace will be more and more contested. It is in this position that TUED has been building its project of energy democracy, by uniting the environmental justice goals and the protection of workers rights in the process (TUED, 2015). The intention of the following discussion is to shed some light on the interests trade unions in TUED have shown to participate in the project and the possible difficulties and losses (opportunity costs) they might encounter. Also, since the project specifically tackles energy transition into public ownership, different job sectors will be affected differently by the project and since unions in TUED were EI- as wells as LEI- unions, this chapter will also discuss the differences in interests and difficulties between both groups. Moreover, the results have

fitted into the theoretical concepts of the ‘job vs environment’ dilemma, social movement unionism and a class-based understanding of climate change.

Discourse by trade unions in relation to climate change

Although the purpose of this work is not to deliver a discourse analysis on participation in energy democracy, past work on this subject can elucidate a first orientation on the policies, behaviors (Hampton, 2015, p. 45), interests and difficulties of the trade unions interviewed.

The different discourses and identities trade unions might show in regards to climate can shape their forms of engagement in mitigation (Hampton, 2015, p. 46) and, thus, give an insight into how a trade union might react to policies. Räthzel and Uzzell (2011) distinguish several discourses from their analyzed unions, those being: the ‘technological fix, ‘social transformation’, ‘mutual interest’ and ‘social movement’. As in Räthzel and Uzzell (2011), the unions chosen for this work also orient themselves to some of these discourses, albeit in combination, i.e. not mutually exclusive. Under the technological fix discourse, i.e. strong belief in technological innovation to modernize industry, one can find one of the EI-unions (ETU) that sees in energy transition an almost inevitability of change, largely due also to technological innovation (see subsection 4.1.1). Moreover, another discourse that can be interpreted from the content analysis is ‘mutual interests’, i.e. the replacement of an abstract morality (concerning climate change) with a focus on workers interests, solidarity and cooperation. Here an EI-union (UNITE) made several times the case that a participation in energy democratization has to communicate with the workers in order to proceed with them on building a solution for the crisis, not merely imposing top-down environmental awareness (see subsection 4.1.2, ‘encourage workers in solution seeking’); or as Räthzel and Uzzell (2011, p. 1221) put it in their case, to build “a horizontal dialogue with workers about how their immediate interests can be re-defined and reconciled rather than abandoned”. A similar stance can be found in one

LEI-union, when the representative mentions his/her understanding that some unions might be more hesitant to participating in energy democracy and that the concerns of those workers had to be taken seriously (see section 4.3., ‘different degrees of impact on jobs’). Several other unions also make the stance of understanding the concerns of workers, specially from the EI industry in regards to climate change mitigation (see Figure 5. and section 4.2). So besides some unions (LEI) being critical to a disproportionate engagement level between unions in TUED (see section 4.2), the focus on workers interests and solidarity towards EI-unions is present. On the ‘social transformation’ discourse, i.e. where production must take into account the identities and socially constructed images of professions developed by workers in their specific sectors, one EI-union, that sees some of the climate policies as direct attacks on the gas industry workers (see section 4.2 and Figure 5.), and a LEI-union, identifying as public providers (see section 4.1.1), explicitly mention a strong identification with their job sectors. However, different to Räthzel and Uzzell (2011), several unions see the creation of alternative jobs during a transition as acceptable, most importantly in the EI sector (see section 4.3), since these unions will be mostly affected, as will be discussed later on. The final discourse of ‘social movement’ encompasses a broader number of unions since it includes an interest of unions on social issues, such as environmental protection, which is the case of all unions interviewed. This aspect will be discussed more thoroughly in the following text, since it needs a more narrow definition in order to categorize the unions in this work to this discourse.

Besides Räthzel and Uzzell (2011) and their identification of different discourses, Hampton (2015, pp. 45-46) takes a more deductive stance by using the ‘eternal triangle’ by Hyman (see section 2.1.3) to map climate discourses in trade unions. Hyman (2001b) explains trade unions as facing three different orientations: class, society and the market. Pressured by these different spheres, unions can show different identities and purposes, i.e. business

unionism focusing on the market, integrative or social-democratic unions focusing on society and class oppositional unions focusing on class (Frege & Kelly, 2003; Hyman, 2001b). Hampton (2015, pp. 45-46) uses a similar interpretation of union identity, but directed to climate change. This more simple division of union discourses can also help understand the orientation the unions in this work have in regards to climate change mitigation. Hampton (ibid.) divides a neoliberal climate discourse with the market pole; an ecological modernization discourse with the social pole and a Marxist perspective with the class pole. The scholar interprets a neoliberal framework as focusing on market-based instruments to solve the climate crisis. The six unions interviewed did not explicitly show a neoliberal approach to energy democratization. This is most probably the case since many of the motives for the unions to participate in TUED are based on its principles, which are founded on the understanding that a real solution to climate change needs to "confront the power of the corporations and their control over energy resources, infrastructure and markets", something market-based approaches have not accomplished (Sweeney, 2013, p. 3). However, Hampton (2015, p. 45) also states that unions under this category tend to "emphasi[z]e similar concerns to their employers, including the impact on […] employment". This last aspect can be mostly seen in EI-unions and their focus on difficulties regarding a loss of jobs and /or good conditions (see subsection 4.1.3), i.e. an interest in protecting jobs in a similar fashion as employers would want to protect their business. Nonetheless, the unions in this work do not completely fit into a neoliberal discourse since there is no explicit focus on market-based solutions. On the other hand an ecomodernist discourse, i.e. an acceptance of the role of markets, but also of command and control measures, instruments by the state, technological promotion (similar to technological fix discourse), creation of green jobs and a general concern for social justice impacts of climate policy (Hampton, 2015, p. 46), can be found in all unions. The six unions show at least support in one of the following topics, creation of new (green) jobs, social justice, a rejection for privatization of the energy system

and for austerity and a critique on the way government handles climate policy (see section 4.1). The last approach by Hampton (ibid.) is class oriented, i.e. those who are not willing to leave climate action solely on markets and states, may ally with communities and other organizations and have an independent stance with identifiable class interests. Probably the most radical goals, mentioned by almost all of the unions, and also the reason for their engagement in TUED, is the understanding that public ownership and democratic control of energy resources are the solutions not only for the climate crisis, but also to other societal problems such as, fuel poverty and price fluctuations (see subsections 4.1.1 and 4.1.2). How a shift in private property would look like, either in the hands of state institutions or of workers themselves, was not made clear during the interviews. Only one EI- union made short mention on the difficulty workers might have on running the energy system independently, 'by themselves' (see subsection 4.1.3). Moreover, all LEI-unions state that TUED has helped in the creation of climate alliances outside of the network (see subsection 4.1.2), i.e. a characteristic of class orientation by forming allies with communities and other organizations. Finally, it is identified that EI- and LEI-unions recognize a certain working class interest in the mitigation of climate change, which will be discussed more thoroughly in the following. Some examples, however, would be the case of the LEI-union that connected the rejection of airport expansion with a decrease in air pollution health risks and climate change (see Figure 6. for quote); and the situation mentioned in an EI-union when talking about creating environmental class consciousness because of working class geographical predisposition for environmental health risks (section 4.1.2 and Table 15. quote I. in annex).

To summarize, it can be stated that unions in TUED have shown arguments that fit in different degrees to many of the above discourses. The discourses that are most present in the six unions, are: social movement, ecomodernism, class orientation and neoliberalism (in EI-unions) (Hampton, 2015; Räthzel

& Uzzell, 2011). These discourses and their limits within unions will become clearer when discussing the interests and difficulties in the next section.

Union interests to participate in TUED

The interests a union can have in a climate initiative I classified as that which motivates a union to participate in TUED and the benefits a union might identify for achieving energy democracy (see section 3.2.2).

The representation of workers' interests is central to what a union is (Simms & Charlwood, 2010, pp. 125-148), so unions do not incorporate just any sort of interests, but those pertaining to a specific class. Thus, in order to first understand the specific interests unions might show or represent for participating in a climate initiative specifically tackling energy, it is best to first remember what class interests and class mean in general and how this is linked to unions. As explained in section 2.1.2. and as understood in this work, class exists when "the people that participate in production have different kinds of rights and powers over the use of the inputs and over the results of their use" (Wright, 2005, p. 9), something called social relations of production (ibid.). Class in the Marxist tradition is therefore defined, simply put, as a representation of those that have a common position within social relations of production in society (Hampton, 2015, p. 30). A class in society has its own set of interests and these are structured by where the people of a class are located in the social relations of production (Wright, 2005, p. 20). So, class interests are "the material interests of people derived from their location-within-class-relations", i.e. material interests such as standards of living, working conditions, leisure, material security, etc. (Wright, 2005, p. 20). It is in this context that trade unions form what is termed class formations, i.e. collectivities that can facilitate the pursuit of class interests (Hampton, 2015, p. 31), in this case the interests of the working class (for more details on the definitions see section 2.1.2). Besides the logical assumption that the working

class does have a material interest in environmental well-being (even if not consciously) since it does not exist in an isolated bubble without connection to the adversities of the environment, it is important to pose the question, as did Hampton (2015, p. 38), if "workers and their organizations have a coherent interest in ecological matters", and what the interest or interests might be. This is what I will discuss in the following section.

As mentioned before, material interests of unions often relate to immediate occupational issues such as wages, working hours, etc. (Hyman, 1999; Wright, 2005, p. 20). In the topic of climate change, even though it is recognized that it will materially affect the working class directly through job-loss, -change, etc. (Uzzell & Räthzel, 2012), the issue is understood in literature and also in unions as something not related to a union's immediate interest, but as something that affects working people in general, locally or nationally (Moody, 1997). So, there is a general separation on what can constitute immediate occupational interests for workers and what constitutes a wider societal interest, all of which possess a material condition. Even though climate change mitigation evokes a wider societal concern it is shown in this work that on that issue unions have been able to identify both 'immediate' and 'less-immediate' interests. This is similar to Hodder and Edwards' (2015) understanding of a distinction between 'express wants' and 'deeper interests', i.e. for a particular group of workers and/or for a wider constituency, respectively. Immediate interests are, therefore, here defined as those interests for participating in energy democracy directly affecting the union and its members and less-immediate interests as those pertaining to a society-wide issue.

Under the immediate interests to participate in energy democratization, be it a motivation or a foreseeable benefit, most are related to jobs and other internal affairs, e.g. creation of jobs, climate change impact on jobs, protection of workers' rights, better working conditions with public ownership, gaining new

members, higher attractiveness for younger people, better reputation, etc. (see subsections 4.1.1 and 4.1.2). These type of interests were specially common between EI-unions (see Figure 3.). This can be explained through the fact that EI-unions could be more directly affected by energy democratization and transition (see section 4.2 for perceived higher impact on EI-unions). Thus, it can be assumed that the interviewed representatives show a higher interest in concentrating on arguments that reflect immediate impacts or benefits on jobs and reputation issues regarding their industries, that could eventually override the high concerns present in their members. This aspect will become clearer when discussing the differences between LEI- and EI-unions later on in this text.

On the other hand less-immediate interests, i.e. interests that go beyond the more 'traditional' demands or prospects by unions, were also identified in the six unions and can be fitted into aspects of social movement unionism. These will be more thoroughly discussed in the following, but first, it needs mention that some less-immediate interests found in LEI-unions and that do not necessarily fit into social movement unionism, but more to the given circumstances in their relationship with EI-unions, were the focus on communicative benefits (see subsection 4.1.2). LEI-unions show an interest in being part of the general debate on energy, on sharing information with other unions and on the fact that TUED brings the debate into society. The LEI-unions' focus on communicative gains, will become clearer when discussing the difficulties between EI- and LEI-unions inside the network and in society in general.

Social movement unionism, essentially is an 'orientation' of a union, that does not limit to the immediate bargaining agenda, but also to other more general aspects that affect workers and communities (Sam Gindin as cited in Moody (1997)), this being the reason why it fits into this works' less-immediate interests category. A change towards social movement unionism can be driven

by the material problems working people have to adapt to (Hyman, 1999), in this case the new phenomenon of climate change. As had been described in the former section, all six unions show this orientation by adopting a 'social movement' discourse by Räthzel and Uzzell (2011). At this point one can roughly affirm that all six unions present elements of social movement orientation solely by the fact that they are concerned about climate change, are officially engaging in a climate initiative, perceive climate change mitigation as a social benefit and have engaged in international solidarity in TUED (see subsections 4.1.1 and 4.1.2) (Turner & Hurd, 2001), but there are also other aspects in their motivations and benefit-seeking that point to that direction.

Social movement unionism is also seen as a revitalization strategy by Moody (1997) and some results here make for what could indicate an interest towards revitalization of unions through energy democracy. In this aspect a combination of both less-immediate and immediate interests pointed towards a revitalization interest. Although this was not explicitly mentioned by any of the unions, some immediate interests, for example gaining better reputation, higher membership and attractiveness for younger people and other less-immediate interests such as mobilization of workers around climate change and political campaigns, the building of alliances, TUED being a global initiative (see subsections 4.1.1 and 4.1.2 and strategies for revitalization by Frege & Kelly (2003) in section 2.1.3), do fall under the character of revitalization prospects or strategies (see 2.1.1 for decline of trade unions). It is important to mention that two LEI-unions, although also acknowledging some of the cited revitalization aspects, are also the only ones that negated an interest in gaining more members through the project, which is one of the purposes of revitalization (Frege & Kelly, 2003) (see subsection 4.1.2). Both unions mention that energy democracy does not necessarily make a good strategy for recruiting new members, suggesting thus, a more less-immediate interest in energy democracy. In the case of the Norwegian union it could be explained through the fact, that unions in the country have not shown great

decline as have others in comparison, making recruitment probably less of an issue for the union (see Table 1.).

Moreover, not only was a revitalization strategy identified, but also an explicitly mentioned identity with climate change issues (see subsection 4.1.1), further signaling an orientation towards social movement unionism. The purpose of a union is to pursue objectives that reflect its identity, as Hodder and Edwards (2015) have stated. In this case one of the objectives indicated by most unions is to mitigate climate change through energy democracy (see subsection 4.1.1). Though both groups presented an identity in integrating climate change mitigation into their objectives, LEI-unions have additionally shown previous engagement in environmental issues and creation of environment related alliances outside of the network, that can be interpreted as a further consolidation of their identity with climate change mitigation (see subsection 4.1.1 and 4.1.2).

Moreover, taking all aspects into consideration, LEI-unions, through their focus on communicative gains, less attention to recruitment strategies related to the project, and a previous environmental engagement indicate again a focus on more less-immediate interests, i.e. not focused on immediate interests as compared to EI-unions (see subsection 4.1.2 and Figure 2.), which at the same time is linked to a higher engagement in environmental issues (see Figure 5. for statements on higher engagement). This can be explained through the fact that they express to have lesser internal constraints in relation to environmental issues, mostly because they would be less directly affected by an energy democratization project (see section 4.2) and can therefore develop interests beyond the immediate union scope. Another explanation could be, since LEI-unions would be less affected, there is not the same need as in EI-unions to establish a strong focus on immediate interests or benefits that could eventually override the changes made during an energy transition, since they do not (except for one LEI-union) have workers in these sectors.

Furthermore, one can point out that the results also indicate that union identity with climate change is not entirely ‘stable’ or the same for both groups, as shown in the last paragraph. Even though some arguments by the EI-unions do fall under social movement unionism, it is important not to forget that two of these unions have directly stated that the interest of involvement in energy democracy has been due to personal motivation, i.e. not stemming directly from union leadership or rank-and-file (see subsection 4.1.1). This can mean that the interests and general position towards energy democracy might not be entirely supported by the union body, a problem that will become clearer when discussing the difference between LEI- and EI-unions and the ‘jobs vs environment’ dilemma.

Moreover, the so far incomplete goal, mentioned by both groups, of making climate change an important working class issue, i.e. part of the members’ identity; and creating a form of environmental class consciousness, or climate class consciousness as Hampton (2015, ch. 2) has put it, also suggests a so far incomplete conviction towards a climate change mitigation identity (see subsections 4.1.1 and 4.1.2). Hyman (as cited by Hodder & Edwards (2015, p. 848)) says in this respect that unions “can help shape workers’ own definitions of their individual and collective interests”. In this case unions can help in creating an environmental class interest and therefore consciousness (see Table 8. for definition in this work) that can be termed as an analogy to the meaning of class consciousness by Wright (2005), i.e. the subjective awareness people have of their class interests in relation to climate change and the conditions for advancing them. Hampton (2015, p. 39), as presented in the first part of this work, states that there exists a workers’ interest, i.e. class interest, in environmental issues due to the workers “disproportionate share of the harm due to environmental destruction”. This means that workers are amongst the most vulnerable to the physical impact of climate change given their fewer access to resources, to a geographical vulnerability in relation to

environmental and health damages and to the policies designed to tackle the environmental crisis (ibid.). Moreover, another analogy to the meaning of environmental class consciousness can also be found in a further identified class interest by Hampton (2015, p. 186). He states, that "[t]he actual lived experience of workers, the deep-seated structures that shape their lives and the expected impacts of future climate change, provide workers with a special […] interest in climate matters". The author (ibid., p. 39) goes further in stating that workers, "as the principal victims of ecological degradation", have a special interest in tackling the problem, because it is the same mechanisms that exploit them (longer working hours, reorganization and mechanization of labor), that at the same time creates the environmental damage. In this work, however, it was only possible to identify the latter class interests in relation to climate change. So, the class interest that unions in TUED identify for participating in energy democratization is seen: 1) when the representatives acknowledge a disproportionate effect of climate change on the working class, either through policies or because of geographical and economical predisposition (see Table 15. quotes I. and II. and subsection 4.1.1); 2) when some unions identify a form of environmental class consciousness as a benefit (see Tables 11. and 12.). For example when workers manage to make a conscious link between environmental issues and their living conditions (see Table 15. quote III.) and identify their situation as being different to another class in society; 3) it can be additionally stated that the reasons why the unions in this work see a class interest or class issue in climate change, revolves not only around the distinct impact the environment can have on the working class in general, but also because unions have created a link between energy and other issues that also have material impacts on working people. Thus, becoming aware of other class interests related to climate change mitigation and further expanding the orientation on social movement unionism. Some of these interests being: social justice, fuel poverty, stabilizing energy prices, gaining public ownership, fighting unemployment, etc. (see subsections 4.1.1 and 4.1.2).

In summarizing it can be affirmed that unions identified class interests in participating in a climate change mitigation initiative, that was divided into a general interest for the working class not specifically attached to the unions' occupation, and also a more direct and immediate interest concerning the union and its members. Both set of interests were named less-immediate and immediate interests respectively. So on one hand under less-immediate interests one could identify an orientation towards social movement unionism through the aspects of revitalization, an identity with the topic and seeing a benefit in the necessity to make climate change a class issue/interest that could evolve into an environmental form of class consciousness. Also less-immediate interests in communicative benefits were identified. On the other hand interests related to jobs, better conditions, membership and reputation, normally pertaining to business unionism which "prioritizes union members' immediate and narrowly material interests" (Hrynyshyn & Ross, 2011, p. 5), were also identified in connection to participating in energy democratization. So even with climate change being considered a general society-wide concern (Turner & Hurd, 2001), unions in TUED managed to identify and build a link between labor issues and climate change through immediate and less-immediate interests. It can be interpreted that by linking immediate interests like the creation of new jobs, protection of workers' rights, gaining new members, better reputation, etc. with a general interest for participation in climate change mitigation and other interests related to the energy system, unions' managed to acknowledge the real frustrations and fears of workers, (which will be discussed in the following) and make climate change mitigation a class issue more appealing to their members, or as one LEI-union representative put it: "[...] that (resistance towards climate mitigation strategies) is one of the reasons why we said that we cannot just roll over these workers. The climate change struggle has to go hand in hand with the social struggle in order to defend […] their right to have a job, the income and so on" (see Figure 6.). Finally, at this stage a difference can already be noticed

between EI- and LEI-unions, specially with two EI-unions having personal motivation as important components for participating in TUED. And even though both groups presented immediate and less-immediate interests for participating in TUED, LEI-union representatives suggest an interest less related to immediate interests for the union and a more consolidated identity with environmental issues (Figure 3.). EI-unions' responses, on the other hand, besides presenting a personal motivation also suggest a higher focus on immediate interests in matters of jobs, reputation, membership, etc. (Figure 3.). The explanation for these differences, although already implied, will become clearer in the following text.

Opportunity costs and difficulties in achieving energy democracy

By analyzing the difficulties trade unions in TUED identified to achieve energy democracy two first important insights are made. First, there is a difference between LEI- and EI-unions in regards not only to their interests in TUED, but also in the difficulties they perceive and second, many of the difficulties revolve around the 'job vs environment' dilemma. This will be discussed in the following.

Last section already indicated a difference in the interests between EI- and LEI-unions. EI-unions showing interests related to immediate gains for the union and its members, while LEI-unions also citing interests in communicative gains and what appears to be a higher focus on less-immediate interests. This and the following aspects to be discussed, revolve around the issue that different parts of the economy have different influences on climate change and therefore climate change policies or mitigation strategies will tackle these sectors in varying degrees (Räthzel & Uzzell, 2011). This affects TUED unions because the project involves unions from different economic sectors. Energy democracy envisions not only to change the control and ownership of energy resources, but also to use "massive deployment of renewable energy to meet climate goals and reduce pollution" (TUED, 2015,

p. 7), i.e. a direct impact in energy source. If this path is supported by EI- and LEI-unions it will have different degrees of impacts on the jobs they represent and since "[j]ob defense lies at the foundation of union politics" (Snell & Fairbrother, 2011, p. 97), this ignites different positions in unions (Räthzel & Uzzell, 2011). In the latter case of interests referred to at the beginning, since EI-unions are officially part of TUED their position can translate into a higher focus on building a bridge between the direct amelioration the project could bring to their members and union (immediate interests) and a social movement orientation, as a counterweight to the direct impacts on jobs. And in the case of LEI-unions, because of the lower impact on their sector, there is a greater liberty to focus on less-immediate gains and even show an interest in improving the communication with EI-unions, which is one of the difficulties indicated by LEI-unions that will be discussed in the following.

The mentioned differences are even more apparent when analyzing the results from sections 4.1.3, 4.2 and 4.3., that deal with difficulties identified by the unions. Here, several aspects present differences between LEI- and EI-unions' positions in TUED and it can be stated that these differences have also translated into tensions between both groups. They manifest in EI-unions as a higher fear of jobs loss, a reluctance to debate on the issue with LEI-unions (which also would explain the formerly cited LEI-unions' interest in communicative gains for participating in TUED), less engagement in the project, a skepticism in regards to climate and its policies and also a higher influence in the overall labor movement (in the UK) (see section 4.2). The tensions can be summarized between on one hand having very active LEI-unions that wish a higher engagement by EI-unions in order to enrich the overall project and on the other hand having EI-unions that are reluctant to debate about energy with unions outside of their sector and having a higher focus on the protection of their jobs (see Figure 5. for quotes). This being the case even though EI-unions are officially part of TUED and representatives

have expressed immediate interests their unions could have for engaging in energy democracy.

Furthermore, different positions in regards to energy democracy were also identified inside the group of EI-unions. The longer list of motivations and benefits one EI-union (Australian ETU) cited in regards to energy democracy (see subsections 4.1.1 and 4.1.2) suggests it being the most proactive between all EI-unions. Moreover, in terms of difficulties the union denied a rejection of TUED's project in their members, did not mention any internal difficulty, nor a 'job vs environment' dilemma or fear of losing jobs (see subsection 4.1.3). This could be explained through a specific development in Australia in regards to unions and the environment. Burgmann (2012, p. 133) states that "[a]ustralian unions were amongst the first in the world to push the issue of green jobs and were instrumental in encouraging renewable energy […] in the 1990s [...]", therefore strengthening the commitment of unions in the country to environmental issues and probably also pushing the ETU into a more favorable position towards TUED compared to the other two EI-unions from the UK, which showed more difficulties for participating in energy democracy (see subsection 4.1.3).

At this point another very important insight can be made, that the tension about participating in energy democracy identified between both groups of unions and inside the EI-group, also exists internal to the unions. Specially in EI-unions a long list of internal difficulties could be identified (Figure 4. and subsection 4.1.3). This can be explained through the concepts of 'vested interests' and 'sword of justice' by Flanders (as cited in Simms & Charlwood (2010)) . Simms and Charlwood (2010) state that there are competing objectives inside trade unions; first the desire to prioritize a narrow economic interest of the largest group members ('vested interest'), and second a desire to make "a more expansive, solidaristic perspective" ('sword of justice'). In this case, one can claim that the 'vested interest' lays in an overall focus on the

defense of jobs and conditions, specially in EI-unions since energy democracy would tackle their job sector, and the ‘sword of justice’ desire lays on engaging in a project to mitigate climate change. The internal tension in unions established between a defense of jobs and conditions, on the one hand, and a desire to expand into what was identified before as a social movement unionism, on the other, manifests itself in this work in the so-called ‘job vs environment’ dilemma.

The ‘job vs environment’ dilemma comes into existence when labor, or in this case a union, is confronted with a decision in regards to the environment that could somehow hamper a worker’s economic condition (Silverman, 2006). The problem of jobs vs environment is not new to unions, as I showed through the example at the beginning of this work (section 2.2.1) and it is also a problem that has been a subject in international debates about climate change and employment, as affirmed by Hampton (2015, pp. 57-62). The dilemma can basically manifest itself in two situations, either through the defense of jobs’ expansion, thus, the creation of new jobs, and in an opposition to destruction of jobs because of environmental requirements (Baker et al., 2011, p. 709; Barry, 2012, pp. 227-228). In job vs environment, as affirmed by Silverman (2006), unions prefer jobs for a better economic condition of their members whatever the environmental costs they bring. When the phenomenon of climate change is added, one can affirm that the dilemma is made even more complex because of a general insecurity surrounding the topic of climate change and jobs, since it is not entirely clear how a transition will work, how many jobs will be lost or gained, and who will be affected how much (Hampton, 2015, ch. 3). As stated by Hrynyshyn and Ross (2011) at the beginning of this work, there is a logic to the dilemma, i.e. it is not unfounded, because there actually is a material tension in defending jobs or the environment. However, climate change poses a different challenge, since there is no ‘escape’ from this phenomenon and there can be dangers on jobs (this being the material tension or outcome) when engaging in energy democracy as

well as an inevitable impact of climate change on jobs when no engagement is undertaken (Räthzel & Uzzell, 2011). Some unions participating in TUED have understood this issue in more depth than others, precisely because of the differing material tension/outcome between defending jobs and engaging in climate change mitigation.

Many of the difficulties for achieving energy democracy mentioned by both groups of unions correlate with the 'job vs environment' dilemma (see Figure 7.), showing the importance this has in the TUED's unions as had been suspected in the beginning from the literature review on trade unions and the environment. It can be taken from Figure 6. and section 4.3 and the already mentioned long list of internal difficulties that EI-unions tend to have more problems with the dilemma than LEI-unions. So, the important results of both groups on this matter will be discussed separately.

Fears related to losing jobs or good conditions, an uncertainty on whether alternative jobs will exist and if workers will have worse conditions, a lack of climate change awareness and thus, a low identification with the issue of climate change, i.e. a difficulty in making it a class issue, constraint from the leadership in tackling climate change and a resulting high internal debate on climate change are some of the important and related reasons why EI-unions show a tendency towards falling into a 'job vs environment' dilemma (see section 4.3). This manifests by being less active and open to debate and with more internal difficulties than LEI-unions. The problematic, however, has to be limited at this point to the UK unions, since, as was already discussed, the Australian ETU representative showed a different response to TUED than the rest of the EI-unions. The cited fears are so strong that the UK EI-unions have not been able to counterweight the case even when the essence of participating in TUED is to assure a strategy that protects workers: "The key tenets of energy democracy, as they have been formulated in Trade Unions for Energy Democracy, are as follows: […] Democratic direction and control of all

energy, a just transition that works; [s]ecuring a strong union presence in all parts of the energy sector" (TUED, 2015, p. 7). Besides the logical assumption that a project that directly tackles energy can bring a defensive position from energy-intensive sectors due to a high material tension and the mentioned incomplete existence of an environmental class consciousness in the working class, there are several other aspects mentioned in literature that could explain the stated fears by EI-unions.

Hampton (2015) also identifies a high fear of jobs loss in the energy-intensive industries (in the UK), which he explains as being more present in workers that are already suffering from a manufacturing jobs decline since the 1970s. He further states that the fear had become more acute after the worldwide economic downturn of 2008, thus pointing out that these kind of responses by unions also depend on the general economic and political climate in a society. The same situation was seen in the case of the CAW union, narrated in section 2.2, where a sudden change in the economic situation led the formerly environmentally-friendly union to change its rhetoric into the protection of jobs (Nugent, 2011). Moreover, it could be stated that what appears a situational aggravation in the fears by unions can be actually seen as a chronic problem, since economic crises are recurrent in capitalist society (Harvey, 2011, p.117). Although this was not explicitly mentioned by any EI-union, one could also relate the overall uncertainty that was formerly mentioned on how climate change will affect jobs and whether a transition will be just (Hampton, 2015, ch. 3) as further reasons for EI-unions' fears. Moreover, Hampton (2015, p. 64) also mentions that these anxieties are made also in a context of market domination and "where government safety nets for displaced workers are extremely limited or non-existent". The aspect of market domination and 'safety nets' were mentioned by the UK unions in relation to austerity and neoliberalism as contributors to a general uncertainty (see section 4.3). A reason that can also be read in Hyman (1999), who states that the rise of

neoliberalism was accompanied by a massive growth of insecurity, specially fear of job loss, in the workplace.

On the difficulty in making climate change a working class issue, i.e. a conscious interest, it can be explained, as do Räthzel et al. (2011) and Burkett (2014), through the fact that a connection has been rarely made between labor and nature because "natural resources used in production are privately owned and have therefore been considered outside the reach of workers' control" (Räthzel & Uzzell, 2011, p. 4). Burkett (2014, p. 62) goes a little further in establishing that in a capitalist mode of production the separation between workers, and what he terms the 'necessary conditions of production', which could be simply termed as the natural elements for production, creates a social downgrading of nature to a mere condition of money-making, i.e. an alienation of the worker towards all natural conditions, because it is not he/she who owns it (ibid., p. 77). This would mean in this work's case, that the difficulty to make climate change a working class issue and create an environmental class consciousness can be explained to some extend with the fact that workers cannot relate to the effects of production on their own environment because they are not in charge and therefore do not have a say on how production is organized. This alienation on the other hand can also affect a commitment by union members on climate change mitigation and form a stronger case for defending jobs as they are.

As has been shown before job vs environment is an important issue in EI-unions, however LEI-unions have also made reference to the dilemma being a problem (see Figure 6.). Yet most references by LEI-unions are directed to identifying that problem in EI-unions or in the overall labor movement. For example the mention of the different degrees of impacts energy democracy can have on sectors and jobs and the difficulty in creating feasible alternative jobs make reference to other unions (see section 4.3). The rest of the references are directed to the LEI-union that has a small portion of workers in the energy

sector, which fears losing good conditions (see section 4.3). On this last case, as in EI-unions, austerity and neoliberalism also are subcategories identified by an LEI-union that have contributed to an uncertainty in regards to climate change and jobs (Hampton, 2015, ch. 3). LEI-unions present, thus, a sense of being 'stuck in a debate', somehow not being able to make political progress because of the low engagement by EI-unions due to job vs environment, as mentioned from the results in 4.2. The only reference a LEI-union made in regards to the dilemma being an own issue, was in the case of the expansion of the Heathrow airport (see section 4.3). A campaign the union was against because of increased pollution in the area and higher carbon emissions, but that saw support from those members working there and that thought an expansion would be beneficial for them (see section 4.3). Therefore, suggesting that although the dilemma is more present in EI-unions and has brought barriers into participating in TUED, LEI-unions can also be subject to falling into the dilemma. This, however, in contrast to EI-unions has not been enough reason for lowering engagement in TUED, as has been demonstrated by the LEI-union involved in the Heathrow campaign.

In summarizing this last section showed that energy democracy ignites different responses from both groups of unions, mostly because of its differing effect on jobs. One of these responses being a notorious 'job vs environment' dilemma that manifests between both groups of unions as tension, because of a resulting different level of engagement in TUED. EI-unions, being in a position were a material tension is higher, presenting a high concern for jobs and thus, having more difficulties to engage in the network. Moreover the 'job vs environment' dilemma, although strongly present in EI-unions, is not always seen as expected, e.g. the exceptions of the Australian EI-union and the airport expansion debate in one LEI-union. An overall global insecurity around climate and jobs (Hampton, 2015, ch. 3), the material tension around jobs entrenched in the mode of production (Hrynyshyn & Ross, 2011, p. 11), a present economic situation in which unions are already pushed towards a

defensive position fed by austerity, a domination of the market (neoliberalism) and thus, a distrust in the economic system (Hampton, 2015) and a difficulty in making climate change a class issue because of the alienating factor in the mode of production (Räthzel & Uzzell, 2011; Burkett, 2014) are some of the explanations found for the unions' fears.

Finally, opportunity costs can be stated in this work as a possible benefit a union has to give up to participate in TUED. After analyzing both groups it can be roughly stated that EI-unions have higher opportunity costs than LEI-unions. EI-unions choose by participating in energy democracy a higher risk of losing their specific jobs in energy related or energy intensive industries and maybe even their work conditions if the project does not develop as planned. Furthermore, they have to accept a higher internal tension and debate around the issue of climate, had they decided not to participate in a climate change mitigation strategy. A tension that was mostly expressed in a long list of internal difficulties and the 'jobs vs environment' dilemma. However it has to be stated also that, as acknowledged before, climate change is an inevitable phenomenon that will affect jobs one way, either by pressure from below as is the project for energy democracy or from top-down policies, or the other, by following a 'business as usual' (Räthzel & Uzzell, 2011). The difference lays in the fact that energy democracy can mean a higher control over the effects on jobs, while non-action will probably mean unpredictable effects. Therefore how much of a benefit it could be for EI-unions not to participate in a climate change mitigation strategy and save itself many of the costs, is not entirely definable and can only be limited as a temporary benefit. On the other hand it can be stated that LEI-unions' opportunity cost most importantly revolves around the issue of their relation towards EI-unions. A non-participation in TUED could mean a less confrontational relationship with EI-unions in a national context. But also in this case, it has to be stated that such a situation would only be temporary, since at some point an effect would be felt in jobs and unions.

Chapter 6. Conclusion

This comparative case study followed a qualitative content analysis by Mayring (2014) of six semi-structured guided interviews with trade unions from Trade Unions for Energy Democracy. In this way it was intended to inductively create categories that could answer the research question on the interests, difficulties and opportunity costs energy-intensive and less-energy intensive trade unions can express in the new phenomenon of participation in a climate mitigation strategy such as energy democracy. The comparison of both groups was a result from the insight given by Räthzel and Uzzell (2001) that climate change and its policies would affect economic sectors differently. Moreover, the theoretical concepts of 'job vs environment', social movement unionism and a class-based understanding of climate change were expected to appear in the final results.

From the categories formed, I identified several elements of discourses, found in literature, in the six unions. The discourses ranged from a focus on technological fix or ecomodernism towards social movement and class orientation. Basically, on the one hand an expectancy of state intervention and technological innovations to mitigate climate change and on the other an attempt to connect climate change to other social justice issues of the working class, something that also became clearer when discussing the class interests in relation to energy democracy.

Moreover, unions as facilitators for the pursuit of class interests have shown in this work that there is a union interest for participating in climate change mitigation, incorporating thus, the problem as a class issue, as expected from the research question. However, both groups of unions presented different degrees of involvement in the project. So LEI-unions showed a higher engagement and general interest to participate in TUED, while EI-union representatives also expressed interests in a participation, but which was

strongly dependent on personal motivation and on immediate-interests related to jobs. This was mostly due to the material effect energy democracy would probably have on their sectors. So LEI-unions, expecting a lower impact in their sector, could concentrate on more general interests, while EI-unions, expecting a high impact, were less receptive to the project and expressed immediate-interests for their workers in a strategical choice that could counterweight the possible impacts on jobs. Furthermore, it was shown in this work that unions were able to identify in the overall concern around climate change both immediate and less-immediate interests that have contributed to creating a bridge between labor and climate change. This means for unions that the expected orientation towards elements of social movement unionism with a combination of immediate interests such as the creation of new jobs, protection of workers' rights, gaining new members, etc. have contributed to make a general society wide issue also into a class issue. This bridge, partly nonexistent in the environmental movement and for which it has been widely criticized for (Baker et al., 2011), of a class based understanding of climate change and its mitigation can be interpreted as what unions have contributed to the general debate on climate change. As Hampton (2015, p. 191) has described, radical conceptions of just transition, climate jobs and energy democracy "indicate the development of a class-based ideology in which the interests of the workers are articulated and climate change is framed in class terms". How much the connection between climate change and other issues of social justice or immediate interests will serve to anchor a detectable environmental class consciousness (which was still considered a problem in unions) in workers, who could eventually push the project from the rank-and-files further into realization is still to be seen and would need explicit research in a less high-rank level. Nevertheless some scholars, as Hampton (2015, p. 32), identify in the working class an important potential for agents of change in relation to climate change. Mulhern (as cited in Hampton (ibid., p. 32)) states that the working class as the collective producer in capitalist society "has the objective capacity to found a new, non-exploitative mode of

production". Finally, it can be affirmed that these unions have been able to respond to a new challenge and are beginning to renew their discourse, albeit in different degrees, outside of more traditional grounds, when presenting elements of social movement unionism such as an identity with climate change issues, revitalization strategies, the creation of environmental working class consciousness and an expansion to other social justice issues such as fuel poverty and public ownership. A renewal that in the past, so Hyman (1999, p. 9), did not happen and had brought at that time an "exhaustion of a traditional union discourse and the failure to respond to new challenges" that in the end contributed to the reasons of their decline. However, one cannot yet talk about these unions as a major force that take "an active lead in the streets, as well as in politics", as Moody (1997) has described social movement unionism. How these unions involved in energy democracy will further integrate climate change into their agenda and if this will or will not translate into a complete orientation towards social movement unionism is still to be seen.

Furthermore, the results of this work also pointed out that besides these unions expressing varying interests in participating in climate mitigation, they will also have to solve many difficulties and opportunity costs. A great difficulty, as expected from the research question, was identified in the material tension between jobs and environment, which was influenced by several aspects such as fear of loss of jobs and good conditions, lack of alternative jobs with good conditions, etc.. The dilemma demonstrated to also have a high influence on the outcome of engagement in TUED, specially in EI-unions where it was low for their preference to protect jobs. Whereas LEI-unions and their higher engagement showed to have less of a problem with the dilemma. This meant that those unions that had more to lose from participating in energy democracy, i.e. the highest material tension, were also the ones more prone to falling into the dilemma. Although this problem being an important setback in the project it was also shown, that it is not a fix phenomenon in unions since it is very much dependent on present economic and political circumstances and,

as shown in this work, on the level of environmental class consciousness attained by members of a union. The Australian union made a good example on this dilemma being contested in EI-unions and the case of airport expansion demonstrated that this dilemma could also arise, although with less stronger outcomes on energy democracy engagement, within a LEI-union. This result also confirmed the statement by Hrynyshyn and Ross (2011), that workers do not have an inherent tendency to defend a narrow view on jobs, i.e. it is not a determined predisposition, but that there is a real material tension between the defense of jobs and the environment entrenched in the mode of production that exists today (Hrynyshyn & Ross, 2011), i.e. workers need to work to supply their immediate needs for survival and how that work is structured (also environmentally) is not determined by them. Moreover, the opportunity costs both groups were engaging for their participation in TUED are also qualitatively different, but are identified in this work to be temporarily limited, since climate change is an issue that will continue advancing and affecting the working class one way or another. A situation that could eventually lead to an inevitable engagement in climate change mitigation, as has been already explicitly identified by the Australian EI-union.

In summarizing, I can state that this work has mostly contributed to scientific literature by stating which aspects unions have managed to identify as general interests for their participation in energy democracy, how interests propose a class component in climate change and what explicit difficulties unions from both sectors are confronted with if they want to successfully carry out a project that tackles ownership, workers' rights and wellbeing and climate change mitigation. Futhermore, some limitations in this work have already been mentioned, but one matter needs further explanation at this point. The interviewees, although important representatives of the unions, were logically not capable of representing all opinions of a union body. These organizations are complex and it was acknowledged from the beginning that not all differing voices could be presented in this work. However, the interviewees were

guided so as to not express only personal opinions on the matter, but mainly, the overall unions' standpoint and when in conflict all sides. This is specially important in the communication of the interests of both groups of unions and specifically in energy-intensive unions, were a higher conflict of opinions was recognized. The implications herein lied in the fact that some interests were presented by the interviewees as actual existing union interests in energy democracy, i.e. less subjective (mostly in LEI-unions) and as some interests that could exist in the future after some key difficulties had been surpassed, therefore a more subjective estimation (mostly in EI-unions). However these implications do not invalidate the resulting overall qualitative interests or potential there of expressed by the unionists, since the research question laid open what interests a union could have (in past and in future) on energy democracy and it was also acknowledged from the beginning that this is a relatively new phenomenon, so many interests would not be entirely developed. Finally, taking into consideration the results and the limitation in this work it can be stated that this work has also helped to narrow down further questions in matters of rank-and-file engagement for climate change mitigation, the high resistance of energy unions in climate change mitigation, national problems between unions on the matter, etc. These questions can be answered by committing new research into e.g. the strategies unions will follow to solve tensions between groups of unions; effective strategies to contest the 'job vs environment' dilemma in energy intensive sectors; the dynamics that can exist in a union in regards to members opinions or concerns towards climate change and the response by the leadership; how much a social movement unionism focused on climate change can help renew trade unions; just to name a few.

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Annex

Table 5. Trade unions interviewed during the periods of July-August

Name of trade union	Sectors represented	Country	Energy intensive	Less energy intensive	Date of interview
Electrical Trade Unions (ETU)	Electrical workers	Australia	yes	-	07/27/17
Public and Commercial Services Union (PCS)	Air traffic control, benefits and welfare advice, border and immigration, coastguards, courts service, customs, defence maintenance and support, information technology, police support, royal palaces, security, state pensions, taxation	UK	-	yes	07/25/17
Unison	Public services, small part of energy, water, transport, environment related workers (30.000 of 1.3 million members)	UK	-	yes	08/01/17
UNITE the union	Automobile, Civil Air transport, aerospace and shipbuilding, docks rail ferries, energy, education, food and agriculture, manufacturing, metal, etc.	UK	yes	-	08/01/17
Fagforbundet	Public services/private sector	Norway	-	yes	07/14/17
GMB	Manufacturing, energy industry, public services, etc.	UK	yes	-	09/16/17

Sources: https://etu.org.au/; https://www.pcs.org.uk/pcs-where-i-work; https://www.unison.org.uk/at-work/; http://www.unitetheunion.org/how-we-help/list-of-sectors/; http://www.fagforbundet.no/international/; http://www.gmb.org.uk/your-gmb/gmb-manufacturing-section.

Table 6. Interview guideline used with all subjects of research

Main question - by content blocks	Keywords - as stimuli only when not answered	Further inquiry - structured formulation, only when not answered
0. Short explanation by interviewer on who she is and the main interest of the thesis		
1. Could you shortly please introduce yourself (there is no need to use your name if your feel more comfortable)		
2.What motivated your union to participate in TUED?	→ reasons for participation in TUED → what makes TUED different → effect of TUED on your union → fight against climate change → effect of climate change on union/workers	
3.What gains/benefits can the participation in the fight for energy democracy bring to the union?	→ your contribution to energy democracy (→ gain more members? → gain support from communities? → gain positive feedback from society? → more job options?)	Are there maybe more effects you can identify?
4. What are the difficulties your union sees to achieve energy democracy?	→ difficulties so far for the union to participate in TUED → political difficulties (in regards to government, private	What arguments against TUED participation have you heard in your union or in other unions?

	interests) (→ possible technical difficulties in energy democracy) → maybe some difficulties in relation to your members?	
5. Extra clarifying questions that resulted from the main blocks		
6. Do you have anything else to add that you esteem important?		
7. Thank you statement		

Table 7. Selection criteria for the formation of categories (later on subcategories)

Question in interview	Question of analysis	Category definition	Abstraction level
(2) What motivated your union in participating in TUED?	What are the general reasons/motivation for participating in TUED?	Subjective reasons mentioned by the union representative to participate in TUED. By a reason it is meant an argument that has increased attractiveness for a union to participate in TUED.	Concrete reasons that the representative of the union has identified for his/her union. Reasons related to internal union decisions and also external influencing factors.
(3) What benefits can the fight for energy democracy bring to the union?	What are the gains/benefits that unions identify in the fight for energy democracy?	Subjective benefits/gains the representative of the union identifies for participating in energy	General but also concrete subjective benefits for the union its members, or society

		democracy. By benefits it is meant positive future outcomes for the union or that the union identifies	
(4) What are the difficulties your union sees to achieve energy democracy?	What are the opportunity costs, i.e. difficulties, for participating in energy democracy?	Subjective difficulties the representative identifies for his/her union or for other unions. By difficulties it is meant the possible negative outcomes or barriers unions participating in TUED could confront or have confronted.	Specific difficulties or barriers union representatives identify, either external or internal to the union

Figure 8. Similarities between coding units of different recording units

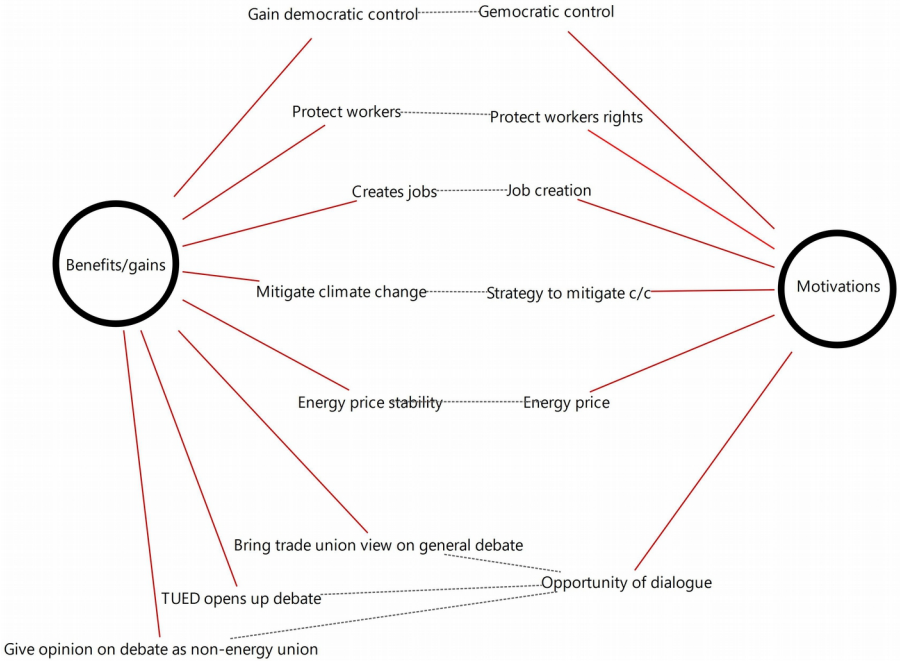

Table 8. Codebook for all categories, subcategories and sub-subcategories and their meanings

Category	Subcategory	Sub-subcategory	Meaning of code
Motivations to participate in TUED			
Energy	Energy price increase		Privatization of energy has brought price increase
	Inevitable change in energy industry		Belief that energy system will change anyway motivates to participate
	Poor quality publics utilities		Privatization of energy system has brought bad quality
Union identity	Previous env. engagement		Union has had previous interest in env. issues
	Union identity with climate change issues		Interest in climate change issues
	Trade union part of solution		Part of solution on climate change
	Identity as public providers		LEI-union identity as providers in interest of their class, not profit driven
Communication	Opportunity of dialogue		TUED offers dialogue on energy and climate between unions and with society
Climate change	C/c impact on jobs		Jobs will be inevitably impacted by climate change
	Strategy for fight c/c		Energy democracy can help mitigate climate change
	Climate change concern		Union´s concerned about consequences of climate change
	C/c impact on working class		Working class disproportionately affected by c/c
	Low engagement of other union in c/c		Not many unions are concerned about c/c,

			this serves as motivation
Personal motivation			Union representative was driving force to participate in TUED
Identification with TUEDs principles	Support transition	Support just transition	Union identifies with just transition
		Support energy transition	Union identifies with the necessity of energy transition
	TUED different platform		TUED is unique proposal to engage unions in topic
	Education source		TUED serves as educative platform for unions
	Global initiative		TUED encompasses international unions
	Social justice		Climate change connected to other social problems (wages, stagnation, prices,etc.)
	TUED represents worker interests		TUED focused on union agenda and environment
	Against privatization/for return to previous system		TUED´s project help in stopping privatization of energy system or return to nationalization
	Job creation		Climate change mitigation will create new job sectors
	Protect workers rights		TUED participation can make sure to protect workers conditions
	Democratic control		Bring energy resources under democratic control to mitigate c/c
	Fuel poverty		TUED´s project can help deliver equal energy access

	Public ownership		Commitment to publicly own resources
Benefits or gains to achieve energy democracy			
Negating answers	No gain of new members		Union negates interest in gaining new members through energy democracy
Communication	Benefits in debate	TUED opens up debate	TUED opens discussion in society on climate change and workers
		Bring trade union view on general debate	Unions have opportunity to have a voice on c/c debate
		Give opinion on debate as non-energy union	LEI-union can participate in debate on energy sector
	TUED information source for union		Union profits from arguments and information on c/c
	Share information		Unions share information and learn from each other
Internal benefits	Sense of solidarity/collectivity		Create an international solidarity network
	New relation to energy system as non-energy union		LEI-union has a new relationship with energy through energy democracy

	Mobilization	Encourage workers in solution seeking	Engage workers in participating in solutions to c/c in relation to energy
		Mobilizes members in topic	Energy democracy helps in making workers actively involved in subject
		Mobilize members to protect wages and conditions	Active involvement for energy democracy also mobilizes workers to protect their conditions
	Better job conditions with public ownership		Workers have better conditions when working in private sector
	Creates jobs		Energy democracy can help in creating new (more) jobs
	Better reputation		Participation in energy democracy brings good reputation for union
	Creation of alliances outside TUED		Focus delivered by TUED is instrumental in creating alliances
	Create env. class consciousness		Link lived experience of worker with exposure to env. issues. „Env. issues specially affect the working class“
	Higher membership		Gain more members with energy democracy
	Higher attractiveness for younger workers		Union´s engagement in climate mitigation makes it attractive to young people
	Education of members		TUED´s project helps to educate members

	Protect workers	TUED participation helps to protect workers conditions
Society	Mitigate climate change	Contribute in c/c mitigation
	Continuity of normal climate for job existance	C/c mitigation can ensure a continuance of jobs, if c/c is contained
	Energy price stability	Energy price can be affordable
	Hold government to account	Pressure government to comply with c/c mitigation
	Gain democratic control	Have democratic control of energy resources
	Fight unemployment in energy sector	Project can help with unemployed from energy sector
	Opportunity to have influence on society	Unions can shape society
Difficulties to achieve energy democracy		
Job vs environment		Job vs environment dilemma explained in 2.2
Difficulties between unions	Different engagement level in unions around climate	Some unions are not involved in c/c mitigation debates
External difficulties to the union	Governmental problems	Lack of cooperation from government with unions
	No media attention to c/c	C/c is not being treated in media with urgency
	Create alternative jobs with good conditions	Insecurity in whether new jobs with good conditions will be created with energy transition
	Lack of debate on just transition	Just transition is not thouroughly discussed
	Austerity/neoliberalism	Austerity and neoliberalism affects investment in c/c mitigation and

		participation in TUED due to fear.
	Short term view of economy	Energy transition hampered due to profit driven economy
	Energy has been left to private sector	Affects workers and a fast energy transition
	Time constraint on climate change	C/c is an urgent matter to tackle
	Dysfunctional politics on climate	Politics on c/c mitigation and energy not well handed by government
	Disbalance of power in society	Companies have more power in society than other actors, such as unions
	Oil importance in economy	Rhetoric that oil is important for economy
Internal difficulties in union	Lack climate change awarenes	Lack of c/c severity awareness in union
	Fear of losing good conditions	Members fear loss of good conditions when publicly owned energy
	No coherence between leadership and basis	Different responses to c/c mitigation from leadership and membership in union
	Fossil fuel lobby in union	Lobby in union affects their engagement in energy democracy
	Disagreement with TUED	EI-union disagrees with some principles of TUED
	Difficulty in running things themselves	Insecure on how to handle of energy system by workers themselves
	Making it a working class issue	Difficulty in making

		connection clear between env. issues as class interest although notion exists that it affects classes differently
	Constraint from leadership in union	Leadership less willing to implement c/c mitigation agendas
	Internal debate on climate change	Internal differences on importance of climate change for union (specially on energy democracy)
Renewables	Skepticism on renewables	Disbelief that renewables can replace same energy efficiency
	No union consensus on renewables	Different union opinion on energy mix
Energy intensive vs less intensive unions	Different degrees of impact in jobs	C/c and its policies will affect job sectors differently
	Fear of losing jobs	Members fear loss of jobs with energy transition and/or policies
	Skepticism of energy unions regards climate/ policies	EI-unions critical of climate policies and defend their industry
	Low/no engagement by energy intensive unions in TUED	EI-unions less interested in participating in energy democracy/TUED
	No union consensus on fracking	Fracking is defended by some EI-unions, while TUED is against it
	Well paid workers in oil/energy industry	Well paid members in energy industry makes their participation more difficult
	Reluctance of energy union to dialogue	EI-unions not

		interested in debate with LEI-unions on energy or on c/c in general
	Power imbalance between unions	Some unions have more power than others, either in trade union movement or in parties
Negating answers	No rejection of TUED, transition and climate action	No opposition to TUED and its project
	Workers support TUED or some aspects	Workers show support to some of TUED principles

Table 9. Motivations for participating in TUED. Categories only mentioned by energy intensive unions

Category	Sub-categories	Sub-subcategory	GMB	UNITE	ETU
Energy	Energy price increase		-	-	x
	Inevitable change in energy industry		-	-	x
Union identity	Union identity with climate change issues		-	-	x
	Trade union part of solution		-	x	-
Communication	Opportunity of dialogue		-	-	x
Climate change (c/c)	C/c impact on jobs		x	-	x
	Strategy to mitigate c/c		x	x	-
	Climate change concern		x	x	x
	C/c impact on working class		-	x	-
Personal motivation			x	x	-
Identification with TUED´s principles	Support transition	support just transition	-	x	x
		support energy transition	-	-	x
	TUED different platform		-	x	x
	Global initiative		-	-	x
	Social justice		-	-	x
	TUED represents		-	x	-

	worker interests				
	Against privatization/for return to previous system		-	-	x
	Job creation		-	x	x
	Protect workers rights		-	-	x
	Fuel poverty		-	-	x
	Public ownership		x	x	x

Table 10. Motivation to participate in TUED. Categories only mentioned by less energy intensive unions

Category	Sub-category	Sub-subcategory	PCS	Unison	Fagforbundet
Energy	Energy price increase		-	x	-
	Inevitable change in energy industry		-	x	-
	Poor quality publics utilities		-	x	-
Union identity	Previous env. engagement		x	-	-
	Union identity with climate change issues		x	x	x
	Identity as public providers		x	-	-
Communication	Opportunity of dialogue		x	x	-
Climate change	C/c impact on jobs		-	-	x
	Strategy to mitigate c/c		x	-	x
	Climate change concern		x	-	x
	C/c impact on working class		x	-	-
	Low engagement of other union in c/c		x	-	-
Personal motivation			-	-	x
Identification with TUED´s principles	Support transition	support just transition	-	x	-
		support energy transition	x	-	-
	TUED different		x	x	-

	platform				
	Education source		-	x	-
	Global Initiative		x	x	-
	Social Justice		x	x	x
	Against privatization/for return to previous system		-	x	-
	Job creation		x	-	-
	Protect workers rights		-	x	-
	Democratic control		x	-	x
	Fuel poverty		x	x	-
	Public ownership		x	x	-

Table 11. Benefits/gains identified by the union in the fight for energy democracy. All categories mentioned by energy intensive unions

Category	Sub-category	Sub-subcategory	GMB	UNITE	ETU
Communication	Share information		-	-	x
Internal benefits	Sense of solidarity/collectivity		-	-	x
	Mobilization	Encourage workers in solution seeking	-	x	x
		Mobilizes members in topic	-	-	x
		Mobilize members to protect wages and conditions	-	-	x
	Better job conditions with public ownership		-	-	x
	Creates jobs		-	x	x
	Better reputation		-	x	x
	Create env. class consciousness		-	x	-
	Higher membership		-	x	x
	Higher attractiveness for younger workers		-	x	-

	Education of members		-	-	x
	Protect workers		-	-	x
Society	Mitigate climate change		x	x	-
	Continuity of normal climate for job existance		x	-	-
	Energy price stability		-	x	x
	Gain democratic control		-	x	-
	Fight unemployment in energy sector		-	x	-
	Opportunity to have influence on society		-	-	x

Table 12. Benefits/gains identified by union in the fight for energy democracy. All categories mentioned by less-energy intensive unions

Category	Sub-category	Sub-subcategory	PCS	Uniso n	Fagforbun det
Negating answers	No gain of new members		-	x	x
Communication	Benefits in debate	TUED opens up debate	-	x	-
		Bring trade union view on general debate	x	-	-
		Give opinion on debate as non-energy union	x	-	-
	TUED information source for union		x	x	-
	Share information		x	x	-
Internal benefits	Sense of solidarity/collectivit y		x	-	-
	New relation to energy system as non-energy union		x	-	-

	Mobilization	Encourage workers in solution seeking	-	x	-
		Mobilizes members in topic	x	x	-
	Creation of alliances outside TUED		x	x	x
	Create env. class consciousness		x	x	-
	Higher membership		x	-	-
	Higher attractiveness for younger workers		x	-	x
	Education of members		-	x	-
Society	Mitigate climate change		-	-	x
	Hold government to account		-	x	-
	Gain democratic control		-	-	x
	Opportunity to have influence on society		x	-	x

Table 13. Difficulties for achieving energy democracy identified by group of energy intensive unions

Category	Subcategory	Sub-subcategory	GMB	UNITE	ETU
Job vs environment			x	x	-
External difficulties to the union	No media attention to c/c		x	-	-
	Create alternative jobs with good conditions		x	x	-
	Austerity/ neoliberalism		x	x	-
	Short term view of economy		-	x	-
	Energy has been left to private sector		-	x	x
	Time constraint on climate change		-	-	x

	Dysfunctional politics on climate		x	-	x
Internal difficulties in the union	Lack climate change awareness		x	-	-
	Fear of losing good conditions		x	-	-
	No coherence between leadership and basis		x	-	-
	Fossil fuel lobby in union		x	-	-
	Disagreement with TUED		x	-	-
	Difficulty in running things themselves		-	x	-
	Making c/c a working class issue		x	x	-
	Constraint from leadership in union		x	x	-
	Internal debate on climate change		x	x	-
Energy intensive vs less intensive unions	Different degrees of impact on jobs		-	-	x
	Fear of losing jobs		x	x	-
	Skepticism of energy unions regarding climate/ policies		-	x	x
	Low/non-engagement by energy intensive unions in TUED		x	x	-
	Reluctance of energy union to dialogue		x	x	-
Negating answers	Workers support TUED or some aspects		x	x	-
	No rejection of TUED, transition and climate action		-	-	x

Table 14. Difficulties for achieving energy democracy identified by group of less-energy intensive unions

Category	Sub-category	PCS	Unison	Fagforbundet
Job vs environment		x	x	x

Difficulties between unions	Different engagement level in unions around climate	x	-	x
External difficulties to the union	Governmental problems	-	x	-
	Create alternative jobs with good conditions	x	x	-
	Lack of debate on just transition	-	x	-
	Austerity/neoliberalism	x	x	-
	Short term view of economy	-	x	-
	Dysfunctional politics on climate	x	x	-
	Disbalance of power in society	x	-	x
	Oil importance in economy	-	-	x
Internal difficulties in union	Fear of losing good conditions	x	-	-
	Difficulty in running things themselves	x	-	-
	Making it a working class issue	x	-	-
Renewables	Skepticism on renewables	x	x	-
	No union consensus on renewables	x	-	-
Energy intensive vs less intensive unions	Different degrees of impact on jobs	-	-	x
	Fear of losing jobs	x	-	-
	Skepticism of energy unions regards climate/ policies	-	-	x
	Low/no engagement by energy intensive unions in TUED	x	-	x
	No union consensus on fracking	x	-	-
	Well paid workers in oil/energy industry	-	x	x
	Reluctance of energy union to dialogue	x	-	-
	Power imbalance between unions	x	-	-
Negating answers	No rejection of TUED, transition and climate action	x	x	x

Table 15. Examples from the original text that fell under subcategories related to class and environment

Question	Category	Subcategory	Union	Quote
Motivation	Climate Change	C/c impact on working class	EI	I. “So I try and show that it (environment) is really a class issue and air pollution affects people who live next to busy roads, they are more likely to be working class. Rising sea levels, it is working class people who live in those areas that would be affected. Working class people live next to toxic wastes...”
			LEI	II. “[...] the communities on the frontline of climate change are going to be those in the poor areas. But we have all put work in, as I said at the beginning, trying to link into social and economic justice issues.”
Gains/benefits	Internal benefits	Create env. class consciousness	LEI	III. “[…] we are also trying to build a bit of an industrial agenda down there, around air pollution, because it is chronic air pollution there. [...] they suffer it (air pollution) themselves and they live in the area as well. But they are not at the moment quite strangely linking up the work and the expansion of

				the airport with increased air pollution.”
Difficulty	Internal difficulties in union	Making c/c a working class issue	EI	IV. “[...] but for a lot of our members and for a lot of people in general it (c/c) is not as tangible or it is not as close, or they do not think it is as close to them as their everyday existence.”
			LEI	V. “[...] I think we also have problems with the other unions and I think trying to make this a working class issue where it is actually seen as an opportunity for the working class and the labor movement.”

I hereby declare that the present thesis has not been submitted as a part of any other examination procedure and has been independently written. All passages, including those from the internet, which were used directly or in modified form, especially those sources using text, graphs, charts or pictures, are indicated as such. I realize that an infringement of these principles which would amount to either an attempt of deception or deceit will lead to the institution of proceedings against myself.

Date 03.01.2018

Signature