



LABOUR UNIONS AND GREEN TRANSITIONS IN THE USA:

Contestations and Explanations

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Comments invited.

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Introduction

Two questions drive and organize this report. First have US labour unions, declining in numbers and divided on climate policy, adopted any initiatives to address climate change? The goal here is to both outline the deep cleavages with respect to climate policy and to show that the views of unions are more complex and contradictory than the opposition-support dichotomy. This is the subject matter of the first part. Second, what explains the variability in union responses to climate change and policy? What can account for the contradictions evident amongst and within unions? This is covered in the second part of the report where I offer a repertoire of internal and external factors that influence US labour unions.

Part I: U.S. Unions and Climate Policy

I.1. THE EVIDENCE

The primary goal of this project, funded by the Adapting Canadian Work and Workplaces to Respond to Climate Change Project (ACW)¹ has been to identify action-oriented initiatives by labour unions in the US and Europe. This report focuses on the US part of this collaborative project. An action-oriented initiative is one that involves the commitment of organizational, human and financial resources. Thus we have excluded policy statements and episodic participation in events. These offer useful signals but are not enough to qualify as action-oriented initiatives that involve the significant expenditure of time and resources. Sustained informational and educational activities intended to educate the membership or influence climate policy do qualify. Collaborations and coalitions amongst unions, with environmentalists, civil society, business and state agencies are also included if they are not mere events.

On that basis, I have identified and summarized about 50 recent and current initiatives in the USA (up to May 1, 2018). Additional initiatives have been identified by the European part of the project. These cases will be part of an online searchable database that ACW is creating. Each of the cases was reviewed closely to create a profile that includes its time range, goals and operations, impacts (where possible), labour union participation, other participants, and geographic and functional scope. My research suggests that more work needs to be done to both identify additional initiatives, including from the past and whether related to climate or not, and to improve the profiles of those identified so far.

In order to identify these initiatives I adopted a systematic snowballing approach. I started with the websites of the American Federation of Labor-Congress of Industrial Organizations (AFL-CIO) and the associated Trade Departments and moved on to all national level unions in the USA –whether affiliated with the AFL-CIO or not. In all instances, including those in which environmental priorities were immediately evident, the site was further searched using key terms such as ‘environment’, ‘climate change’, ‘renewable energy’, ‘climate justice’, ‘environmental justice’, ‘green jobs’, ‘training’,

¹ Please see <http://www.adaptingcanadianwork.ca/january-2016-round/>

'certification' and other. In addition I also reviewed samples of newsletters for each union. I then explored the websites of all AFL-CIO state federations using the same process. Moving to the local level was more demanding. In order to identify local initiatives – which are the most numerous- I utilized a number of sources of information. Information from the Labour Landscape (Labor Network for Sustainability (LNS) 2014) as well as the wealth of information that LNS has generated, have been invaluable. Along with LNS, a closer look at the activities of unions that are members of the Trade Unions for Energy Democracy (TUED) was productive. The websites of all affiliates of the Partnership for Working Families helped me identify local initiatives that involve labour unions in a prominent role. The same applied to the union partners of the People's Climate Movement, more recently.

The above were complemented by a review of the programs of the annual Green Jobs, Good Jobs conferences, organized by the BlueGreen Alliance Foundation since 2008.² These conferences highlighted various initiatives from all levels of the union world – and beyond. For four of those conferences I had personal notes. For the rest of the years I benefited from the Internet Archive that helped fill gaps in my records on the BGA and the Apollo Alliance. The program and my notes from the 2007 North American Assembly on Climate Change were helpful. I complemented these sources with broad web searches but, also, targeted searches, of a number of news and analysis sites – such as *AlterNet*, *Working In These Times*, *New Labor Forum*, *Grist*, *Inside Climate News* and others- that do cover labour unions. I regularly reviewed the websites of relevant research institutes and organizations.³

Finally, interviews and personal observation played a strategic goal. Some older interviews with key people behind the BlueGreen Alliance, as well as notes from the earlier meetings mentioned above, provided useful background. During the last three years I have interviewed people familiar with the overall lay of the land from the 1980s to the present as well as people intimately involved with current initiatives. I have also frequently asked individual contacts specific questions.

In addition to the primary focus on action oriented initiatives by unions it has become necessary to look at the environmental and climate priorities of other social forces. I did examine the websites of all environmentalist organizations to ascertain whether they had labour programs. With respect to other social forces the research was less systematic in the sense that I sought information about them only if they were involved in a union led initiative or were partners with unions in an initiative.

I.2. HISTORICAL OVERVIEW

Labour unions in the USA have long engaged the challenge of a green or environmental transition. Environmental historians have been pushing the history of the labour environmentalism further into the past (Dewey 1998). This engagement has been uneven and often highly conflictual within the labour movement itself (Donahue 1977; Logan and Nelkin 1980; Miller 1980; Kazis and Grossman 1982). I think it is reasonable to argue that by the late 1960s some unions had sought to address the environment beyond occupational health and safety, not without contradictions, internal

² The programs were provided to me by the BGAF.

³ In addition to LNS and the TUED these include the *Economic Policy Institute*, *UC Berkeley's Labor Center*, *Cornell's Worker Institute*, *Good Jobs First*, the *Center on Wisconsin Strategy*, the *Center for American Progress* and the *Political Economy Research Institute*.

conflicts and fluctuations over short periods of time. The UAW, for instance, contributed financially and organizationally to the first Earth Day in 1970 but also opposed smaller cars during the 1970s. Unions, in collaboration with consumer advocates, cast occupational health and safety in terms of environmental justice, during the 1970s. In 1976 the UAW sponsored the first environmental justice conference (Rector 2014). Tony Mazzocchi of the Oil, Chemicals and Atomic Workers Union (OCAW) pursued a synthesis of labour and the environment from the 1960s until his death about 40 years later (Leopold 2007).

Early on deep divisions emerged as a number of unions adopted the 'jobs vs environment' blackmail developed by the right (Kazis and Grossman 1982). The conflicts were evident with respect to nuclear power (Logan and Nelkin 1980) and later with respect to logging in the Northwest (Foster 1993). In general, the 1980s were a period of decline in terms of labour environmentalism, even though there was significant collaboration between unions and environmentalists including the strike against BASF (Minchin 2003). The 1990s were a period of great promise (see Dreiling 2001; Rose 2003; Obach 2004; Mayer 2008; Slatin 2009). During the late 1980s and through the 1990s there emerged two lines of labour-environmentalist engagement: that associated with just transition (Young 1998; Leopold 2007; Brecher 2015) and that centering around green industrial policy, spearheaded by the USW which had adopted a climate position very early during the 1990s (Goodstein 1999; Barrett and Hoerner et al. 2002; Marszalek 2008).

The Just Transition strategy – originally called Superfund for Workers- involved the OCAW and environmental justice organizations (OCAW 1991; Young 1998; Leopold 2007). Its proponents recognized that their industries were damaging to nature, workers and frontline communities. Accordingly they sought to formulate strategies that brought these constituencies together and highlighted the environmental health and justice aspects – as well as the appropriate industrial policy. Other unions, particularly the United Mine Workers of America (UMWA – Mineworkers), were opposed to just transition as well as climate policy, which was becoming increasingly more contentious. Just transition work continued into the early 2000s but came to an end because the union with which OCAW had merged did not have an interest in the strategy –as well as for other reasons. A legacy of the OCAW can be found in the Steelworkers' Tony Mazzocchi Center for Health, Safety and Environmental Education and various locals that are now part of the oil sector of the Steelworkers. US unions remained skeptical of just transition and only recently have some of them started, cautiously, to reengage the strategy (on just transition in the US see LNS 2016)

The campaign against NAFTA brought some unions and some environmentalists together in an effort to include strong rules into the agreement (Dreiling 2001). This kind of collaboration continued in response to the 1999 WTO Ministerial in Seattle. John Sweeney's election to the leadership of the AFL-CIO in 1996 gave impetus to the labour-environment collaboration which was increasingly tested by divisions over the Kyoto Protocol and climate policy. The Blue/Green Working Group, established in 1997 deliberated over a number of years and sought to bring these two trends together (Fellner 1998). In April 1999 it held an important meeting to take stock and plan future work, including on just transitions in response to market based policies. The discussions continued with a major meeting planned on September 11, 2001, a day whose impacts have been felt on the whole USA society. On the negative side this tragedy legitimated more nationalist views, very evident in the narrative

of the Apollo Alliance, formed in 2003.⁴ On the positive side the technical advisors to the Group produced a report that provides a synthesis between environmental goals and economic/technological innovation (Barrett and Hoerner 2002)⁵. In that spirit the Steelworkers and the Sierra Club formally launched the BlueGreen Alliance (BGA) in 2006. By 2008 others had joined and by 2009 the BGA membership took the shape that it has today –with some important churning on the labour side (Foster 2010).

The election of George Bush – and the realization that national level policies were difficult under his administration- led unions and environmentalists to place more attention to the state level. The Apollo Alliance promoted a strategy of national and state level green industrial policy. Increasingly, the mainstream wing of the Democratic Party – reflected in the Center for American Progress – also adopted a green industrialization approach, shared by the AFL-CIO which formed an Energy Task Force and became more vocal during the later years of that decade. As the elections of 2008 came closer that approach became more prominent (see Gereffi et al. 2008 for a project financed by building and construction unions) –as it did at the global level. The onslaught of the financial crisis turned green transition programs into crisis responses. The election of Obama allowed for the adoption of the American Reconstruction and Redevelopment Act of 2009 that included significant investments in renewables and training – but more on other priorities.

Since 2010, the Republican Party has been dominant in Congress thus limiting the policy opportunities and initiatives that could have translated the dynamics of the previous decade and the financial crisis into a national green industrial policy. Debates over natural gas and oil pipelines, moreover, deepened divisions within the labour movement – including the BGA. The Obama Administration’s Clean Power Plan, proposed by the Environmental Protection Agency in 2014 (EPA 2015), accentuated these divisions. The Plan never entered into force, due to legal challenges also supported by some unions, and is currently being dismantled by the Trump Administration - with the support of some, and the silence of many, unions. The BGA has survived and the Apollo Alliance became part of it in 2011. During the last several years it had increasingly moved towards more lobbying and information diffusion, also evident in the fewer states in which the BGA is active. More recently, the BGA has again become more active, shifting its attention towards the states and sponsoring the People’s Climate Movement and its initiatives (on the BGA see Stevis 2014 and 2018). On balance, the fact that the BGA has survived is an important marker in the history of labour-environment collaboration in the US and, hopefully, it can play an even more active role at this political juncture.

1.3. BEYOND DICHOTOMIES

In broad terms there are now two camps amongst US labour unions with respect to climate change and renewables (the two not always related). On one side, are those unions that believe that something needs to be done about climate change and that renewables are a good strategy. On the

⁴ In this author’s view the nationalist rhetoric employed by manufacturing unions (and others) then, before and after has now come to haunt them. Unfortunately, manufacturing unions have not developed an alternative narrative.

⁵ Here I would like to also mention the Work and Environment project at Cornell University. The project was led by Cohen-Rosenthal who promoted a collaborative union-management approach informed by sociotechnical systems analysis (Cohen-Rosenthal 1997). The dynamics of the Superfund and resultant brownfields development influenced some of that project’s work.

other side are those that are opposed to meaningful climate policy –even as they claim that climate change is a problem. The backbone of the latter camp is the North American Building Trades Unions (NABTU). Their opposition to environmental policy has a history that goes back to the 1970s when they were the major supporters of nuclear power (Logan and Nelkin 1980).

As the Mineworkers became increasingly weaker NABTU opposition has rendered the AFL-CIO silent or led it to support fossil fuel policies, such as pipelines. Currently (November 15, 2018), the environment or climate change, do not appear amongst the issues that the AFL-CIO's 'cares about'. The same applies for the autonomous Trade Departments that bring together unions in particular sectors.⁶ In March 2016 seven building and construction unions criticized the AFL-CIO (and other unions) for collaborating with Tom Steyer, a billionaire activist. However, a number of the NABTU unions did not sign the letter to the AFL-CIO and some of those who did have exhibited conflicting practices towards energy and climate policy (Carpenter 2016).

The AFL-CIO's adoption of a climate resolution in late 2017 showed some promise and the persistence of these tensions. One of the unions – which had also attended a January 23, 2017 meeting with Trump and is a member of the BGA- was the strongest opponent. Other building and construction unions supported the resolution – largely because it promotes an 'all of the above' energy strategy – including nuclear power and Coal Capture and Storage (CCS).

So, while there are deep divisions amongst unions there also seem to be crosscutting dynamics (Carpenter 2016; Sweeney 2016). The letter to the AFL-CIO and the vote on the resolution suggests that NABTU may not be as cohesive, a hypothesis also supported by the fact that most of its members did not attend the January 2017 meeting with Trump –who was invited and spoke at NABTU's 2017 Convention. On the other hand, two of the four unions that met with Trump in January 2017 are members of the BGA, lending support to the view of a person deeply familiar with the BGA that its quick expansion beyond the USW and the Sierra Club has had an adverse effect on its agenda and organizational cohesion. These unions also left, and then rejoined, the BlueGreen Alliance over the Keystone XL Pipeline.

In light of the above, and recognizing the deep polarization, I feel that a more nuanced categorization may capture the crosscutting dynamics within the union world, in general, within NABTU and the BGA, and within specific US unions. Accordingly, I suggest five categories or points of view fully recognizing that this is a dynamic categorization that can be subject to disagreement and improvement (see Table 1). The first category includes unions that are largely silent on climate change and renewables. One can hypothesize that this silence is because the issues are not directly relevant to them or it reflects support for the status quo. Or, possibly, it may be due to lack of capacity/ personnel to address the issue. The second category includes those that are relatively silent on climate policy but support fossil fuel strategies. This may be due to opposition to climate policy or existential concerns about the impacts of energy policy. The third includes unions that accept the reality of climate change and support fossil fuels and nuclear power through an 'all of the above' strategy that may work against renewables and climate policy. Here we see significant support for natural gas and nuclear power – two sources of electricity that are often at odds with each other. The Laborers International

⁶ NABTU, Maritime Trades Department, Metal Trades Department, Department for Professional Employees, Transportation Trade Department, Union Label and Service Trades Department. The Industrial Department was dismantled in the 1990s. Information on industrial unions can be found at <https://aflcio.org/issues/manufacturing>

Union of North America (LIUNA, Laborers), for instance, supports natural gas, which is the most potent challenger of coal and nuclear power. The fourth category includes unions that accept the need for climate policy but place most of their hopes on adaptation largely through technical innovation, -such as CCS, efficient pipelines, and reduction of methane leakage. The Boilermakers, who have criticized Trump’s decision to withdraw from the Paris Agreement, are the strongest supporters for CCS – also supported by unions elsewhere in the world. And, finally, there are those unions that have adopted a strong environmental and climate policy agenda and argue for the mitigation of emissions.

As noted in the discussion of data the information comes from various sources. In some instances, a union is placed in a particular category on the basis of action-oriented initiatives they are involved in, as well as publicly opposing or supporting climate policies and various types of energy sources. Participation in organizations or alliances that have taken positions one way or another has also been taken into consideration. What is important to note is that some unions can be placed in more than one category at the same time for reasons that are explored further in the second part of this report. For example, the national International Brotherhood of Electrical Workers (IBEW, Electrical Workers) is currently in the third category while some of its locals in the fifth. Some unions have moved between categories over the last decade or so, as has been the case with the International Brotherhood of Teamsters (Teamsters) and the United Automobile Workers (UAW, Autoworkers). In general, there can be disagreements on where unions are assigned and whether there is a better categorization. However, I think that moving from a dichotomy consisting of supporters and opponents is empirically sound and practically preferable in terms of forcing us to be alert to complex contestations and emergent alignments.

Table 1: US Unions: Varities of Views on Climate Policy

Largely silent	International Association of Machinists (IAM) (but very keen to protect US air carriers and manufaturers); National Postal Mail Handlers Union (but not parent LIUNA); United Food and Commercial Workers Union (although past member of BGA); National Association of Letter Carriers (but supports greening fleet); International Longshoremen’s Association (ILA); Firefighters; Police unions
Largely silent on environment/ climate and supports fossil fuel infrastructure	Elevator workers; Insulators (support energy efficiency); Plasterers; Roofers; Operating Engineers (all members of NABTU and opposed to AFL-CIO collaboration with Tom Steyer); Painters (NABTU); Carpenters.
Accepts need for climate policy and supports fossil fuels	Utility Workers Union of America (UWUA)(BGA); Plumbers and Pipefitters (UA) (BGA; opposed AFL-CIO collaboration with Tom Steyer); Ironworkers; Boilermakers; International Brotherhood of Electrical Workers (IBEW); Professional and Technical Engineers (support nuclear power); LIUNA (opposed AFL-CIO collaboration with Tom Steyer); Sheet Metal Workers (SMART) (BGA); Teamsters

Climate policy with adaptation; support for some fossil fuels	Steelworkers (USW) (BGA); IUE-CWA (Industrial Division of Communications Workers of America (BGA); Bricklayers (BGA); Autoworkers (ex BGA); Transport Workers Union; Amalgamated Transit Union (ATU) (TUED; ex BGA)
Climate policy with mitigation of fossil fuels	National Nurses United (TUED); Service Employees International Union (SEIU) (key locals such as 1199, 32BJ, 1021 are TUED members); American Postal Workers Unions (APWU); American Federation of Government Employees (AFGE); American Federation of County and Municipal Employees (AFSCME) (AFSCME Council 57 is a member of TUED); American Federation of Teachers (AFT) (BGA); ATU (TUED; ex BGA); Communications Workers of America (CWA) (BGA); National Electrical Contractors Association (NECA)/IBEW 11 (TUED); IBEW 3 (TUED); IBEW 595 ; International Longshore and Warehouse Union (ILWU); National Education Association (NEA) (TUED); United Electrical Workers (UE) (TUED); New York State Nurses Association (TUED); UNITE HERE (TUED); Railroad Workers United (TUED)

I.4. SECTORS OR PRODUCTION NETWORKS?

With the above clarifications in mind US unions can be categorized by sector: infrastructure, energy, manufacturing, building and construction, transportation, food, services and so on. The assumption here is that people working in the same sector are similarly situated within the political economy. As we pay closer attention it becomes evident that this is often not the case. Rather, we routinely deal with production networks across sectors that link various unions (as well as companies, governments and society) in the extraction, transformation, distribution and consumption/use of products (Dicken 2015, ch 3). These national production networks, in turn, are part of global production networks that can change over time. The production network approach is more dynamic as well as broader than the commodity or value chain approaches (which have their advantages) because it seeks to account for the role of a host of social, political and economic forces (Bair 2009; Coe, Dicken and Hess 2008).

The sector vs production network has practical implications. For instance, one cannot understand the politics of coal without understanding the relations between communities, corporations, politicians, railroads, utilities, and unions – both local and extra local. Second, elements of a sector are routinely closer to elements of other sectors. For example, oil is closer to road transportation than it is to electricity production, which has largely been based on coal. If electrical cars, buses and trains become more prominent then there will be a shift connecting the producers and users of these means of transportation with the relevant electricity producers. Finally, sectoral analysis can obscure conflicts within a sector, e.g., the life and death struggle between natural gas and coal (as well as between natural gas and nuclear power). In short, while the sectoral approach is common, identifying the actual

linkages between various activities is necessary for both analysis and praxis. The account that follows is organized along sectors to reflect the priorities of the ACW but I am particularly intent on highlighting the production network dynamics involved.

Production network dynamics are particularly evident with respect to infrastructure, which is singularly important in the USA because it provides one of the key economic activities in which public funds can be targeted and expended. Infrastructure largely connects production networks rather than sectors. For example, the electrical grid is less important to oil and natural gas which depend on refineries and pipelines. Highways connect vehicles (manufacturing) to particular forms of energy (oil) and services (highway stops and road services, for example). Highways lock in automobiles and trucks while railways lock in mass transportation. Highways and railways built by the public sector have different political implications from those built through public-private partnerships or by private entities, as Trump envisions. In general, infrastructural decisions have long term sociotechnical and political economy implications and are a good heuristic for tracing global production networks.

1.4.1. ENERGY

The utility of a production network approach is evident in dealing with energy, which most analysts consider the cornerstone of climate policy. The unions in the energy production network include workers in extraction (an increasingly smaller number due to automation), the transportation of raw energy materials (trains, pipelines, ports), their transformation (power plants, refineries, liquidification facilities, nuclear fuel enrichment and fabrication), the transfer and distribution of energy to the users (electricity grid, pipelines, utilities), the manufacturing of energy related equipment (from large industrial installations to various auxiliary products), the installation of various energy technologies (from nuclear plants to efficiency systems), those in updating and maintenance, those working in the management of wastes (nuclear wastes, decommissioned plants), and finally the consumers – individuals, organizations and industries . Most of these workers are up and down the various energy production networks, including researchers, administrators, office workers and so on⁷.

Overall, the DOE estimates that about 6.4 million people work in the energy sector, with important growth coming from solar, wind and efficiency (US Department of Energy 2017).⁸ About 2.2 million work in energy efficiency, most of them in construction. Additionally, about 2.4 million workers are employed in the motor vehicle component parts industry. About 260,000 of these 2.4 million workers work in alternative fuel vehicle production, an increase of 69,000 during 2016. This development, in fact, may signal the emergence of an alternative, non-oil related, production network within the sector. These numbers are useful but incomplete. The consumers of energy are equally important in supporting the existing energy landscape. Manufacturing, transportation and buildings consume more than 80% of all energy once it leaves the energy sector proper. Workers and unions in these sectors are very much affected by changes in the nature of energy, access to energy and costs of energy. Unionization varies across these production networks with utilities having one of the highest

⁷ This is an important issue. As Mertins-Kirkwood (2018) has shown focusing on the highest paid of coal miners in Canada marginalizes the much higher number of workers in the sector, not to mention people in frontline communities.

⁸ The DOE's reports on employment fuse a sectoral and a production network approach. On one hand they do not differentiate between different forms of energy but on the other they include transportation. The Department decided stop publishing the report. A 2018 version has been published by the National Association of State Energy Officials and the Energy Futures Initiative (NASEO and EFI 2018).

unionization density. Of about 550,000 employed in utilities – a small percentage of the overall network- 23% are unionized (US Department of Labor 2018).

The different sources of energy – coal, natural gas, oil, nuclear power, hydro, solar, wind and others- are not fully synergistic with each other, leading to conflicts within and across unions. There are also significant differences in terms of union presence which is more noticeable in large infrastructural, industrial and commercial projects and less so at the retail and small scale levels. Where do unions stand with respect to energy and climate change? I will start with the coal network, moving towards renewables.

The coal production network includes the Mineworkers, the Boilermakers, and the Electrical Workers, three unions that sued the EPA over the Clean Power Plan (Hunter 2016). Railroad unions (many now divisions of other unions such as the Teamsters and the Sheet Metal Workers) are also components of the coal network as are the Utility Workers Union of America and the International Union of Operating Engineers (IUOE). The Boilermakers, the Mineworkers and the Utility Workers are strong supporters of Carbon Capture and Storage. The fact that various unions and components of unions are differentially situated creates some important tensions. The electricians in the Electrical Workers union are strong supporters of renewables while the national union is trying to balance its three constituencies – coal, nuclear and electrical workers. The Boilermakers are strong supporters of CCS and are involved in building nuclear plants but are skeptical of the environmental benefits of natural gas. Significantly, they have publicly come out against Trump's decision to withdraw from the Paris Agreement.

The major competitor to coal -as well as nuclear power, renewables and possibly oil- is natural gas. A number of building and construction unions, such as the Laborers and the Pipefitters, are supportive of natural gas because of the infrastructural investments that it promises. The Laborers also promote it as an important element of climate policy. Manufacturing unions, such as the Steelworkers, are eager to manufacture the pipelines. As a result a number of unions were opposed to various anti-fracking initiatives during 2015. During the Fall of 2018 no union endorsed Colorado Proposition 112 to expand the distance of fracking and oil drilling operations from homes and schools from 500 to 2500 feet⁹. The BGA, in fact, places a great deal of emphasis on the safe extraction of natural gas and the mitigation of methane leakage, an approach that reflects both the interests of some of its union members and the active role of the Environmental Defense Fund in support of making natural gas a mainstay of US energy. The casting of fracking in terms of methane leakage and health impacts (important as they are) obscures the fact that natural gas –a fossil fuel- has become a permanent and central element of the energy scene –rather than a bridge fuel.

There is also a nuclear power wing of the labour movement, mainly the Electrical Workers, the Boilermakers and the Professional Engineers. Like other advocates of nuclear power, including prominent environmentalists such as James Hansen, unions see it as a solution to climate change because it does not produce emissions¹⁰ and can solve the problem of the base load power. The future of the nuclear energy industry is not as promising in the US even though some new plants are

⁹ The significance of Proposition 112 is evident by the fact that the fossil fuel industry spent over thirty million dollars to defeat it – compared with a bit over one million spent by the proponents. The defeat of Proposition 112 as well as Initiative 1631 in Washington State are sobering results.

¹⁰ This does not mean that nuclear power is a renewable source of energy since it requires the extraction of its fuel. Moreover, the industry has not solved the problem of wastes.

being built and retired plants will need highly skilled personnel for some decades after their shuttering. Because of the significant role of the Department of Energy nuclear power is likely to remain a component of US energy. Both Democrat and Republican Secretaries of Energy have been supportive of nuclear power. A report by an organization led by Obama's last Secretary of Energy, Ernest Moniz, calls for the protection and growth of the commercial nuclear sector in terms of national security (Energy Future Initiatives 2017). However, in addition to costs – which led to the summer 2017 cancellation of two units in South Carolina- nuclear power also faces stiff competition from natural gas. One development that could provide a respite for the sector would be a steep growth in electric vehicles, assuming that electricity from coal will decline fast and that natural gas will not replace it.

An important development related to nuclear energy has been the decision to shut down the Diablo Canyon Nuclear plant in California. What makes this case important is the negotiation of transitional policies between management, environmentalists and IBEW1245. A number of people have called this an example of just transition (Just Transition Centre 2017). It is certainly a case that should be examined in those terms but it is not clear how reproducible it is. Nonetheless, unions, environmentalists and communities ought to consider the potential of transitional agreements where nuclear plants are involved because of their massive social and environmental footprints.

Oil remains a key component of the US energy mix –if not electricity production. The number of workers is small and it is not clear how many of them are unionized. The Steelworkers have a prominent presence in refineries – a number formerly represented by the OCAW. The building of pipelines is a key issue, as it is in natural gas, adding building and construction unions to the mix. An important debate, going back in time, involves oil refineries, particularly in California. Refineries – as well as other intense emitters- create pollution hot spots leading to pressures to close them down. Some unions and union advocates have been making the case that this will aggravate the problem for a number of reasons: the USA will still need refined oil for a variety of products, including transportation; closing these refineries will result in their offshoring and, thus, the importation of their products; not only will the offshored refineries continue to emit – perhaps even more if there are low local standards - but, also, the transportation of refined products will add to their negative footprint (Leopold 2017).

Finally, transportation unions –both in manufacturing and in actual movement- are also intimately involved in this network. The Autoworkers (no longer in the BGA) had come around to supporting national efficiency standards (although the union has been silent as refiners and the Trump Administration have moved against them and larger vehicles have again become popular) but have not been a leader with respect to alternative fuels and technologies. A review of the BGA's Clean Vehicles and Fuels project highlights the tensions (BGA 2018). A model for this program is the Ford F-150 pick up truck which consumes about 22 miles per gallon. The BGA's support for this product is probably due to the fact that it uses aluminum produced by US aluminum companies, rather than its energy efficiency. The key goal of the project seems to be the reshoring of the auto industry supply chain with environmental impacts as collateral benefits. Otherwise the BGA supports the higher efficiency standards adopted during the Obama Administration and is opposed to the current efforts to roll them back. Over the years industry, unions and Administrations (including the Obama Administration) have not given serious consideration to retooling part of the automobile industry to produce trains and related forms of public transportation. An innovative initiative – Jobs to Move America- has been trying

to use public procurement strategies to advance public transportation nationally and in California, New York and Illinois. While climate considerations are important, enhancing manufacturing in the USA seems more prominent.

Renewable energy is growing rapidly in the USA. Wind power is well ahead in terms of energy output but solar power is expanding and is already employing more people than wind – although it is not clear whether these numbers include workers in manufacturing (US Department of Energy 2017). Labour unions support utility scale renewable energy because large utility systems tend to be more regulated and unionized – both in terms of their construction and in terms of their operation. On the other hand, distributed energy companies tend to be smaller and not unionized. The renewables alliance includes the Steelworkers, the electricians in the Electrical Workers and, as far as construction goes, the Laborers. The manufacturing of renewables is largely not unionized. A promising arrangement between Gamesa and USW faced serious challenges. Gamesa has now been absorbed by Siemens, which is not programmatically union friendly. Vestas, another major manufacturer, is not unionized. The installation of renewables –unless undertaken by utility companies that are already unionized- is also not unionized.

An important player in renewables, particularly wind power, is the Electrical Workers union. The national union has adopted an ‘all of the above’ energy approach because it also represents workers in nuclear and coal plants. The largest component of the union membership is that of electricians in construction. A number of locals, particularly in California, have taken the lead in promoting renewables politically and technically. In 2014 Local 595 in San Leandro, California, in collaboration with the National Electrical Contractors’ Association (NECA), built the first Net Zero commercial scale facility which serves both as demonstration and as a training ground. Local 11 in Los Angeles, also in collaboration with NECA, launched the Net Zero Plus Training Institute in 2016.

Another important development here is the growth of offshore wind power. The first US offshore wind farm – the Block Island Wind Farm off of Rhode Island- came on line in December 2016, a second one is under construction off of Long Island (IBEW 2017) and more are being planned in the North Eastern USA. Labour unions were instrumental in helping the installer procure the necessary permits and, in exchange, the farm was built with union labour. The same applies in the second farm being built off of Long Island –which has recently faced some local opposition. In these cases there is collaboration between business, local and state authorities and unions. It remains to be seen whether other corporations and states will adopt a similar approach, especially since off shore wind power is becoming more prominent (Reed 2018).

Other forms of energy may well disrupt the energy sector. One very promising source of energy is that of hydrogen fuel cells which can be integrated into existing infrastructure. The recent launching (September 2018) of the first hydrogen fuel cell train in Germany – manufactured by the French Alstom- is evidence of that. Like electrical cars and trains, hydrogen powered trains raise the important question of how hydrogen will be produced (O’Sullivan 2016). This poses a challenge to all forms of energy. Whichever form of energy is used to produce hydrogen will play a leading role for a long time to come. Storage technology developments, of course, will reverberate throughout the economy.

I.4.2. CONSTRUCTION

The construction sector employs a bit over 7.2 million workers (Department of Labor 2018) about 14% of whom are unionized. In general terms, we can differentiate between infrastructural construction, large industrial and commercial construction and small commercial and residential construction. The smaller the project – particularly small commercial or residential, in general- the less likely that union labour will be involved. One could argue that these subsectors are parts of different production networks. Residential construction involves smaller contractors (but possibly large developers), smaller installers of solar power, large home improvement stores, such as Home Depot or Lowe’s that retail solar power panels, and medium to large producers of solar panels for residential use, many of which also provide additional services.

The building and construction unions are historically craft unions –although some are increasingly becoming more diverse- that coordinate through North America’s Building Trades Unions (NABTU) and before that the Building and Construction Trades Department of the AFL-CIO. NABTU brings together 14 unions and about 3 million workers in the US and Canada. The members of NABTU that are also members of the BGA are the Plumbers and Pipefitters (UA), the Sheet Metal Workers (SMART) and the Bricklayers.

NABTU, as well as all its members, have close relations with business which they seek to nurture (NABTU 2015). Many of these relations are well institutionalized to resemble a bipartite corporatist arrangement, e.g., the Council on Industrial Relations established by NECA and the IBEW in 1920 (Council on Industrial Relations 2018). These close relations do allow the possibility of coupling training with greater employment opportunities because it is expected that contractors will hire jointly trained unionized workers. The existence of strong relations between unions and contractors may well be leveraged towards greener practices, under propitious circumstances (IBEW and NECA 2018). On the other hand it is quite difficult for unions to break away from the priorities of contractors and, behind them, of developers and owners.

The U.S. building and construction trades have been at the center of the jobs vs environment debate. To a large degree this is due to the fact that the labour markets in the sector make workers quite vulnerable. One important characteristic is that employment is project rather than company related. Contractors and large building companies may have some unionized workers but most workers are employed on a project by project basis. Accordingly, the goal of unions is to negotiate Project or Community Labor Agreements (PLAs) with contractors for particular projects. These agreements are between the participating unions and the contractors – with the owners or developers often setting the general parameters (NABTU 2017). These PLAs require that the contractor hire union labour, as much as feasible, and establish the rules for the duration of the project. As a result, building and construction trades are supportive of contractors willing to sign PLAs because employment opportunities are episodic, particularly during hard times, and because good relations with willing contractors ensure that unionized workers will not be fully displaced by non-unionized workers in an aggressively neoliberal country.

The frustration of building and construction unions over the rejection of the Keystone XL Pipeline by the Obama Administration and by a number of unions is understandable since these unions signed

a PLA with TransCanada in 2010 and they also have a national agreement to maintain pipelines¹¹. One could also argue that TransCanada's commitment during the height of the financial crisis is something worth honoring. Nonetheless, the pattern of supporting the employer regardless of the project has a long history that cannot always be explained by reference to hard times. During the 1970s and 1980s building and construction unions (but also some manufacturing and energy unions) were at the forefront of support for nuclear energy in the U.S. and vigorous proponents of the "jobs vs environment" dilemma.

With the above in mind it is not surprising that a number of the unions in the sector do not have an environmental or climate policy –so we can assume that NABTU speaks for them and that the driving force is employment of any kind. Others recognize the occurrence of climate change and even support climate policy, but they also support fossil fuel sources and projects that militate against such ends. The Laborers, for instance, recognize the threat of climate change but propose an 'all of the above' strategy based on natural gas and leaving out coal. Within these parameters a number of unions in the sector have adopted some practical green initiatives.

The Plumbers and Pipefitters, a member of the BGA, have outfitted a number of trailers that can be used to demonstrate the benefits of green building practices around the country (UA 2018). The union also provides training and certification in Green Awareness and Environmental Sustainability for the mechanical piping and service trades workforce. On the other hand it is also very much invested in the building of pipelines. The Western Region of the Sheet Metal Workers (also a BGA member) was a leading participant in the Joint Committee on Energy and Environmental Policy that developed energy efficiency and green building training programs.¹² What is noticeable here is that both the Laborers and the Sheet Metal Workers unions were amongst the three NABTU unions that joined the meeting with President Trump on January 24, 2017. The Insulators promote what they do as inherently green and have developed a number of case studies to demonstrate good practices. Finally, the Electrical Workers union, one of the unions that sued the Obama Administration over the Clean Power Plan, has quite innovative initiatives to train electricians who work in construction.

The Service Employees union has also adopted a number of initiatives that focus on training workers in buildings, including its Green Building Training Program and its Green Janitors Program – both in collaboration with the US Green Building Council (Building Skills Partnership 2015). As I will discuss more, in conjunction with the service sector, the American Federation of Teachers (AFT) and the National Education Association (NEA) have promoted green school initiatives, also in collaboration with the US Green Building Council (AFT 2006; NEA 2018). The AFT's program does not seem active currently.

An interesting case here is the Green Jobs Initiative of the AFL-CIO's Housing Investment Trust (HIT). The significance of this project lies in the fact that it involves actual investments and that it has articulated green jobs and union employment (AFL-CIO HIT 2011, 2018). The HIT, under its Green Jobs Initiative, has invested over \$1.6 billion in 54 projects but these investments are justified in terms of green jobs rather than climate policy.

None of these initiatives explores the implications of spatial planning for the environment and

¹¹ A federal judge has recently ruled against the Trump Administration and the pipeline on environmental grounds (Thompson 2018).

¹² I was told by a person involved that the training is still taking place but the Committee seems inactive.

climate change. This is not because the question has not been raised. Good Jobs First has made it a priority and managed, for a brief moment, to put it on the AFL-CIO's agenda. One cannot single out unions on the subject, particularly since residential and small commercial construction is largely non-union. However, unions have not raised the question of the impacts of infrastructural projects, such as highways, on both the landscape and on the workers who have to commute over significant distances (Leroy 2015; Good Jobs First 2018).

I.4.3. MANUFACTURING

Manufacturing employs about 12.7 million workers (US Department of Labor 2018) only about 9% of whom are unionized. Both numbers are significantly lower from the late 1970s when employment and unionization reached their highest level. In terms of output the US has gone through a relative industrial decline, e.g., the industrial sector is now a smaller part of the economy than it was for much of the 20th century. Yet, in absolute terms it has grown significantly over the last several decades. Manufacturing production in the US is the second largest in the world and a great deal of FDI is in manufacturing. Moreover, a significant amount of China's manufacturing is by non-Chinese companies for export to the USA and the world (Levinson 2018).

Manufacturing unions have been at the forefront of calls for protection and against offshoring. As a result, they have found Trump's tariff strategy appealing to them and support it in terms of employment and national security, particularly since a substantial number of their members voted for Trump (Scheiber and Herndon 2018). Manufacturing employment has dropped because of automation, the offshoring of production, and anti-union laws in Southern US states that recruit manufacturers (Fichter and Stevis 2013). In light of the fact that the manufacturing unions represent only a small percentage of the domestic manufacturing workforce, the major problem for unions is not simply that the number of jobs has declined but that previously unionized companies have escaped unions for the reasons just mentioned. Moreover, foreign manufacturing companies that locate in the USA, such as Siemens, VW, BMW or Nissan, are resisting unionization despite continuous efforts.

It has long been recognized that the manufacturing sector may be best situated for a transition to a green economy, certainly compared to the energy sector and the construction sector (Goodstein 1999) and, in doing so, generate new industries and sources of employment. Manufacturing workers can build the key elements of a green economy (and perhaps do so through green processes) such as wind turbines and towers, solar panels, more efficient cars, the elements of the energy grid, green construction materials, green communication materials and so on. But they can also produce fertilizers from natural gas (a growing sector in the US) as well as large private cars more than public transportation (the US is behind France, Japan, Germany and China in the areas of alternative vehicles and public transportation).

The USW adopted a climate policy in the early 1990s and it has been a leader in various union-environmentalist collaborations, including most prominently the BGA. The union sees green manufacturing as a promising avenue. At the same time it wants to protect companies with which it has close relations, such as Kaiser Aluminum, Arcelor Mittal or AK Steel. This is certainly a reasonable organizational strategy, particularly as the manufacturing companies in renewables are largely not

unionized.

The IUE-CWA, the manufacturing component of the Communications union, has also developed an environmental profile. Its past president, Jim Clark, has been recognized for his environmental initiatives the most prominent of which is the IUE-CWA Treasure Hunt, developed in collaboration with the Environmental Defense Fund. The goal of the Hunt is “to teach hourly workers and management how easy it is to identify and implement energy saving opportunities in manufacturing facilities” (IUE-CWA 2018).

Finally, the Autoworkers had adopted a stronger approach towards green automobile manufacturing but it does not seem that this remains a priority. As noted earlier there are important contradictions with respect to energy efficiency, and the union has recently been very silent with respect to the Trump Administration’s rejection of the Paris Agreement and its goal of lowering fuel economy standards. On the other hand, the union is very supportive of Trump’s tariffs, albeit calling for targeted tariffs (Howard 2018). The Autoworkers are not members of the BGA at this point in time.

I.4.4. TRANSPORTATION

The transportation and warehousing sector employs a bit over 5.3 million people (US Department of Labor 2018). Of those 17.3% are unionized. The manufacturing of transportation equipment employs about 1.7 million workers. Another 900,000 work in gas stations. I have already discussed construction and the important role of unions in large infrastructural projects, such as highways and railways.

The Transportation Department of the AFL-CIO divides the sector into aviation, maritime, rail, surface and transit. There is nothing on the website of the Transportation Trades Department website on climate other than expression of concern over European airplane emission standards (Transportation Trades Department 2013).

The unions involved in maritime transportation – which accounts for the movement of most products across countries - are largely silent on environmental and climate issues. There is no mention or policy statement on the subject in the Maritime Trades Department of the AFL-CIO. One exception in the sector is that of the International Longshore and Warehouse Union (ILWU) – not a member of the AFL-CIO. In particular, ILWU locals 10 and 34 have been opposed to the building of West Coast terminals for the exportation of coal to Asia (ILWU 2015a). Local 4 has opposed the construction of a crude oil terminal in Vancouver, Washington State (ILWU 2015b). The picture, as far other locals are involved is a bit more complicated. Local 21, for instance, supported a coal terminal (Olson 2013).

An interesting and promising development has taken place with respect to the articulation of maritime and trucking transportation. Due to the requirements of intermodal transportation a few ports account for most of that trade. The deregulation of the trucking industry and the reduction of truck owners into independent contractors led to fleets of increasingly older trucks polluting the areas between ports and railroad hubs and beyond. The Los Angeles Alliance for a New Economy – in which unions play a key role- spearheaded the Coalition for Clean and Safe Ports (LAANE 2018; Patel 2010) that has achieved some positive results. Worth noting here is the involvement of the Teamsters.

For the Teamsters, this campaign is about the working conditions and unionization amongst port drivers but it has an important environmental component because about 75,000 drivers pick up products from the ten ports that account for 90% of containers going in and out of the US. Labour conditions exacerbate the misclassification of drivers, make it difficult to buy trucks with new technology, and cause serious pollution hot spots that affect the 87 million people living near major ports.

Railroad unions have generally been supportive of the fossil fuel industry with the notable exception of Railroad Workers' United¹³. Properly speaking the RWU is a network from all thirteen railroad unions in an effort to undo fragmentation and internecine conflict. The RWU believes that rail transportation can be the safest way to transport fossil fuels and pursues labour-environmental-community alliances in order to enhance safety but, also, has a strong interest in climate policy – both as an organizing opportunity and as a problem that unions need to face. This is evident by its membership in the Trade Unions for Energy Democracy. What remains to be seen is whether the RWU's interest in climate change will expand beyond safer transportation and in favor of less fossil fuel extraction and use. Its support of just transition – one of the few US workers organizations to do so – suggests that their commitment to climate policy is strong (Kahle 2015).¹⁴ Other railroad unions have occasionally expressed their concern over the impacts of climate change and policy on employment (Godoy 2010).

The Amalgamated Transit Union (ATU) has taken a strong stance on climate change and has been a steadfast opponent of new pipelines. One of its advocacy videos explicitly advocates a clean energy public transportation system in order to cut down emissions. However, it considers natural gas as one option while it does not clarify where electricity would come from. In a different video it justifies moving to renewables, natural gas or electricity on grounds of reliance on foreign oil. Such an approach is both outdated and reinforces the nationalist narrative employed by many US unions. The Transport Workers' Union has also taken a strong position on climate policy (TWU 2010).

Finally, there is an important initiative that fuses manufacturing, transportation and local government – Jobs to Move America¹⁵. The initiative currently operates in California, Illinois and New York. A number of unions are on the Steering Committee of the organization, including the AFL-CIO, the BGA, the Communications and Electrical Workers unions and others. This alliance has been motivated by an Obama era policy that encouraged local hiring for public transportation and, more importantly, for the manufacturing of buses and train cars locally. While climate policy is not an explicit priority of the organization the environment is an important component, as evident by the participation of the Sierra Club, Good Jobs First, the BlueGreen Alliance, We Act for Environmental Justice and others.

1.4.5. SERVICES

The service sector is by far the largest sector in the USA. Because state owned companies in the other sectors are an exception in the USA it is in services that most public employees are to be found. Accordingly, the service sector can be divided into public and private components. Many of

¹³ See their website at <http://railroadworkersunited.org>

¹⁴ See examples here <http://railroadworkersunited.org/just-transition/>

¹⁵ More information <http://jobstomoveamerica.org>

the public and private sector workers are parts of various construction, manufacturing, transportation, or food production networks. For example, motor vehicle retailers employ over 2 million and gasoline station employment is about 900,000 people –both reported under retail trade. Architectural and engineering services employ about 1.5 million people and building services around 2.2 million – both reported under professional and business services. School bus drivers and associated workers are numerous and are reported under services.

Government employment (at all levels) leads with over 22 million workers. Due to different legal trajectories and rules it is highly unionized by comparison to the private sector (34.4% vs 6.5% in private sector) (US Department of Labor 2018). As the public sector unions have been more vocal about the privatization efforts of Republican (and some Democratic) governments there has been a systematic attack against them. Since coming to office the Trump Administration has employed various mechanisms to limit the role of unions in the federal sector, leading to a rare victory by unions in mid 2018 (Scheiber 2018). Major public sector unions include the National Education Association (NEA), the American Federation of Teachers (AFT), the American Federation of State, City and Municipal Employees (AFSCME), the American Federation of Government Employees (AFGE) and the postal service (four unions).

A number of service unions in the public sector are largely or completely silent at the national level and below, as far as I could ascertain. That is the case with unions in public safety – firefighters and police- which are historically rather conservative. Their approach can be contrasted to that of the Firefighter Brigades in the UK who have engaged climate policy.

AFSCME has long been active, has adopted a climate resolution and has created a significant tool kit to help its members and stewards be active participants in negotiations and political actions. The American Postal Workers Union has also become more involved and has adopted a resolution on environmental justice while also joining the Climate March in 2017 and opposing the Dakota pipeline. AFGE's EPA members have been active on climate change since the early 2000s, at least.

The AFT and the NEA have adopted visible campaigns – both with respect to educating their members and in terms of promoting green schools (Kats 2006; NEA 2018) although the AFT's green schools campaign does not seem active currently. The AFT has participated in efforts to steer pension funds in the direction of renewables, supports climate change education and has adopted a just transition resolution. The NEA has developed an environmental literacy curriculum while it supports a green schools initiative, in collaboration with the US Green Building Council (NEA 2018).

Large numbers of service workers are in the private sector and they are not densely unionized. Professional Services employs about 21 million, health about 20 million workers (some public), leisure and hospitality a bit over 16 million and retail trade about 16 million. Education employs over 14 million, if we include the over 10 million in state and local level public education.

Some unions in the private service sector are also vocal. The National Nurses United (NNU)¹⁶ and 1199SEIU¹⁷, the SEIU's largest regional organization with 400,000 members, have both focused on environmental justice -an approach that many observers consider as a promising foundation for

¹⁶ <https://www.nationalnursesunited.org/environmental-justice>

¹⁷ <https://www.1199seiu.org/issues/environmentaljustice>

bringing together unions, environmentalists and communities. While they have not adopted more practical initiatives their campaigns are persistent and represent the most explicitly environmental views within the labour movement. The NNU, for instance, opposed the Dakota Pipeline.

In the area of communications the Communications Workers have advanced the Broadband Speed Matters Campaign as a means to spur economic growth as well as mitigate climate change. The union is also one of the few national unions, along with Service Employees and the ATU that is supportive of the People's Climate Campaign. Along with the Steelworkers and the Sierra Club it has been sponsoring train-the-trainer workshops, a project supported by the Labor Institute's RunawayInequality.org Educational Workshop. These workshops bring unionists and environmentalists together in small groups – a technique also used during the 1990s and by the same organization (Leopold 2017).

CLOSING COMMENTS ON US UNIONS AND CLIMATE CHANGE

There are two general findings regarding US unions and climate policy. First, there is no common or even hegemonic strategy one way or another. Second, there is a significant divide between those who support climate policy and those who are opposed. Within these parameters there is noteworthy variability— as there is on a number of other issues. Moreover, while one can identify strong supporters and strong opponents the overall picture is more complicated with the same union holding contrasting positions at the same time. In order to fully map these contradictory dynamics I have suggested a more nuanced categorization. This does not reject the existence of deep cleavages but it does allow us to identify and trace dynamics that may tilt the climate politics of unions in one or another direction, particularly in response to broader political developments.

But why are US unions so fragmented in this and other issues? In the second part I offer a repertoire of factors. These are not random factors but are based on my reading and research of US industrial relations and the insights of the many people that shared their views with me. What I am not doing here is to rank these factors. That is not because they are all equally important. Rather, some of them are more important for some sectors, production networks and unions. The systematic accounts that are necessary to better explain the choices and practices of particular unions, national or subnational, at particular junctures, would involve more systematic case studies that are beyond the scope of this report and my abilities. I have, however, taken some initial steps elsewhere (Stavis 2014, 2018). The criterion by which this repertoire can be evaluated is whether it includes all important factors and whether it omits others that are equally if not more important.

Part II: Explanations

II.1. TOWARDS A *POLITICAL* ECONOMY OF GREEN TRANSITIONS

Since the 1970s there have been reports that highlight the promise of renewables and green practices in terms of employment, as well as environmental benefits (Grossman and Daneker 1979;

Goodstein 1999; Barrett and Hoerner 2002). The pace of such research has accelerated during this millennium with a number of national and global reports highlighting the promise of green jobs and the green economy in confronting the economic and climate crises (e.g., Renner et al. 2008; UNEP 2011; Pollin et al. 2008; Pollin et al. 2014). The Stern Review (2006), quite frequently evoked by liberals and social democrats, also centers its argument on economic reasoning.

Models that demonstrate the promise of the green economy for work and workers are useful to the degree that they allow us to imagine an alternative political economy and because they can be used to bolster the political arguments of particular social forces (e.g., Pollin et al. 2017). But in order to be useful they must be tailored to the needs of those forces and, thus, they reflect those forces. Otherwise they are limited in three ways.

First, they propose that the possibility of an alternative world is evidence that such a world will take place. Second, they assume that the proliferation of green jobs and the green economy is an undifferentiated process. But, when one looks more closely, such a world may be unfolding for reasons totally different from those hoped for. It could be a California, seeking to fuse climate policy and green industry, or a Texas, seeking to excel in green industry, along with any kind of industry. Third, they underestimate the significance of social forces for and against a particular path of action (Hess 2014; Betsill and Stevis 2016). What we need to identify are the social forces for and against a green transition and what kind of green transition they support or are opposed to. In short, we need to pay attention to power relations and political contestation, including about information and possibilities, rather than focus on any single line of analysis (Levy and Spicer 2013; Swyngedouw 2010). It is not that strong economic and scientific information are not important – they absolutely are. Rather, that they cannot get us to desired goals if we assume that they are sufficient arguments against those skeptical or opposed to climate policy. Economic and scientific information can be potent tools if they are part of a comprehensive and compelling political narrative.

What we need, in my view, is a political economy approach that identifies the social forces for and against this transition and the tactics and strategies needed to create political alliances that can advance just green transitions (which must include appropriate narratives of economic and scientific analysis). Such an approach has to recognize that people use the same language to mean different things – after all both Republicans and unions are in favor of ‘jobs’ and many groups are evoking just transition or green growth currently- and, more importantly, to propose different social orders (Just Transition Research Collaborative 2018; Galgoczi 2018; TienHaara 2014; Felli 2014; Jacobs 2012). So, models and possibilities of green jobs and the green economy can be motivating and inspiring factors if there are social forces who believe in the goals associated with them and who are able to employ that information as part of broader and cohesive narrative that addresses social power and inequality, a central goal of networks such as LNS and TUED. In the absence of such a political narrative failure is more likely than success -despite the promise of green employment.

Explanatory Factors

The place of unions in the world political economy – their positionality- is not to be underestimated (Cumbers et al. 2008; Gough 2010; Herod 2012; Castree et al. 2004). At one extreme external factors may put labour unions on the defensive, as is the case with anti-union policies

in the USA. But, even in such cases, there is variability in the responses of unions. The dynamics of the sector, industrial relations, and the place of the union in the broader political economy are all important. A union that is accustomed to unionizing the best parts of global production networks will resist adjustments that challenge its position – most likely against other unions in the industrial and industrializing world. If a union represents workers that can thrive in renewables it is more likely to consider broadening its repertoire. However, if it also represents workers in fossil fuels it can well face an internal crisis. The nature of industrial relations is also important. Strong anti-unionism in the green sector will make unions less willing to abandon unionized companies in the fossil fuel economy. This is very evident in the building and construction sector where formal micro-corporatist arrangements binding unions and associations of contractors are common (on US labour relations see Hogler 2004; Bamber et al. 2015). The above comments suggest that positionality is the dynamic result of a series of internal and external dynamics – rather than a single explanatory factor that provides direct and unambiguous interpretations and answers.

In what follows I identify a repertoire of factors that are likely to affect union preferences and priorities in the USA. These range from dynamics and characteristics internal to unions to those that are largely external to them. In between are those that involve both internal and external dynamics. Another way to describe these clusters would be as micro, meso and macro factors.

Internal factors include the composition of the union and its internal organizational routines; its resources; the work it does to educate and activate its members; and ideological cohesion and contestation. Who is included in the union is an important question. It may well be that a union is inclusive or exclusive but it may also be that it represents workers in different sectors or production networks. Unions may be more or less centralized or decentralized and can employ different decision making processes. What resources does a union have? Financial resources are certainly important and do play a role but so does strategic position, e.g., high union density in a strategic sector such as ports. And unions have ideological preferences that can become the arena of internal contestations. Some analysts, for instance, have differentiated between business, social and social movement unionism and have used this analytic as an exploratory tool.

External factors include changes in the composition of the political economy, its characteristics and dynamics, and political and ideological developments. The important thing here is that these external factors do not simply include the practices and attitudes of the 'economy'. The composition of the political economy changes as new sectors emerge and existing sectors decline or adapt. It also changes as economic activities are moved about, whether internationally or within the same country. The political economy may be more or less liberal and may be more or less able to negotiate global dynamics. And as the recent rise of the right indicates history does not move in one preordained direction. The USA, for instance is the par excellence liberal economy while there is a great deal of competition amongst subfederal states. Subfederal units have increasingly employed this liberalization to weaken workers in the name of economic development.

I hope it is clear that the internal-external categorization is both empirical and heuristic. It is empirical in the sense that we can identify dynamics internal and external to unions that influence their behavior and existence. It is heuristic in the sense that these factors are mutually constituted while forming parts of a continuum. And it is the 'center' of that continuum that is, in my view, very important.

David Hess (2012; 2014), Lowell Turner (2006) and others have suggested that a political coalition approach can help us better understand the dynamics of transitions. Minimally this method requires that we identify the key players that may influence transitions –and in our case whether, and in what role are unions likely to be involved. Beyond that we also need to identify the balance of power within and the priorities of these coalitions (Betsill and Stevis 2016). But coalitions can be tactical, strategic or political. And those that are political may be more or less institutionalized.

Actors are embedded in and constituted within specific social institutions. Unions, in particular, have been embedded in industrial relations that vary from country to country. An account that focuses on their politics and political alliances cannot treat them as if they were not shaped by the industrial relations in which they participate and which have shaped them. As Zeitlin (1987) has suggested the history (and I add the politics) of unions require that we see them not as separate entities but as part of industrial relations. The industrial relations of particular countries, in turn, are the product of historical struggles and compromises that create path dependencies that variably enable and constrain the participating actors. Varieties of capitalism (Hall and Sockice 2001) and Varieties of Business Systems (Whitley 2007) are two ways to capture the various configurations. The fact that unions are participating in and have been formed by industrial relations differentiates them from environmentalists, for example, whose relations to the emergent environmental state (Duit et al. 2016) are less formalized at this point in time.¹⁸

II. 2. INTERNAL CHARACTERISTICS AND DYNAMICS

A great deal of the study of labour activism draws upon *ideology*, particularly the distinction between business and social unionism (see Ross 2007 for an incisive account; Turner and Hurd 2001)¹⁹. I think this is a valid and important differentiation but one that should not be exaggerated. Social unions have generally had a more inclusive political agenda but they can also be slow in responding to new constituencies and issues and may adopt an approach that privileges some issues and workers over others. Manufacturing, extraction, construction and infrastructure, for instance, are largely white male jobs in the USA. On the other hand, a business union may adopt a green strategy well ahead of a social union that remains attached to the grey economy. This is also the case with respect to transnational collaboration. Social unions, of certain kinds and in response to changes in their circumstances, have often been at the forefront of transnational collaboration. But they have also been slow and hostile to it. For instance, there is currently more transnational collaboration amongst the buildings and construction trades of the USA and Canada than the more social unionist manufacturing unions (for historical background see Heron 2012, ch 6). The morphing of the Pipefitters – a business union- into a multinational union (USA, Canada, Ireland and Australia) seems as profound as that of Workers United which brings together social unions from the USA, Canada and the UK.

Organizationally the US union movement is very decentralized. There are well over sixty unions. Most of them belong to the AFL-CIO, which, like most federations around the world, has limited powers over its affiliates. Some important unions are not affiliates, for various reasons, including the three largest –the National Education Association, the Services Employees International Union, and

¹⁸ Of course there are additional differences such as the fact that unions have members while most environmental organizations in the US have supporters.

¹⁹ Social unions are not the same as social movement unions – unless one assumes that all social movements are egalitarian.

the Teamsters. Not only is the influence of the AFL-CIO over its affiliates limited but its ability to adopt initiatives is also limited because it depends on the financial support of its affiliates. Individual unions, themselves, may have different election and decision-making processes. An important effort to bring the major US industrial unions together during the 1990s failed not only because of personality issues but, also, because some of them decided by delegation and others by one-member-one vote process.

More so than in European countries, US unions are internally fragmented. Arguably the fragmentation is less ideological than in France, Brazil or India. Rather it manifests itself in multiple unions populating every sector and quite frequently the same industry and the same company. US unions do not have the sectoral centralization that one finds in countries such as Germany or even the UK. This is largely due to the fact that US unions generally organize specific workplaces. While some companies and unions have national agreements that is not required by any law. So, it is possible for some locations of a company to be unionized while others are not, and for some to be unionized by one union and others by another. To complicate things many unions that were originally in one sector or craft are becoming general unions, i.e., they represent workers from various lines of work in an effort to stem membership decline and survive as organizations (Moody 2009). The Teamsters have twenty three divisions, often quite autonomous, representing workers in airlines, construction, waste collection, food processing, transportation of people and products and more. The Steelworkers represent workers in manufacturing, extraction and education, amongst other. The Autoworkers represent graduate students and postdoctoral fellows. The Sheet Metal Workers also represent railroad workers. The Machinists include workers making airplanes, woodworkers and workers in transportation. The various constituencies have their own organizational home within national unions while large and powerful locals, state or regional federations are often able to behave independently.

What are the implications of this fragmentation? First, internal fragmentation leads unions to pursue competing priorities or prevents them from taking a position (see Kojola 2015 on Keystone XL Pipeline; confirmed by many interviews). Second, various unions may have contracts with the same corporation causing tensions along the production network due to the timing of the contracts and plain differences amongst unions. It is for this reason that coordinated bargaining has become an ever more distant goal for US unions. Finally, and more importantly, because unions represent workers in different lines of work there emerge significant tensions and contradictions. For example, the Electrical Workers union is a leader in renewables but, also, a strong supporter of coal – because it represents workers in coal-fired utility plants.

On the other hand, one can argue that organizing many occupations and sectors may help unions survive organizationally. As coal mining employment declines the Mineworkers union also declines. Had the Steelworkers continued to depend largely on steelworkers they would have been about one fifth of their current size. There is no guarantee that a union with a number of internal constituencies will survive internal conflicts. Nor am I suggesting that a union's organizational survival will work in tandem with the adoption of climate policy or other desirable policies. Rather, that internal diversification may enhance the chances for organizational survival, at least for some time, but may make it difficult for a union with competing constituencies to agree on far reaching policies.

Finally, unions do vary in terms of their resources. Larger unions are likely to have a larger budget and more visibility. However, a union's budget also depends on the income of its members and

the amount of funds they have accumulated over the years. Some building and construction unions, for instance, represent more highly paid workers while others less so. Richer unions have also accumulated significant capital over the years and that has definitely played a role in swaying the AFL-CIO over the years since the latter depends on funds from its affiliates.

Another 'resource' is that of union density – the percentage of a constituency a union has organized.²⁰ Union density depends on the number of workers in an industry or occupation (not the same). In some cases the number of workers is quite small but the density of unionization may be very high. The automation of the ports has resulted in fewer longshoremen but high density, for example. And high unionization density in particular workplaces or occupations can give a small union a lot of influence. Building and construction trades play an important role in large projects because they can provide the skilled labour force and because they have long-standing relations with engineering and construction companies and contractors. Like the flight controllers their strategic position depends on not alienating their partners. What many consider as a turning point in US labour history was the result of the flight controllers overestimating their popularity with Reagan, the candidate they had endorsed (Burrough 2011).

II.2.2 COALITIONS AND INSTITUTIONS

II.2.2.1 Coalitions

Over the years unions have collaborated and clashed with various social forces. That is also the case with respect to the politics of the green transition that has been contested since the late 1960s in this country. These coalitions can be tactical, strategic or political and embody compromises that reflect the power relations amongst the participants.

Business:

The US does not have a comprehensive policy of social dialogue or corporatism, as is the case in Europe and parts of Latin America (Abraham 2017). One cannot understand US labour politics and concerns without realizing the virulent anti-unionism of capital and its allies, including European companies that operate in the USA (Fichter and Stevis 2013). However, there are exceptions, either due to strategic considerations or because of long term relations between particular unions and particular companies. With that in mind what is the evidence that capital may collaborate with labour unions over green transitions?

A good proxy here is to examine the membership and leadership of various alliances. Accordingly, the Apollo Alliance, created in 2003 and absorbed by the BlueGreen Alliance in 2011, did include representatives of finance. The BlueGreen Alliance has a business advisory board (not on its website) that has included a number of major corporations with which its union members have good relations, e.g., Gamesa (now Siemens), AT&T, SCA, Kaiser Aluminum and others. The sponsorship of the annual Good Jobs Green Jobs conferences provides a useful overview, including fluctuations over time. The sponsors/participants fall into two categories – individual corporations that have green priorities and relations with member unions and trade associations. Individual corporations that have

²⁰ Density and coverage (workers covered by a contract) do not diverge much in the USA as they do in more corporatist countries (Schmitt and Mitukiewicz 2012).

long sponsored the Good Jobs Green Jobs conferences include metal companies, like ArcelorMittal, Kaiser Aluminum and Alcoa, paper and pulp companies, like SCA, and service companies such as AT&T and UPS and others. The presence of steel and aluminum companies is pronounced because of their significance for USW and a concerted effort to ensure their survival in the USA. Trade associations have included the American Wind Energy Association and the Solar Energy Industries Association. A significant participant, that also reflects some important priorities of the Steelworkers, is the Alliance for American Manufacturing which promotes a strong American manufacturing economy.

Collaboration between unions, business and others is also evident at the local level. The various state level reports of the Apollo Alliance, intended to promote manufacturing, involved business partners. Initiative 1631 in Washington also attracted support from a number of business and business associations in the renewables sector and beyond but not large renewable energy companies or large business associations. On the other hand, it was opposed by the fossil fuel industry (Meyer 2018).

Finally, it is important to repeat that building and construction unions have historically collaborated with associations of contractors. These institutionalized arrangements have a long history and embody the liberal unionism on which the American Federation of Labor (now part of AFL-CIO) was built. NABTU's relations with business are central to its existence and operations because these arrangements can facilitate joint green initiatives, as has been the case between the Electrical Workers and the National Electrical Contractors Association. But such green initiatives are not as frequent as they could be and tend to be limited in scope and scale (Stavis 2018).

Overall, then, the elements of capital likely to ally with labour on environmental issues are traditional industries, such as steel and paper/pulp, or contractors interested in industrial policy or adapting to the green economy. The renewable energy industry is occasionally present but their relations with unions are tactical rather than strategic or political. For example, unions, environmentalists and green capital have found themselves supporting renewable energy standards and similar initiatives with some success (Hess 2012). But this has not translated into a national or state level strategic or political alliance while the renewable energy sector is less unionized than traditional industries. As green capital becomes more and more powerful – and able to invest in states such as Texas or Iowa that have no interest in the environment or unions- it will need unions and environmentalists less and less. This is likely to lead environmentalist unions to support corporate allies even if those are marginally green, e.g., Kaiser Aluminum.

Environmentalists:

The US environmental movement consists of a wide range of organizations that differ amongst themselves in a variety of ways. Some are national and some are more regional; some have a broad agenda and others focus on specific aspects of the environment; some are more radical and some are quite conservative; some are parts of global organizations, others have international programs and others, still, are only national; and some are much larger and richer than others. US environmentalism has historically had a very strong naturalist emphasizing the preservation or conservation of nature and natural resources (Gottlieb 2005; Cohen 2006). But, increasingly, the difference is between market and non-market environmentalists with most large US environmental organizations falling within market environmentalism. The poster case here is the Environmental Defense Fund while others adopt variable

degrees of market mechanisms. Even so there has long been a strand of social environmentalism, including environmental justice. One lineage of that can be found in the movement against the occupational and health impacts of extraction and toxics (Gottlieb 2005; Slatin 2009). In our days it is expressed in various environmental justice movements, such as climate, energy or food justice, e.g., Climate Justice Alliance and the People's Climate Movement.

At this point in time six environmental organizations – the League of Conservation Voters joined this Fall- are joined strategically with eight labour unions in the BlueGreen Alliance and others have continued to engage issues of interest to workers (still others remain largely naturalist). The BGA is an important rapprochement as it challenges the “jobs vs environment” framing still employed by corporations and states (and some unions). But, it is worth noting that EDF Action, an organization that is considered as the par excellence proponent of market-based environmentalism, is the penultimate environmental organization to join and that its priorities are clearly apparent in the focus of the BGA on natural gas (see Skocpol 2013).²¹

Yet, even though many environmental organizations have programs on issues that are shared with unions – climate change, toxics, energy policies, transportation- only the Sierra Club has an explicit labour program. No unions have an explicitly environmental program/department that connects leadership, middle level and local unionists. That includes the unions that are most active in environmental and climate politics. It is fair to say that the BGA plays such a role for a number of unions, but without the internalization of environmental and labour priorities by unions and environmentalists, respectively, the BGA is not sufficient. A review of the websites of the unions and environmentalists that are members of the BGA shows very clearly the division of labour amongst them with climate change being front and center on environmental websites and almost completely absent from union websites – while work related issues are almost completely absent from environmentalist sites.

The BGA is not the only union-environmentalist alliance. Ever since the first People's Climate March in 2014 the People's Climate Movement (PCM) has morphed into a more activist alliance of unions, environmentalists, EJ and religious organizations. The membership of the PCM is much broader than that of the BGA (which is a member) but its organization is looser. In addition to the BGA its union members include the Communications and the Service Employees unions, the Colorado AFL-CIO, and the Amalgamated Transit Union. The PCM is seeking to mobilize environmentalists, community activists, unions and other societal actors under the banner of “Climate, Jobs and Justice”.

Whether as part of the PCM or separately, there are more collaborations between unions, environmentalists, community and justice advocates at the local level. Many of them take place within the parameters of the Partnerships for Working Families network. Others are autonomous and include Washington state's Alliance for Jobs and Clean Energy and New Jersey's Environmental Justice Alliance. The latter includes one of the longest standing efforts to bring together unionists and environmentalists -the New Jersey Work Environment Council.

Finally, a labour-environmentalist alliance that is worth examining was that which supported Initiative 1631 in Washington State (Meyer 2018). This alliance was quite broad in terms of

²¹ But see also debate <http://grist.org/climate-energy/what-the-da-skocpol-gets-right-about-the-cap-and-trade-fight/>

environmentalists and centered around a regulated market policy approach that could have promoted a just green transition – despite the exception for Boeing. The Initiative was followed closely by unions and environmentalists in other states, including New York and Colorado. In the latter case a range of groups have been working towards a common program of action around just transition. If these efforts continue, despite the defeat of the Initiative as well as Proposition 112 in Colorado, that will be evidence that labour-environmentalist alliances are becoming more profound.

11.2.2.2 Institutions

Industrial Relations in the US:

Industrial relations in the USA are quite decentralized. There are no national level corporatist arrangements sanctioned by law. There are two sets of laws that regulate labour relations – federal and state level. Different national laws regulate public employees at the federal level. While these laws do provide some parameters within which state practices ought to be, labour laws have become increasingly devolved. States decide on the rules affecting unionization by state public employees, which include millions in public education. And the ‘right to work’ movement has weakened federal labour law since the 1940s.²²

The USA does not have laws and processes that require or encourage unions, states and business to negotiate sectoral or national agreements. For example, the USA and France have about the same union density but French national and sectoral agreements cover over 90% of the workforce. Thus, the US diverges significantly from Continental Europe and is closer to the UK and Canada – two other examples of liberal capitalism with higher unionization rates (Schmitt and Mitkiewicz 2012).

In addition to the above, US unions are also fragmented by the fact that some unionize employers and some unionize labour markets. In the first category, we find industrial unions in manufacturing, transportation and services. In the second category, we find craft unions in construction and increasingly in certain services. The goal of these unions is to ensure that employers choose or are forced to hire unionized labour.

The relations between unions and corporations in the first category are based on collective agreements that are negotiated once a union wins certification and negotiates an agreement – largely at the level of a workplace. While there are some national labour standards -such as working time, minimum wage, occupational health and safety and non-discrimination- the main body of US industrial relations is to be found in agreements between unions and corporations. During the height of US unionism (late 1940s to late 1970s) multiemployer agreements allowed broader coverage but such agreements have largely disappeared. But, there are still instances of long term collaborative relations between particular corporations and particular unions, e.g., Steelworkers and Kaiser Aluminum, Autoworkers and US auto manufacturers, Teamsters and UPS, Communications Workers and AT&T, Machinists and Boeing and so on. As a result, these companies may ally with unions on an issue by issue basis. The only one that involves collective bargaining across the board (that I am aware of) is the Kaiser Permanente Partnership (Kochan et al. 2009).²³

²² “Right to work” laws prohibit unions from collecting fees from non-union members that are covered by contracts negotiated and implemented by unions. The ability of unions to defeat such a law in Missouri, through a referendum, is very encouraging (Stein 2018).

²³ At <https://www.lmpartnership.org>

The picture is different in the building and construction industry. Here, the relations between unions and contractors are close and institutionalized in two ways and, especially, with respect to large projects in locations where unions are stronger. As mentioned earlier unions and particular groups of contractors have long-standing and institutionalized collaboration (e.g., Council on Industrial Relations 2018). This collaboration sets the political and industrial parameters within which the two parties collaborate. On one hand it may facilitate green initiatives. On the other, the tactics and strategies of unions are strongly influenced by the preferences of the employer groups they are collaborating with.²⁴ In addition to long term relations, there are a shorter term Project or Community Labor Agreements that regulate management-labour relations for the duration of a project (NABTU 2017).

It is worth repeating that, in a climate of neoliberalization, unions are more likely to “protect” union-friendly corporations. For example, one of the Teamsters’ major concerns is how to keep UPS (unionized) competitive with Fedex (non-unionized). The implications for green transitions are evident in that unions may be willing to trade good industrial relations for climate policy. Quite likely, for instance, the Laborers left the BlueGreen Alliance not because of the number of jobs in building the Keystone XL Pipeline (the number is small) but because of the implications of alienating a company (TransCanada) with which a number of unions had negotiated a Project Labor Agreement, in 2010.²⁵

There is no guarantee that a corporatist system will adopt a green transition, although the argument has been made that it can make it easier (Abraham 2017). Certainly a political party that gives voice to unions is an important factor. In the USA the fragmentation and devolution described above, as well as the ideological and bitter anti-unionism that is prevalent within the US business world and its state allies, are not tempered by a labour party. As the Democratic Party – which unions have historically supported- has become less and less dependable, a positive revision of industrial relations seems less likely in the foreseeable future. The more US unions are afraid of their survival the more a number of them are likely to ally with ‘saviors’ like Trump – particularly if a substantial number of their members have voted for him (Scheiber and Herndon 2018). The responsibility for anti-unionism lies with business and their state allies. The responsibility for union members voting for George Wallace, Reagan or Trump lies with unions.

II. 3. EXTERNAL FACTORS

II.3.1. State(s): From Federal to Local

Recent developments in response to Trump’s withdrawal from the Paris Agreement, particularly responses by cities and subfederal states, highlight both the complexity of federal country politics, in general, and those in the US, in particular. The plural with respect to this category is fully appropriate, therefore.

The US does not have a tradition of direct state ownership, at the federal level, with the Postal Service and the Tennessee Valley Authority being the most notable exceptions. But that does not mean

²⁴ As a unionist in the industry told me the best time to create alliances with construction and building unions is before contractors and developers get involved. Once they get involved unions follow because they need the employment.

²⁵ Project Labor Agreements are agreements between unions and contractors that the latter will employ largely union labour for the duration of a project. They are negotiated in advance of the project (NABTU 2017).

that the federal state does not exert an influence. The federal government is the largest purchaser of certain goods and services in the country (such as military equipment) and it is not an exaggeration to say that appropriate procurement policies can have a significant impact. The federal state does play a direct role in a number of additional ways and an indirect role in even more ways (GAO 2014). Directly the federal state finances much of the interstate infrastructure as well as the military – both major sources of investment and consumption. Research and development by the federal laboratories – the incubators of much innovation and commercialization – have proven profound over the decades (Block and Keller 2011). ‘Indirectly’ the federal state exercises immense influence through policies, as well as through the transfer of resources to states and localities for various activities, e.g., health, education, training, infrastructure and energy. And finally, and perhaps more importantly, the federal government influences the political economy through direct policies and through incentives and disincentives (taxes, mostly).

President Trump is not friendly towards labour unions, even though he is more open to some of them than most other Republicans. As soon as he took office, in fact, he invited a number of building and construction trades leaders to the White House. These leaders have continued to be in favor of fossil fuel infrastructure and were attracted by Trump’s promises of vast investments in that area as well as other aspects of infrastructure. The future and nature of these investments remains to be seen. His protectionist measures have also been appealing to manufacturing unions. But beyond those promises and policies Trump has not sought to strengthen unions and, in fact, he has sought to weaken those that support more social regulation. Over the last several years, in fact, various national and state level Republican administrations have supported more conservative unions, such as those in construction and in law and order. It is plausible to argue, therefore, that the goal of Trump, in approaching some labour unions, is to deepen the divisions amongst them.

The Trump Administration is also deeply hostile to climate policy and environmental policy, in general. The Clean Power Plan, adopted by the EPA during the Obama Administration, is essentially dead and the EPA is being weakened. As a result, some state and city level initiatives provide the only hope. Subfederal states have played an important role since the beginning of the USA. After WWII Southeastern states adopted an aggressive strategy of modernization and attraction of investment in manufacturing and services – first from other US states and increasingly from abroad (Cobb and Strueck 2005). Their strategy was largely one of incentives such as tax breaks, zoning rules, infrastructure and labour procurement. Since the neoliberal turn that started during the 1980s more states, counties, and cities have adopted aggressive economic development policies. In a number of cases subfederal actors do play a role in research and development as well as commercialization – often in collaboration with national research laboratories and federal agencies. States also have significant purchasing capacity and a large stock of buildings, including those of public education. In addition, states and cities have extensive holdings in terms of public utilities, especially water and sewage.

The role of major subfederal states as well as cities is significant both in terms of the overall climate policy of the US (Karapin 2016) and in terms of its implications for unions, e.g., California’s Global Warming Solutions Act of 2006 (AB 32) was supported by labour unions and has positive implications for them (Buffa et al. 2008). California’s leading role was evident at the Paris COP. State

level Renewable Energy Standards have spread around the country and have important implications for labour unions (Hess 2012; Giannakouros and Stevis 2014 on the case of Colorado). The BlueGreen Alliance makes the argument that a US green economy has to be the result of regionally appropriate strategies (that produce synergies) rather than one undifferentiated national strategy (Gordon, Borosage and Pugh 2013). They do not reject federal standards but argue that the various regions play a different role within the country's and the world's political economy. It does not make sense, for instance, to treat California, which is a highly industrial state, similarly to the Intermountain West states, which are more extractive.

As things stand (December 1, 2018) a number of states have decided to pursue climate policies in spite of the federal government's withdrawal from the Paris Agreement and its hostility towards the Clean Power Plan that the Obama Administration had developed as a vehicle for its implementation. The U.S. Climate Alliance includes major states, such as California and New York, which also happen to have the strongest labour movements in the country. In general, its membership is largely in the Pacific West and the Northeast with some states in the Midwest and the Mountain West. If the Trump Administration is successful in denying California its existing right to adopt stronger state level policies the impact will be a profoundly detrimental on environmental policy. It will also affect the relations between unions and environmentalists because state policies and funds have and can motivate collaboration at the state level, if properly crafted (Zabin et al. 2016).

On the other side are states that are not only fully hostile to climate policy but, also, have not taken any steps towards adopting renewable energy as part of an "all of the above" strategy. These states are largely in the South East and the Intermountain West. In between there are states that have aggressively pursued renewable energy sources as part of an economic development policy – rather than a climate policy- to which they may be actually opposed. Texas and Iowa are the two most prominent examples in this category. While the contrast between the first two categories is fairly stark, this last category reflects the complexity of renewable energy politics. As the sector grows it becomes an important source of a state's economy, with private manufacturers and utilities becoming invested in it. One does not have to imagine cities, states and companies adopting renewable energy without adopting, even implicitly, climate policy (for cases see Gallagher 2013; Betsill and Stevis 2016).

A similar pattern can be seen at the city level with a number of cities having adopted profound green transitions. Here, again, we need to differentiate between those cities that engage in green urban entrepreneurialism in an effort to attract more skilled labour and professionals – and the associated industries- and those cities that are also committed to climate policy. In any event, such initiatives involve renewables and efficiency, public transportation, green construction and other related policies. They may or may not also involve appropriate zoning policies to curb sprawl and the urban desertification that followed some inner-city renewal policies in the 1970s.

One important element associated with states and cities is the fact that many of them own or regulate utilities, including energy utilities. This provides local authorities and citizens with the capacity to influence their green transitions. But municipal or non-profit utilities and energy producers are not automatically more open to green transitions. In fact, some Rural Energy Authorities are resolutely against them – partly for ideological reasons and partly because they cannot compete with investor owned utilities. In short, municipalization can facilitate green transition and energy democracy if that is

the goal.

States – from the federal to the local- play an important role. At this point in time we witness two tensions which are likely to affect unions and other social actors. One is between the anti-environmental politics of the Trump Administration (and the Republican Party as well as a number of Democrats) and the efforts of some states and cities to promote climate policy and renewables. There is another tension, however, that unions ought to consider. That is between cities and states where environmental and climate policies play a central role in driving renewables and those states and localities where renewables are just another industry. Both tensions are having a noticeable impact in USA energy and climate politics.

II. 3.2. The Political Economy of the U.S.

In the previous parts I commented on some central components of the US political economy – its hyperliberalism and the predatory competition amongst states. The US is the par excellence liberal capitalist country in the world (Hall and Soskice 2001). The social welfare state is limited while capital and its allies in society and the state are open about their disdain for collective representation and social regulation. Instead, they advocate in favor of regulations intended to weaken what social policies do exist and to strengthen the structural and instrumental powers of capital.

The country's hyperliberalism is not only manifested in the behavior of corporations. A key characteristic of US political economy is the role of federalism, as described previously. During the 19th century federalism divided the industrializing Northeast from the extractive export economies of the South and the West. During the post-WWII period the Southeastern US adopted a strategy of economic development based on attracting investment first from the rest of the US and then from the rest of the world. One of its selling points was the weakness of unions – something that it was able to do by fragmenting US labour law through the 'right to work' policy. During the early 21st century this strategy has spread throughout the country, including the industrial Midwest. So, at this point in time various states are engaging in competition for investment with the 'right to work' states touting their weak unions. Some, like Texas, will pay for attracting any investment, including 'green industry'. Others, such as California and Colorado, try to fuse the attraction of investment with some type of climate and environmental policies. That route is hard but not impossible, particularly if states such as California and New York manage to contain efforts by the Trump Administration to prevent them from adopting higher standards. If states cannot adopt high environmental standards then we can well expect more predatory competition over green industry, similar to that already present with respect to fossil fuel industries.

The Trump Administration has ushered in a type of protectionist neoliberalism that is intended to strengthen USA's industrial base and, in the process, further move industrial workers to the right in states such as Ohio, Michigan and Pennsylvania, amongst other. Trump's policies find many followers amongst certain constituencies, including white industrial workers that are predominant in the Midwestern rust belt. But perhaps GM's recent decision to close down three plants in the Midwest (and one in Ontario) will make enough workers realize the limitations of Trump's promises.

Hyperliberalism, combined with predatory competition amongst states and cities, aggravates

the anxiety of workers, especially in manufacturing. The absence of a serious safety net accentuates this anxiety. For decades US unions have called for transitional assistance for those who lose their jobs due to offshoring. Some unions have asked for just or equitable transitions in sun setting industries such as toxics (Young 1998). In some cases, such as the military base realignment after the end of the Cold War, there was an effort to do it right. With respect to trade the provisions and the resources have remained limited – although there are some good examples. The Superfund to clean toxic areas tended to focus more on land and less on workers and people. In short, there have been efforts pointing in the right direction. And that direction is a more social liberal if not democratic socialist direction. In short, it is a matter of changing the broader political economy. Some states are large enough or far sighted enough to move in such a direction, however incompletely. One does not need to wait for a wholesale change at the federal level. On the other hand, those who control the federal level are intend upon supporting devolution when it limits green transitions with social regulation, and oppose it when it advances them.

CLOSING COMMENTS ON EXPLANATIONS

The second part of this report has outlined a range of factors that have and will continue to influence labour unions one way or another. It does not simply serve to describe the lay of the land but it also aims to identify the agential and institutional dynamics within which unions operate. In that sense, it outlined a general causal function. More nuanced and time sensitive research is necessary in order to determine the alliances that are likely to emerge or be activated at particular windows of opportunity. The current dynamics, for instance, are different from those at the beginning of the Great Recession. Just before the Great Recession there was a strong sense that a new Democratic Administration could adopt elements of a green transition. As the recession unfolded the proposals morphed into responses to it. The American Recovery and Reconstruction Act of 2009 did include significant but not enough elements of a green transition. At this point in time it would seem that the likelihood of green transition policies in which unions will participate is more pronounced in a few states with high union density and where unions, environmentalists and other social forces do at least deliberate with each other. Perhaps the re-emergent Green New Deal narrative will provide that opportunity.

There is good evidence to suggest that unions can adopt initiatives to deal with climate change and can and have supported climate policy. But it is very unlikely that broader and deeper change can take place without some modification of the institutional and political economy dynamics of the country or, at least, some states. There is plenty of evidence that internal factors do shape the attitudes of unions as there is also good evidence that public policies can steer unions in one direction or another. For that reason strategies that aim at changing public policy at the level of cities, states and, even better, the whole country are necessary. In their absence the road of labour environmentalists will be that much harder.

Part III: Concluding Comments: Who Has 'Equity' in Green Transitions?

During the debate over the climate resolution that the AFL-CIO adopted in the Fall of 2017 the leader of one of the unions opposed to the resolution claimed that some of the sponsors did not have 'equity' in the debate over climate change. His argument was that those unions which are employed directly in the fossil fuel industry have more to lose or gain as a result of changes in the energy sector. It is reasonable and appropriate to consider the interests of those directly employed in the fossil fuel industries. However, it is imperative that we include all those employed, including those who clean the facilities, serve the food and so on. We also need to include the communities that are immediately and directly affected. Stated differently, while some 'blue collar' workers are affected directly by climate policy, they are not the only workers affected directly. Nor are unions the only stakeholders affected directly. The shrinking of the tax base has immediate and profound effects on the most vulnerable in frontline communities. But the challenge is not only to identify those that have 'equity'. The challenge is to also identify those that can bring about meaningful change.

Just transitions limited to particular cases are likely to breed resentment. Long term solutions require broader and public just transition policies and those can only be the result of strong political coalitions with an explicit agenda. Such coalitions must and should include workers across the board – as well as other societal forces. They cannot be limited to those who have 'equity' in the narrow sense used by that leader –nor can others speak for the workers affected. If cities, counties, states, school districts, universities, health systems and hospitals, transportation and communication systems in any particular urban space decide to adopt just green transition policies the impacts will be momentous (Winnant 2016). The adoption of an emissions goal and/or raising the renewable energy standards of a city or a state will not only affect 'consumption' but, as commodity chain and production network analysts fully understand, such policies will affect the whole organization of the material economy. In that sense unions from various sectors can and should play an important role in shaping public policies towards just green transitions, in collaboration with other social forces. The most promising arenas depend on union density, collaboration with others and, very importantly, public leadership willing and able to adopt green policies that are equitable, as was the goal of Initiative 1631 in Washington State, or allow for equity, as is the case in California. Stated differently, transitional public policies must also include a strategy about electing the appropriate policy makers, a goal that requires a more sustained political strategy. Unions in the fossil fuel economy are right to be concerned about green transitions. This is not something that they can negotiate with management – whose policies have had and will continue to have a larger negative impact on their ranks than green transitions are likely to have. And they are right to be skeptical of green transition proposals that do not pay attention to work and workers. A third route is for them to join in the various efforts to advance just green transition policies. There does not seem to be a fourth route.

References

- Abraham, Judson (2017) Just Transitions for the Miners: Labor Environmentalism in the Ruhr and Appalachian Coalfields. *New Political Science* 39(2): 218-240.
- AFL-CIO Housing Investment Trust (2011) *AFL-CIO Housing Investment Trust's Green Jobs Initiative*. At http://www.aflciohit.com/userassets/Documents/special_reports/hit_green_jobs.pdf
- AFL-CIO Housing Investment Trust (2018) *Environmentally Responsible Investments*. At <http://www.aflcio-hit.com/wmspage.cfm?parm1=3421>
- American Federation of Teachers (2006) *Building Minds, Minding Buildings*. At <https://www.aft.org/building-minds-minding-buildings>
- Bair, Jennifer (2009) Analyzing Global Economic Organization: Embedded Networks and Global Chains Compared. *Economy and Society* 37(3): 339-364.
- Bamber, Greg, Russell Lansbury, Nick Wailes and Chris Wright (eds) (2015) *International & Comparative Employment Relations: National Regulation, Global Changes*. Los Angeles: Sage.
- Barrett, James and Andrew Hoerner with Steve Bernow and Bill Dougherty (2002) *Clean Energy and Jobs: A Comprehensive Approach to Climate Change and Energy Policy*. Washington, DC: Economic Policy Institute.
- Betsill, Michele and Dimitris Stevis (2016) The Politics and Dynamics of Energy Transitions: Lessons from Colorado's (USA) "New Energy Economy." *Environment and Planning C: Government and Policy* 34: 381-396.
- BlueGreen Alliance (2018) *Good Jobs: Clean Vehicles and Fuels*. At <https://www.bluegreenalliance.org/work-issue/clean-vehicles-and-fuels/>
- Block, Fred and Matthew Keller (eds) (2011) *State of Innovation: The U.S. Government's Role in Technology Development*. Boulder: Paradigm Press.
- Burrough, Bryan (November 5, 2011) A New President and Union's Last Stand. *The New York Times*. At <https://www.nytimes.com/2011/11/06/business/collision-course-looks-at-reagan-vs-patco.html>
- Brecher, Jeremy (2015) A Superfund for Workers: How to Promote Just Transition and Break Out of the Jobs vs Environment Trap. *Dollars & Sense*. November/December: 20-24
- Buffa, Andrea, Carol Zabin, Cheryl Brown and Dave Graham-Squire (2008) *California's Global Warming Solutions Act of 2006: A Background Paper for Labor Unions*. UC Berkeley Labor Center and Workforce and Economic Development (a program for California Federation, AFL-CIO). At http://www.irl.berkeley.edu/vial/publications/AB32_background_paper08.pdf

- Building Skills Partnership (2015) *Green Janitor Education Program*. At <http://www.buildingskills.org/programs/greenjanitor/>
- Carpenter, Zoe (May 24, 2016) Actually the Labor-Green Alliance Has Never Been Stronger. *The Nation*.
- Castree, Noel, Neil Coe, Kevin Ward and Michael Samers (2004). *Spaces of Work: Global Capitalism and Geographies of Labour*. London: Sage.
- Cobb, James and and William Stueck (eds). 2005. *Globalization and the American South*. Athens, GA: University of Georgia Press.
- Coe, Neil M., Peter Dicken and Martin Hess (2008) Global Production Networks: Realizing the Potential. *Journal of Economic Geography* 8(3): 271-295.
- Cohen, Maurie (2006) Ecological Modernization and its Discontents: The American Environmental Movement's Resistance to an Innovation-Driven Future. *Futures* 38: 528-547
- Cohen-Rosenthal, Edward (1997) Sociotechnical Systems and Unions: Nicety or Necessity? *Human Relations* 50(5): 585-604.
- Council on Industrial Relations (2018) *About CIR*. At <http://www.thecir.org/About.htm>
- Cumbers, Andy, Corinne Nativel and Paul Routledge (2008) Labour Agency and Union Positionalities in Global Production Networks. *Journal of Economic Geography*, 8: 369-887.
- Dewey, Scott (1998) Working for the Environment: Organized Labor and the Origins of Environmentalism in the USA, 1948-1970. *Environmental History* 3(1): 45-63.
- Dicken, Peter (2015) *Global Shift: Mapping the Changing Contours of the World Economy*, 7th edition. New York City: Guilford Press.
- Donahue, Thomas (1977) Environmental and Economic Justice. *The EPA Journal*, pp.6-7,26.
- Dreiling, Michael (2001) *Solidarity and Contention: The Politics of Class and Sustainability in the NAFTA Conflict*. Garland Press.
- Duit, Andreas, Peter Feindt and James Meadowcroft (2016) Greening Leviathan: The Rise of the Environmental State? *Environmental Politics* 25(1): 1-23.
- Energy Futures Initiative (2017) *Policy Paper: The U.S. Nuclear Energy Enterprise: A Key National Security Enabler*. At https://static1.squarespace.com/static/58ec123cb3db2bd94e057628/t/5b4ea217562fa7b940de153f/1531879967649/The+U.S.+Nuclear+Energy+Enterprise_A+Key+National+Security+Enabler.pdf
- EPA (2015) *Fact Sheet: Overview of the Clean Power Plan*. At <http://www.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan>

- Felli, Romain. (2014). An Alternative Socio-Ecological Strategy? International Trade Unions' Engagement with Climate Change. *Review of International Political Economy* 21(2): 372-398.
- Fellner, Kim (1998) Unions and Environmentalists: Will Climate Change the Climate? *National Organizers Alliance Newsletter* (June), 5-8, 39-40.
- Fichter, Michael and Dimitris Stevis (2013) *Global Framework Agreements in a Union-Hostile Environment: The Case of the USA*. Friedrich Ebert Stiftung and Hans Bockler Stiftung. URL: <http://library.fes.de/pdf-files/id/10377.pdf>
- Foster, David (2010) BlueGreen Alliance: Building a Coalition for a Green Future in the United States." *International Journal of Labour Research* 2(2): 233-244.
- Foster, John Bellamy (1993) The Limits of Politics without Class: Lessons from the Ancient Forest Struggle of the Pacific Northwest. *Capitalism, Nature, Socialism* 3(1): 11-41.
- Galgoczi, Bela (2018) *Just Transitions towards Environmentally Sustainable Economies and Societies for All*. An ACTRAV Policy Brief. International Labour Office. ACTRAV. At https://www.ilo.org/wcmsp5/groups/public/-ed_dialogue/-actrav/documents/publication/wcms_647648.pdf
- Gallagher, Kelly Sims (2013) Why and How Governments Support Renewable Energy. *Daedalus, The Journal of the American Academy of Arts and Sciences* 142 (1): 59-77
- Government Accountability Office (2014) *Renewable Energy: Federal Agencies Implement Hundreds of Initiatives*. Government Accountability Office.
- Gereffi, G., Dubay, K. and Lowe, M. (2008) *Manufacturing Climate Solutions: Carbon-Reducing Technologies and U.S. Jobs*. Center on Globalization, Governance & Competitiveness, Duke University.
- Giannakouros, Stratis and Dimitris Stevis (2014) "Colorado's New Energy Economy: Ecological Modernization American Style?" In Neil E. Harrison and John Mikler (eds) *Climate Innovation: Liberal Capitalism and Climate Change*. Basingstoke: Palgrave Macmillan, pp. 72-96.
- Godoy, Emilio (2010) Transport Workers Fear Job Losses from Climate Change Action. *Interpress Service*. At <http://www.ipsnews.net/2010/08/transportworkersfearjoblossesfromclimatechangeaction/>
- Goodstein, Eban (1999) *The Trade-Off Myth: Fact & Fiction About Jobs and the Environment*. Washington, D.C.: Island Press.
- Good Jobs First (2018) *Smart Growth for Working Families*. At <http://www.goodjobsfirst.org/smart-growth-working-families>
- Gordon, Kate, Robert Borosage and Derek Pugh (2013) *The Green Industrial Revolution and the United States. In the Clean Energy Race, Is the United States a Leader or a Luddite?* Center for American Progress and BlueGreen Alliance.
- Gottlieb, Robert (2005) *Forcing the Spring: The Transformation of the American Environmental*

Movement. Revised and Updated Edition. Washington, DC: Island Press.

Grossman, Richard and Gail Daneker (1979) *Energy, Jobs and the Economy*. Boston, Alyson Publishers, Inc.

Gough, Jamie (2010) Workers' Strategies to Secure Jobs, their Uses of Scale, and Competing Economic Moralities: Rethinking the 'Geography of Justice'. *Political Geography*, 29, 130-139.

Hall, Peter and David Soskice (eds) (2001) *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. New York, Oxford University Press.

Hess, David (2012) *Good Green Jobs in a Global Economy: Making and Keeping New Industries in the United States*. Cambridge, MA: The MIT Press.

Hess, David (2014) Sustainability Transitions: A Political Coalition Perspective. *Research Policy* 43: 278-283.

Herod, Andrew (2012) Workers as Geographical Actors, *Labor History*, 53 (3): 335-53.

Heron, Craig (2012) *The Canadian Labour Movement: A Short History*, 3rd edition. Toronto: James Lorimer and Company.

Hogler, Raymond (2004): *Employment Relations in the United States. Law, Policy, and Practice*. London: Sage.

Howard, Phoebe Wall (May 24, 2018) UAW President Dennis Williams Praises Trump's Tariff Approach. *Detroit Free Press*. At <https://www.iue-cwa.org/treasure-hunts>

Hunter, Jim (2016) *IBEW Western LAMPAC 2016*. At <http://www.westernlampac.org/2016%20Fall%20Presentations/Jim%20Hunter%202016%20lampac%20western%202016fall.pdf>

IBEW (November 14, 2017) With Wind Farm on Horizon, IBEW Joins Others to Keep Good-Paying Jobs on Long Island. *IBEW Media Center*. At http://www.ibew.org/media-center/Articles/17Daily/1711/171114_WindFarm

IBEW and NECA (2018) *Powering America*. At <http://powering-america.org>

ILWU (2015a) Longshore Workers Vote to Oppose Coal Exports in Oakland. At <https://www.ilwu.org/longshore-workers-vote-to-oppose-coal-exports-in-oakland/>

ILWU (2015b) ILWU and Community Coalition Challenge dangerous crude oil terminal in Vancouver, WA. At <https://www.ilwu.org/ilwu-and-community-coalition-challenge-dangerous-crude-oil-terminal-in-vancouver-wa/>

IUE-CWA (2018) *IUE-CWA Energy Efficiency Treasure Hunts*. At <https://www.iue-cwa.org/treasure-hunts>

Jacobs, Michael (2012) *Green Growth: Economic Theory and Political Discourse*. Center for Climate Change Economic and Policy, WP 108 and Grantham Research Institute on Climate Change and the Environment WP 92.

- Just Transition Research Collaborative (2018) *Mapping Just Transition(s) to a Low Carbon World*. United Nations Institute for Research on Human Development and Rosa Luxemburg Foundation. At <http://www.unrisd.org/jtrc-report2018>
- Just Transition Centre, International Trade Union Confederation (2017) *Just Transition: A Report for the OECD*. At <https://www.oecd.org/environment/cc/g20-climate/collapsecontents/Just-Transition-Centre-report-just-transition.pdf>
- Kahle, Trish (2015) Challenging the Industrial Narrative. *Jacobin Magazine*. At <https://www.jacobinmag.com/2015/04/railroad-environment-climate-change-labor-union/>
- Karapin, Roger (2016) *Political Opportunities for Climate Policy: California, New York, and the Federal Government*. New York: Cambridge University Press.
- Kats, Gregory (2006) *Greening America's Schools: Costs and Benefits*. American Federation of Teachers. At https://www.usgbc.org/sites/default/files/Greening_Americas_Schools.pdf
- Kazis, Richard and Richard Lee Grossman. (1982). *Fear at Work: Job Blackmail, Labor and the Environment*. Philadelphia, Pennsylvania: New Society Publishers.
- Kojola, Erik (2015) (Re)constructing the Pipeline: Workers, Environmentalists and Ideology in Media Coverage of the Keystone XL Pipeline. *Critical Sociology*, 43(6):893-917.
- Kochan, Thomas, Adrienne Eaton, Robert McKersie and Paul Adler (2009) *Healing Together: The Labor Management Partnership at Kaiser Permanente*. Ithaca, NY: ILR Press
- LAANE (2018) Ports and Goods Movement. At <http://laane.org/blog/campaigns/ports-goods-movement/>
- Labor Network for Sustainability and Strategic Practice (2016) *"Just Transition" – Just What is It? An Analysis of Language, Strategies and Projects*. At <http://www.labor4sustainability.org/uncategorized/justtransition-just-what-is-it/>
- Labor Network for Sustainability (2014) *The Labor-Climate Landscape: A Guided Tour for Workers-and Climate-Protection Advocates*. Wisconsin: Labor Network for Sustainability. At http://www.labor4sustainability.org/files/pdf_laborclimatelandscape.pdf
- Leopold, Les (2007) *The Man Who Hated Work but Loved Labor: The Life and Times of Tony Mazzocchi*. White River Junction, Vermont: Chelsea Green Publishing Company.
- Leopold, Les (June 20, 2017) Why Union Workers and Environmentalists Need to Work Together with Smart Protests: Jobs at any Cost Could be a Problem, as can Un-Strategic Protests. *Alternet*. At <https://www.alternet.org/environment/why-union-workers-and-environmentalists-need-work-together-smart-protests>
- Leroy, Greg (2015) Sprawl vs. Unions. *Shelterforce: The Voice of Community Development* (January 13). URL: <http://www.shelterforce.org/article/print/3990/>
- Levinson, Marc (2018) *US Manufacturing in International Perspective*. Congressional Research Service.

- Levy, David and André Spicer (2013) Contested Imaginaries and the Cultural Political Economy of Climate Change. *Organization* 20(5): 659-678.
- Logan, Rebecca and Dorothy Nelkin. (1980). Labor and Nuclear Power. *Environment: Science and Policy for Sustainable Development* 22(2):6-13,34.
- Marszalek, B. (2008) 'Green-Collar Jobs, Industrial Policy and a Society with Future', *New Labor Forum* 17(3): 30-36.
- Mayer, Brian (2008) *Blue-Green Coalitions: Fighting for Safe Workplaces and Healthy Communities*. Ithaca, NY: ILR Press.
- Mertins-Kirkwood, Hadrian (2018) *Making Decarbonization Work for Workers: Policies for a Just Transition to a Zero-carbon Economy in Canada*. At <https://www.policyalternatives.ca/publications/reports/making-decarbonization-work-workers>
- Meyer, Robinson (August 15, 2018) Will Washington State Workers Make History on Climate Change? *The Atlantic*. At <https://www.theatlantic.com/science/archive/2018/08/washington-state-carbon-tax/567523/>
- Miller, Alan S. (1980) Towards an Environmental/Labor Coalition. *Environment* 22(5):32-39
- Minchin, Timothy (2003) *Forging a Common Bond: Labor and Environmental Activism during the BASF Lockout*. Gainesville, FL: University Press of Florida.
- Moody, Kim (2009) The Direction of Union Mergers in the United States: The Emergence of Conglomerate Unionism. *British Journal of Industrial Relations* 47(4): 676-700.
- NABTU (2017) *Guidelines for Negotiating Project Labor Agreements*. At <https://nabtu.org/wp-content/uploads/2017/03/PLA-Guidelines-for-Negotiating.pdf>
- NABTU (2015) NABTU Convention Opening Video. At <https://www.youtube.com/watch?v=YeylOEDeTdg&feature=youtu.be>
- National Association of State Energy Officials and Energy Futures Initiative (2018). *U.S. Energy and Employment Report 2018*. At <https://static1.squarespace.com/static/5a98cf80ec4eb7c5cd928c61/t/5afb0ce4575d1f3cdf9ebe36/1526402279839/2018+U.S.+Energy+and+Employment+Report.pdf>
- National Education Association (2018) *Green, High Performance Schools*. At <http://healthyfutures.nea.org/get-informed/school-safety/environmental-health/green-high-performance-schools/>
- Obach, Brian. (2004) *Labor and the Environmental Movement: The Quest for Common Ground*. Cambridge, MA: The MIT Press.
- Oil, Chemicals and Atomic Workers International Union (1991) *Understanding the Conflict Between Jobs and the Environment*. Denver, Colorado.
- Olson, Erik (2013) ILWU Formally Backs Millennium Coal Project Ahead of Public

Hearings. At https://tdn.com/news/local/ilwu-formally-backs-millennium-coal-project-ahead-of-public-hearings/article_91beb920-0613-11e3-a450-0019bb2963f4.html?mobile_touch=true

O'Sullivan, Feargus (Sept 26, 2016) Germany Has the World's First Hydrogen-Powered Passenger Train. *Citylab*. At <https://www.citylab.com/transportation/2016/09/germany-hydrogen-passenger-train/501575/>

Patel, Sejal (2010) *From Clean to Clunker: The Economics of Emission Control*. At <http://laane.org/downloads/FromCleantoClunkerReport.pdf>

Pollin, Robert, et al. (2008) *Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy*. Center for American Progress and Political Economy Research Institute. At

Pollin, Robert, Heidi Garrett-Peltier, James Heintz, and Bracken Hendricks (2014) *Green Growth: A U.S. Program for Controlling Climate Change and Expanding Job Opportunities*. Center for American Progress and Political Economy Research Institute.

Pollin, Robert, Heidi Garrett-Peltier and Jennette Wiks-Lim (2017) *A Green New Deal for Washington State*. At <https://www.peri.umass.edu/publication/item/1033-a-green-new-deal-for-washington-state>

Rector, Josiah (2014) Environmental Justice at Work: The UAW, the War on Cancer, and the Right to Equal Protection from Toxic Hazards in Postwar America. *The Journal of American History* 101(2): 479-502.

Reed, Stanley (October 8, 2018) Ousted, Giant in Offshore Wind Farms, Makes a Move in the U.S.. *The New York Times*. At <https://www.nytimes.com/2018/10/08/business/energy-environment/orsted-deepwater-wind-energy.html>

Renner, Michael, Sean Sweeney and Jill Kubit (2008) *Green Jobs: Working for People and the Environment*. Worldwatch Institute.

Rose, Fred (2003) Labor-Environmental Coalitions. *WorkingUSA* 6(4): 51-70.

Ross, Stephanie (2007) Varieties of Social Unionism: Toward a Framework of Comparison. *Just Labour: A Canadian Journal of Work and Society* 11 (Autumn): 16-34.

Scheiber, Noam and Astead Herndon (September 16, 2018). In Michigan Female Candidates Target a Key Trump Bloc: Union Voters. *The New York Times*. At <https://www.nytimes.com/2018/09/16/us/politics/michigan-democrats-labor-unions-trump.html>

Scheiber, Noam (August 25, 2018) Trump's Power to Fire Federal Workers Curtailed by Judge. *The New York Times*. At <https://www.nytimes.com/2018/08/25/business/trump-federal-workers-unions.html>

Schmitt, John, and Alexandra Mitukiewicz (2012) Politics Matter: Changes in Unionisation Rates in

- Rich Countries, 1960-2010. *Industrial Relations Journal*, 43, 260-280.
- Skocpol, Theda (2013) *Naming the Problem: What It Will Take to Counter Extremism and Engage Americans in the Fight against Global Warming*. At http://www.scholarsstrategynetwork.org/sites/default/files/skocpol_captrade_report_january_2013_0.pdf
- Stein, Jeff (August 7, 2018) Missouri Voters Defeat GOP-Backed 'Right to Work' Law, in Victory for Unions, Associated Press Projects. *The Washington Post*. At https://www.washingtonpost.com/business/2018/08/08/missouri-voters-defeat-gop-backed-right-work-law-victory-unions-associated-press-projects/?utm_term=.605cc1fb4831
- Stern, Nicholas (2006) *The Economics of Climate Change: The Stern Review*. UK: HM Treasury and Cambridge U Press.
- Slatin, Craig (2009) *Environmental Unions: Labor and the Superfund*. Amytiville, NY: Baywood Publishing Company.
- Stavis, Dimitris (2014) US Labour Unions and Climate Change: Technological Innovations and Institutional Influences. In Neil E. Harrison and John Mikler (eds) *Climate Innovation: Liberal Capitalism and Climate Change*. Basingstoke: Palgrave Macmillan, pp.164-188.
- Stavis, Dimitris (2018) US Unions and Green Transitions: Breadth, Depth and Worker Agency." *Globalizations* 15(4): 454-469.
- Sweeney, Sean (2016) Contested Futures: Labor After Keystone XL. Earth to Labor: Dispatches from the Climate Battleground. *The New Labor Forum*. At http://newlaborforum.cuny.edu/2016/05/31/earth-to-labor-dispatches-from-the-climate-battleground/#_ednref12
- Swyngedouw, Erik (2010) Apocalypse Forever? Post-Political Populism and the Spectre of Climate Change. *Theory, Culture and Society*. 27 (2-3): 213-232.
- Thompson, Jonathan (November 15, 2018) A Judge Just Dealt a Potentially Fatal Blow to Keystone XL. *High Country News*. At <https://www.hcn.org/articles/oil-a-judge-just-dealt-a-potentially-fatal-blow-to-keystone-xl>
- Tienhaara, Kyla (2014) Varieties of Green Capitalism: Economy and Environment in the Wake of the Global Financial Crisis. *Environmental Politics*, 23 (2): 187-204.
- Transport Workers Union (2010) TWU Supports Resolution 1 Responding to Climate Change. At <http://unionsforenergydemocracy.org/wp-content/uploads/2015/08/TWU-Supports-Resolution-1-Responding-to-Climate-Change-1.pdf>
- Transportation Trades Department (2013) *Policy Statement: Supporting a Global Solution to Aviation Emissions*. At <http://ttd.org/policy/policy-statements/supporting-a-global-solution-to-aviation-emissions/>
- Turner, Lowell (2006) Globalization and the Logic of Participation: Unions and the Politics of Coalition Building. *Journal of Industrial Relations* 48(1): 83-97.

- Turner, Lowell and Richard Hurd, (2001) *Building Social Movement Unionism: The Transformation of the American Labor Movement*. In Lowell Turner, Harry C. Katz and Richard W. Hurd (Eds.) *Rekindling the Movement: Labor's Quest for Relevance in the Twenty-first Century*. Ithaca, NY: Cornell University Press. (pp. 9-26)
- United Association: Union of Plumbers, Fitters, Welders & Service Techs. (2018) *Sustainable Technology*. At <http://www.ua.org/green>
- United Nations Environment Program (2011) *Towards a Green Economy*. At <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=126&menu=35>
- United States, Department of Energy (2017) *U.S. Energy and Employment Report*. At https://www.energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report_0.pdf
- United States, Department of Labor (2018) *Economic News Release: Union Members Summary*. At <https://www.bls.gov/news.release/union2.nr0.htm>
- Whitley, Richard (2007) *Business Systems and Organizational Capabilities: The Institutional Structuring of Competitive Competences*. New York: Oxford University Press.
- Winnant, Gabriel (2016) *Who Works for the Workers?* *N+1 Magazine* 26 (Fall). At <https://nplusonemag.com/issue-26/essays/who-works-for-the-workers/>
- Young, Jim (1998) *Just Transition: A New Approach to Jobs v. Environment*. *WorkingUSA*, 2(2): 42-48.
- Zabin, Carol et al. (2016) *Advancing Equity in California Climate Policy: A New Social Contract for Low-Carbon Transition*. At <http://laborcenter.berkeley.edu/pdf/2016/Advancing-Equity-Executive-Summary.pdf>
- Zeitlin, Jonathan (1987) *From Labour History to the History of Industrial Relations*. *The Economic History Review*, New Series 40(2): 159-184.



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