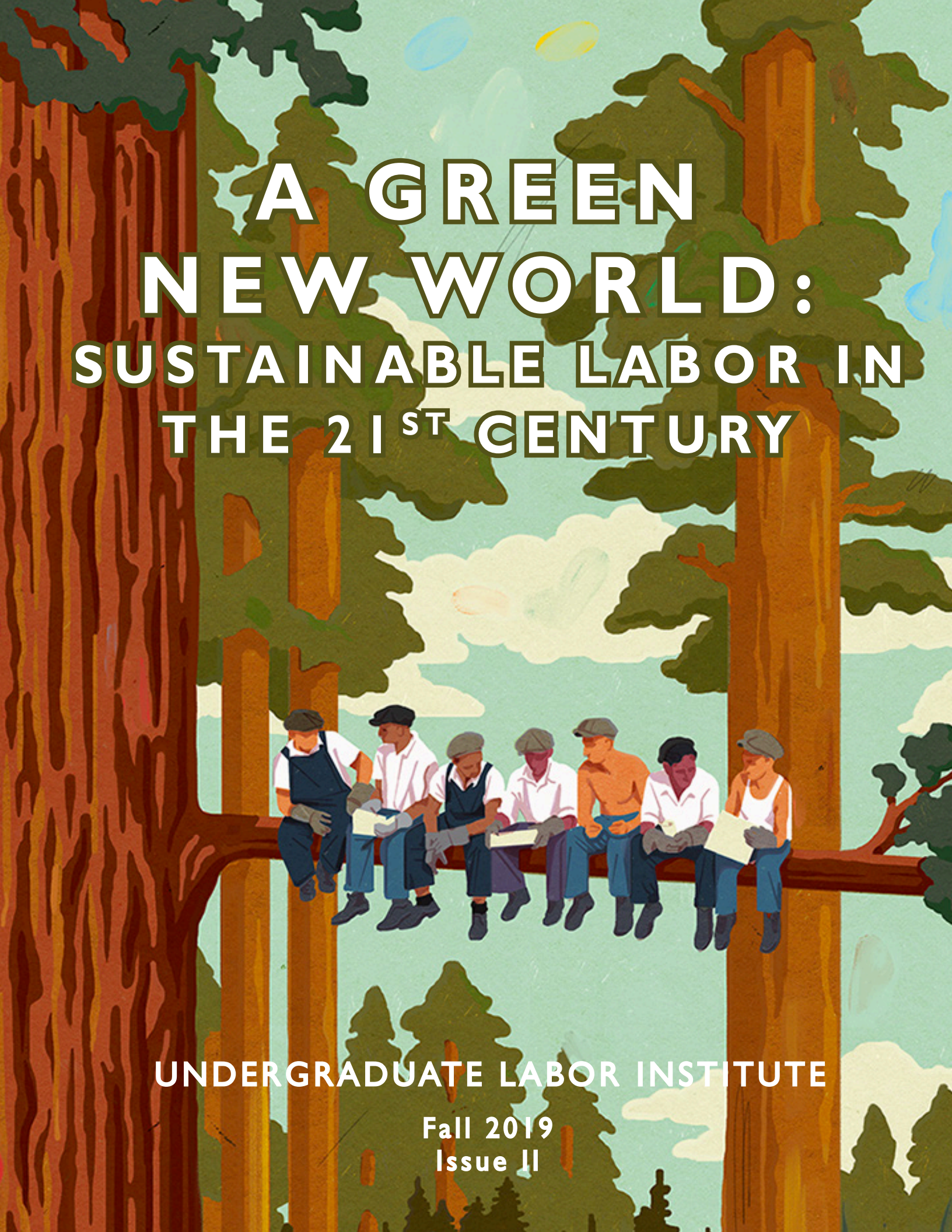

A GREEN NEW WORLD: SUSTAINABLE LABOR IN THE 21ST CENTURY

UNDERGRADUATE LABOR INSTITUTE

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TABLE OF CONTENTS

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Introduction

A Green New World: Sustainable Labor in the 21st Century

By: Amelia Flaumenhaft and David Leynov

Climate change is undoubtedly the defining crisis of our time, so much so that future scholars may look back and use it to define our very epoch. Given that labor is the source of all value in society, we saw it fit to analyze this greatest of all crises through the lens of the greatest of all commodities under capitalism: labor-power. More specifically, we plan on delving into such issues as the interplay between "green job" creation and unionization, the racially inequitable effects of pollution, and the promises and perils of the Green New Deal. To confront climate change from a consumerist perspective is to understand only part of the larger picture vis-à-vis climate change, which, perhaps inconveniently for some, involves workers around the world. To that end, we hope to dispel certain myths regarding the intersection of labor and environmentalism, most notably popular cultural pathologies regarding the "forgotten," often white and often male, industrial worker. The world of labor, whether unionized or not, is far more diverse than the mainstream media might let on. Moreover, workers are far more eager to tackle climate change issues than many of us may be led to believe. In choosing such a profoundly pertinent theme, we hope to highlight workers as a key component of any discussion relating to the climate crisis, which too often centers on corporations and governments. While it is true that all of us are consumers, almost all of us are workers, too, and we spend far more time at our jobs than we do at Wal-Mart or Target. We also recognize that we have an obligation to commit ourselves to the highest standards of research. We hope that our Fall 2019 issue reflects our dedication to the severity and the hope present in the discourse surrounding climate change.

Historical pushes toward the use of greener industrial practices that have been inadequately accompanied by union strength and support have often left workers on the receiving end of cost-saving tactics associated with adopting new, more expensive industrial practices. In the 1970s, for example, the United States implemented a variety of green energy programs, but, largely due to the free market championing and union busting efforts of the Reagan administration, workers were left out of the policy development process and suffered prolonged "wage stagnation," a "ruin[ed]" manufacturing industry, and the "lowest" rates of "private sector unionisation" since the early 20th century.[1] In order to avoid such adverse effects of industry changes on workers, it is important that labor forces remain powerful and steadfast in their commitment to ensuring the well-being of workers and the stability of the workplace.

The contemporary movement towards greener industrial practices is an opportunity for the labor movement to ally themselves with green-oriented agents of change and collaboratively build an industry that is both environmentally friendly and conducive to good, stable jobs. Given that the adoption of new corporate industrial practices and policies is typically accompanied by the development of new formal agreements and official documents, it is imperative that labor leaders ensure that "just transition language" is incorporated.[2] In doing so, companies will be held accountable to the well-being of workers from the outset of their implementation of change, and will be unable to separate the guarantee of good jobs from the promise of green development.

With companies held to the obligation of ensuring that green jobs are also good jobs, workers ought to be well-prepared to participate in a new, industrially green-oriented workforce. Ideally, employers should provide previously industrially employed workers with the training necessary to adequately perform in green jobs, as well as job security for those whose previous modes of employment may be different or no longer existent. Moreover, with the changing nature of the workplace, the power balance between employers and labor ought to remain intact, with collective bargaining mechanisms still in place as a means through which workers and workers' organizations (i.e. unions) can advocate for what is needed by workers in order for their jobs to be considered "good jobs."

With an increasing societal awareness of the need to meet the challenges of human-driven environmental problems, such as climate change, many industries that have traditionally employed high volumes of workers have been experiencing a push toward more sustainable orientations and practices. The new businesses and/or industrial practices that have and are likely to come about from the push towards greater sustainability are collectively referred to as "green industry." The jobs that define green industry are known as "green jobs," which, as defined by the Bureau of Labor Statistics, are either "jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources" or "jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources."[3]

As such, though green jobs could potentially be born out of novel green industries, many green jobs entail newly oriented work in existing industries. Jobs that produce and/or support "green goods and services," such as energy from renewable sources, pollution reduction, environmental education, as well as jobs that utilize "green technologies and practices," such as energy efficiency and natural resource conservation, can be embedded within industries, such as construction, retail trade, and agriculture. Given the high rates of employment in distinctly non-green sectors, such as carbon producing sectors, which constitute 38% of jobs across the world, it is inevitable that a movement away from such environmentally harmful industrial practices necessitates the reorganization and transition of a massive existing workforce.[4]

While the type of work being done, the conditions under which the work is being done, and/or the product being produced by the work may differ between traditional jobs and jobs in green industries, the degree to which workers face challenges in the realm of collective bargaining with employers is substantially similar. From low wage rates in the sustainable manufacturing sector to offshoring of labor in the clean energy sector, workers in green jobs encounter a variety of conflicts due to power imbalances between labor and management. Consequently, collective action and union efforts in green jobs are of great importance in ensuring that the developing green industry offers good, stable, secure jobs for workers as it expands and encompasses more of the nation's workforce.

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The Green New Deal

By: Leanna Ziles, Eitan Wolf, Daniel Hart

INTRODUCTION

Economic inequality and the climate crisis rest at a pivotal and significant intersection for policymakers. The Green New Deal (GND), which currently boasts 95 cosponsors in the House of Representatives as H.Res.109, calls for a complete transition of the United States economy from fossil-fuel dependence to a publicly-funded, environmentally sustainable structure, whilst guaranteeing collective representation and job security for all in the process.[1] Labor, a key stakeholder in the climate crisis, is one of the many disaffected groups that the GND aims to benefit and empower.[2] Our research examines the GND and its potential impact on labor, with respect to the policy's three main phases: the initial phase (in which the resolution's policies are discussed and implemented), the transition phase (in which the economy shifts from fossil-fuel dependence to clean energy), and the final phase (in which the statistical economic and environmental impacts become apparent). We ultimately contend that while the platform may face various obstacles throughout its implementation, the GND will prove itself a valuable reconciliation between the goals of the climate and economic justice movements.

INITIAL OBSTACLES

The GND needs to overcome substantial opposition in order to become legislation. Both the Republican Party and the AFL-CIO have expressed concerns with the plan. In order to be implemented, the resolution needs to receive support from both political parties. Republican support for environmental regulation has increased from 9% in the past two years to almost 50% in 2019.[3] However, the party's support for the GND has trended in the opposite direction. As the amount of registered voters aware of the GND tripled between December 2018 and April 2019, Republican support decreased from 50% to 32%.[4] Instead, the party focuses on smaller-scale solutions that "can become law," claiming that the GND will not gain enough support to be passed.[5]

Representative Alexandria Ocasio-Cortez's plan would achieve net-zero emissions by 2030 in the US, aligning with the country's original pledge to remain compatible with the Paris Agreement.[6] In order to achieve this goal, it is proposed that jobs related to nonrenewable energy be eliminated. The AFL-CIO, which represents over 12.5 million of the about 15 million unionized American workers, opposes the GND.[7] Despite their usual alignment with progressive policies, the organization asserts that their opposition to the platform stems from a desire to support workers in the fossil fuel industry. Union leaders worry that members of affiliated unions— including the Laborers' International Union of North America, the United Mine Workers of America, and the International Brotherhood of Boilermakers— will suffer the consequences of the plan.[9] The President of the AFL-CIO, Richard Tumpka, claims that the proposed resolution does not address the concerns of workers in these unions.[10] If the GND were to be enacted, the industries that these unions represent will become obsolete by 2030, and millions of jobs will be extinct.[11] According to the 2017 U.S. Energy and Employment Report, 6.4 million workers work in energy sectors.[12] Opponents to the proposed bill worry that these workers will be unable to find adequate work, doubling the unemployment rate.

A "JUST TRANSITION"

However, despite concerns from certain unions, the AFL-CIO, and the Republican party, the GND has always emphasized the need to feasibly and responsibly create an economy that offers financial security and opportunity for all. Prior to its proposal at the federal level, the conceptual framework behind the GND has always called for a "just transition" for

labor, as workers moved from the private fossil-fuel industry to the public green energy sector. In 1990, the United Steelworkers (USW) recognized the threat of climate change in a combined labor and environmental policy statement. The USW alluded to the necessity of a just transition, asserting, "In the long run, the real choice is not jobs or environment. It's both or neither."[13] Other major organizations, including the International Trade Union Confederation (ITUC), vocally supported the USW's message. ITUC framed the concept of a just transition as a primary tool of the labor movement in its efforts to create "a green economy [that can] sustain decent jobs and livelihoods for all."[14] A just transition was deemed necessary from the point where combined solutions to environmental and economic injustice were conceived, and it remains a prominent component of the current GND.

Moreover, the just transition for workers that the GND describes has the specific intent to "create millions of good, high-wage jobs and ensure prosperity and economic security" through engaging in green, public infrastructure projects.[15] Additionally, in defining a "good, high-wage job," the proposal explicitly refers to workers' rights to organize and collectively bargain through a union as necessary components to the jobs created under the GND.[16] Labor-focused critical analyses of climate proposals, as emphasized in a 2010 article for the Journal of Appalachian Studies, have frequently asserted that the American democracy has been dominated by corporate interests, and thus limited the extent to which working-class people can effectively voice their perspectives.[17] In rural Appalachia, civil servants representing the coal industry's interests appear in both major parties, and at all levels of government - local, state, and federal.[18] Consequently, mobilization around climate justice is typically met with little support.[19]

Furthermore, the relationship between coal companies and the rural communities that such companies operate exhibits a stark power differential, in which the former has retained control over the latter's labor market and natural resources.[20] Acting as the dominant employer in rural Appalachia, such companies subjugated these communities to the global economy's peripheries.[21] Therefore, creating a platform for collective liberation of rural communities, communities of color, working-class communities, and all of those on the frontlines of the climate crisis is essential in order to eliminate the false dichotomy between economic security for individuals employed by the fossil fuel industry and an environmentally sustainable economic model.[22] Given the proposal's unequivocal stance to empower labor in the context of clean-energy initiatives, it is clear that the GND offers a means to eliminate this false dichotomy and provide a truly comprehensive, class-focused approach to the climate crisis.

POTENTIAL IMPACTS

While the GND has numerous hurdles to overcome throughout its implementation, it is still worthwhile to examine the results after a successful transitionary period. Although it is difficult to accurately predict precise estimates for how many jobs will be created as a direct result of the GND, the Political Economy Research Institute at the University of Massachusetts-Amherst performed an analysis of what it might take to cut US carbon emissions by 40 percent. The analysis revealed that with a $200 billion annual investment, there would be an estimated 4.2 million overall jobs created (a 2.7 million net increase) with net employment expansion at all levels of pay.[23] Based on these positive results, it could be expected that the GND's goal of cutting emissions by 100 percent may cost upwards of $500 billion annually but provide a net gain of around 6.8 million jobs, assuming a linear increase.

The estimated cost of these annual investments may appear expensive, but the report also

provides other key findings. For example, the public expenditures under the original plan would comprise 0.3% of the current U.S. GDP (roughly 1.4% of the federal budget) with total expenditures coming in at approximately 1.2% of the U.S.'s GDP.[24] These levels are about 40% below 2013 US oil and gas industry investments, proving that the implementation of even part of the GND is both economically feasible as well as more beneficial for the environment. Another means of reducing the transitional costs is a carbon tax, which this report predicted could bring in an additional $200 billion annually if implemented successfully. More importantly, anyone weighing the costs and benefits of the GND must consider the costs of doing nothing. The record storms, floods and wildfires in 2017 alone cost an estimated $306 billion in damages,[25] the White House Council of Economic Advisors found that a three degree Celsius temperature increase from pre-industrial levels would increase economic damages by $150 billion per year in perpetuity, and the GND proposal itself cites the risk of over $1 trillion in infrastructural damage to coastal communities.[26] Ignoring purely economic impact, the US 2018 National Climate Assessment also detailed how communities and people would be personally affected: water shortages, ecosystem loss, and vast climate-based migration would completely change the systems that we have in place today.[27] It is clear that some action must be taken, and the policies laid out by the GND could protect both the changing climate and provide stability for workers affected by this transition.

CONCLUSION

Overall, despite the heavy initial opposition, the obligation to defeat the climate crisis has become extremely urgent. Transitioning to renewable energy sources, decreasing pollution, and boosting employment in green sectors is undoubtedly difficult, but it is not impossible. There is a clear cost of doing nothing in the face of a drastically changing climate. Labor and environmental activists, along with elected representatives, must continue to collaborate in order to prevent further environmental degradation. Adopting the GND would further the goals of a fully sustainable economy, which would ultimately support millions of quality jobs and uplift a strong and vibrant working class.

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[17] Betsy Taylor, Mary Hufford, and Kendall Bilbrey, "A GND for Appalachia: Economic Transition, Coal Reclamation Costs, Bottom-Up Policymaking (Part 1)," Journal of Appalachian Studies 23, no. 1 (Spring 2017): 10, http://search.ebscohost.com/login.aspx?direct=true&db=a2h&AN=124450134&site=ehost-live http://www.jstor.org/stable/10.5406/jappastud.23.2.0151.
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[19] Ibid., 8-9.
[20] Lyndsay Tarus, Mary Hufford, and Betsy Taylor,, "A GND for Appalachia: Economic Transition, Coal Reclamation Costs, Bottom-Up Policymaking (Part 2)," Journal of Appalachian Studies 23, no. 2 (Spring 2017): 157, http://search.ebscohost.com/login.aspx?direct=true&db=a2h&AN=124450134&site=ehost-live http://www.jstor.org/stable/10.5406/jappastud.23.2.0151.
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Should Tesla be Reinventing the Wheel?: A Case Study on the Sustainability of Tesla's Company Model

By: Alexandra Bixler, Renqiu Chen, Andrew Lee, and Kerry Wong

TRANSPORTATION'S HISTORY AND ROLE IN CLIMATE CHANGE AND LABOR UNIONS

The past decade has seen an unprecedented surge of public climate awareness and sustainability activism, with the reduction of air pollutants being at the forefront of many initiatives to combat climate change. The effects of air pollution are tangible and far-reaching: a 2012 report by the World Health Organization (WHO) attributed 3.7 million premature deaths on ambient air pollution alone, [1] and the number has steadily increased to 4.2 million, or 7.6% of all deaths, in recent 2016 WHO data.[2] According to a 2019 report by the Environmental Protection Agency, transportation emissions account for over 55% of nitrous oxides in the environment,[3] and many automotive companies have faced increased public pressure to reduce their carbon footprint.

Labor unions, most notably the United Auto Workers (UAW), hold a strong history of advocacy success in the American auto industry and could be instrumental in reducing the transportation carbon footprint. The 1950 Reuther's Treaty of Detroit set an important precedent for collective bargaining in mass-production industries, with the UAW and General Motors Company (GM) executives referring to their agreement as "the most significant development in labor relations since the mass production industries were organized in 1936-37."[4] This agreement modernized the terms of employment by securing a fully backed pension plan of $125 a month as well as Social Security for workers.[5] Moreover, this "treaty" established pensions and healthcare as a normative concern within the framework of contracts and collective bargaining, and has since led to a double in wages and homeownership among laborers.[6] The success and longevity of the UAW's relationship with GM, Ford, and Chrysler suggest that institutional change and success can be found by changing firms from within. Labor unions could therefore potentially incorporate environmental incentives and terms in their bargaining process to redefine labor relations and advancements.

Prior to the 1970s and before most Americans were even aware of climate change and sustainability issues, organized labor unions advocated for and supported many environmental initiatives that laid the foundation for the environmental movement of the 1960s and spread awareness of these issues to the working class.[7] From concerns over air and water pollution to wildlife and wilderness preservation, unified calls for changes in production and manufacturing put workers and environmentalists at odds with employers. This alliance between workers and environmentalists led to significant legislative changes, and the support from UAW, United Steelworkers, and the International Association of Machinists were crucial in passing the Clean Air Act Amendments in 1970.[8]

However, economic and political tensions in the 1970s presented laborers with a false dichotomy: good jobs or environmental sustainability. The alliance between the labor movement and environmentalism reached an impasse, sparked by the Oil Embargo of 1973. The conflict between the two movements over environmental issues such as the Alaskan oil pipeline and land use drove unions like the AFL-CIO from the Democratic party, which traditionally supported environmentalism, to the Reagan administration.[9]

Recently, the alliance between the labor movement and the green movement has regained momentum in an intensified age of climate change awareness. The idea of a "just transition," where the economic

shift towards sustainability prioritizes the immediate needs of workers, has become an important goal for organized labor.[10] Blue-collar unions have created alliances with green initiatives to tackle climate change through union action, though challenges such as low unionization rates and shifts from manufacturing to service jobs in the American economy may hinder union efforts: in 2018, 64% of Americans supported labor unions, but membership was at a historical low of 10.5%.[11]

In addition to the steady re-alliance of the labor and environmentalism movement to combat climate change, there have been innovative initiatives to tackle the problem as well. Tesla, the electric car company founded in 2003 by entrepreneur Elon Musk, is viewed as a pioneer model of sustainable technologies, and the company has generated new demand and higher expectations for electric vehicles. By branding itself as a technology company, Tesla acts as an external force that creates demand for green technology within the auto industry. However, simply producing sustainable vehicles and energy storage solutions does not necessarily make Tesla sustainable if its means of production and its treatment of workers are not aligned with environmentalism and sustainability. In fact, Tesla might be setting new, and perhaps dangerous, precedents with how it treats its low-skilled labor forces, as Tesla is one of the only car companies to use non-union car plants and the company is currently facing trials surrounding logistical issues, including its union-busting habits. The outcome of these trials will undoubtedly impact the direction of organized labor in the tech industry, and the current dealings raise questions about whether the fight for a more sustainable yet labor-friendly automotive future is better achieved through new, innovative measures such as Tesla or through labor unions that have a record of successful advocacy.

TESLA'S HISTORY AND POSITIVE IMPACT

Since Tesla's founding in 2003, the company's core initiative has been to reduce global reliance on fossil fuels by building cleaner electric cars that rival, and even surpass, traditional gasoline cars in terms of price and performance. The company has since expanded from producing electric vehicles to producing other clean energy generation products as well. According to an Impact Report published by Tesla in 2019, the company has been working to address the issue of climate change by increasing their product impact and through diversifying their supplier line; in other words, Tesla claims to not only have sustainable products, but that the products are also being built or are transitioning to being built in a sustainable way.

Tesla emphasizes the environmental impact of the company through products that are currently being used around the world and the amount of clean energy that is used in place of environmentally harmful fossil fuels. For example, Tesla has sold over 550 thousand electric vehicles, totalling an estimated 10 billion miles that would have produced 4 million metric tons of carbon dioxide.[12] The Supercharger network, which charges Tesla vehicles on the road and are placed at strategic locations in multiple countries, has saved over 75 million gallons of gasoline. The company also manufactures and designs solar panels, batteries, and solar and energy storage systems that can cleanly power utilities or buildings and store energy for emergency uses or outages. These solar installations have generated over 13 Terawatt-hours (TWh) of clean electricity and are expected to generate 86.5 TWh over the next 35 years, which is enough to power Washington D.C. for a decade.[13]

Tesla has also worked to increase the company's positive environmental impact through their production process and facilities. In 2017, Tesla established a baseline carbon impact footprint across all aspects of their company by tracking electricity and natural gas usage for all of their products and

production sites in order to construct more energy efficient facilities.[14] One measure that Tesla has taken to minimize waste in their facilities has been to recycle, compost, or convert "waste" that would have ended up in landfills into energy. Tesla has also been implementing measures to recycle the materials that are used in their lithium-ion batteries: valuable metals in the batteries are recovered and used to make new batteries and an on-site solvent refining system has been implemented to reuse and process used-solvent liquids that are collected during the manufacturing process of batteries. Furthermore, when building their Gigafactory 1, a manufacturing facility in Nevada, Tesla was conscious of installing thermal systems, heat pumps, solar panels, and other sustainable measures rather than using natural gas lines to minimize the use of fossil fuels in their production facilities. These sustainability practices have resulted in 146,000 metric tons of carbon dioxide among all facilities, which are far below the millions of metric tons of carbon dioxide that facilities of larger automotive companies produce.[15]

In addition to the implementation of sustainable products and practices, Tesla has also maintained that they hold equitable and high treatment standards for its supply chain and, by extension, its workforce. Tesla claims to practice responsible sourcing, where suppliers are required to prove that they use socially healthy, environmentally friendly, and sustainable practices and material sourcing. Regarding the welfare and wages of the company's employees, Tesla awards every employee with shares of Tesla stock and employees can buy extra stock at a discount.[16] Tesla also stresses that employee diversity and safety are important to the company, and after reports of many on-site injuries, the company has released plans to implement new methods of manufacturing that include implementing risk control programs and globally standardized reporting that will result in as close to zero injuries as possible.[17]

It is important to note that the Impact Report by Tesla is self-reported data and was released largely due to previous criticisms over the company's lack of transparency when it came to reporting its policies, goals, and results. With the lack of available data until recently, there has thus been few conclusive reports on Tesla's goals in producing environmentally friendly products despite the company being widely regarded as one of the most sustainable companies in the market.[18] Nonetheless, there have been some reports, such as one by the Transition Pathway Initiative (TPI), that corroborate with Tesla's self-reported data. TPI, which assesses companies on their readiness to transition to low carbon initiatives, ranked Tesla at the top of a list of 138 assessed companies in terms of carbon emissions despite the company being given a score of 0 on their management quality; in other words, the assessment found that Tesla produced zero-emission cars due to the lack of diesel or gas usage, but criticized the company for failing to be transparent with the public about their policies and data.[19] Other supporting reports, such as one from Union of Concerned Scientists (UCS), find that in general, an electric car's life-cycle emissions are half that of a traditional gas car.[20]

SUSTAINABILITY REPORTS

Despite being proclaimed as one of the greenest and most sustainable car companies, Tesla's lack of transparency with the public about some of their data has led to several third party reports that portray Tesla's products in a different and conflicting light. While some reports, such as that from TPI, positively conclude that Tesla produces zero-emission cars, other reports and studies based on prior existing studies on electric cars have suggested that Tesla's electric cars are not as sustainable as Tesla claims.

There has long been controversy about the sustainability of electric cars: while the car itself may run on electricity instead of more environmentally damaging materials like gas, the manufacturing of

batteries and battery recharges suggest that electric vehicles may have similar environmental impacts as cars that run on gas.[21] A study published in the Journal of Industrial Ecology that compares the Nissan Leaf electric car with conventional gas or diesel vehicles found that the production of an electric car can be responsible for approximately 30,000 pounds of carbon dioxide emissions while the production of conventional vehicles result in around 14,000 pounds of emissions. The high amount of emissions needed to manufacture an electric car is largely due to the need for rare earth materials, such as lithium, to produce batteries. The life-cycle analysis in the study does show that the average electric car indirectly emits about six ounces of carbon dioxide per mile that is driven, which is half the amount of carbon dioxide that traditional cars produce per mile; however, when taking into account the production emissions, the electric car must be driven for several tens of thousands of miles more than traditional cars to break even in terms of emissions. Given that electric batteries fade with time and need to be replaced, the study shows that the amount of energy that is used across the life-cycle of an electric car generates a similar amount to those emitted by cars using traditional fossil fuels.[22]

While this data is not related to Tesla's models specifically, similar reports by Engaged Tracking, a company that specializes in carbon related data, also found that electric cars by Tesla are not necessarily cleaner than the average car in the United Kingdom for similar reasons as Nissan Leaf's electric cars.[23] Data from a meta-study performed by the IVL Swedish Environmental Institute also found that the production of the lithium-ion batteries in the Tesla Model S is responsible for 17.5 tons, or nearly 40,000 pounds, of carbon dioxide.[24] These findings certainly suggest that Tesla's cars are not as sustainable as the company touts them to be, though it is difficult to know the true sustainability impact of their products without more details and transparency about their processes.

TESLA LABOR PRACTICES

Despite Tesla's cutting-edge technology, Tesla is also failing to modernize in other crucial ways, with past employees calling the company "a company of the future with labor relations from the past." Elon Musk himself has been vocal about his hostile attitudes towards unionization, and has blocked attempts from workers to unionize. For example, at a factory in California, Dezzimond Vaughn, a well respected and high performing employee, tried to organize a union after Tesla implemented a points policy that deducted points from workers if they were absent or late. Vaughn and his coworkers decided to meet at Vaughn's home to organize a union, but management found out and Vaughn was suddenly fired for having two poor performance reviews in a row, something he had never experienced before his union activity.[25] In another instance, employee Michael Sanchez claimed that he was asked to leave Tesla for handing out pro-union flyers at work, and Tesla security guards were found repeatedly trying to stop organizing workers from handing out flyers at the facility, telling them to leave the premises, and photographing the badges of workers.[26] Tesla banned employees from handing out any materials not pre-approved by Tesla, greatly violating their freedom of speech. Additionally, Tesla passed strict dress code regulations to prohibit unapproved outfits with the goal of curbing union activity. Musk has even gone as far as to promising a rollercoaster and free frozen yogurt machines at factories to deter union activity. While these attempts to millennialize the work environment are admirable to some, it clearly ignores underlying problems that are pushing workers to unionize.[27]

In addition to Tesla's poor track record towards unions, their safety record is poor as well. In one instance, employee Crystal Guardado spoke out about the unsafe working conditions at Tesla, in-

cluding a door handle chemical that hurt her eyes, and claims she was retaliated against for speaking out against unsafe work conditions. In August 2018, a rear hatch door dropped onto the back of an employee as he was working on the trunk and he later alleged that he was denied adequate medical care by Tesla's medical clinic. In response to these scenarios, Tesla's industrial safety expert said, "I don't want fingertip amputations...injuries are going to happen, because we have great people who are going to get the job done," controversially relating injuries to getting jobs done.[28] In a safety report conducted by Forbes on the working conditions of 11 automobile companies in the United States, Tesla had the most Occupational Safety and Health Administration (OSHA) violations by far with 54 violations; Nissan came in second place with a total of five violations, and if all of the OSHA violations of the other 10 companies were added up, there would still be 36 violations fewer than Tesla.[29]

Musk's labor policies and promises in response to complaints and allegations often fall short of reality. After safety investigations were conducted at Tesla, Musk emailed all of his employees and promised to meet with every injured worker individually, though multiple employees claimed this never happened. Musk also claims to have worked on the assembly line alongside employees, despite little proof of this. In addition, as a strategy of future lawsuit prevention, Musk sent out an employee email about being considerate to minorities including the phrases such as: "[do] the right thing" and "[don't] be a huge jerk." Musk has also taken up social media to appeal to a larger audience of nearly 29.2 million followers, tweeting, "Nothing stopping the Tesla team at our car plant from voting union. Could do so [tmrw] if they wanted. But why pay union dues & give up stock options for nothing?" Unfortunately, suggesting that employees would give up stock options in exchange for unionizing is illegal and Tesla was found to have committed 12 actions that violated U.S. labor laws.

POLICY RECOMMENDATIONS

For a business to be considered "sustainable," its treatment of the environment and its workforce must be oriented towards long term progress and efficiency. Currently, as seen in this case study, Tesla is not successfully achieving either goal. Tesla and electric cars are still relatively new, and with more transparency from the company about their production processes and through better treatment of their workers, Tesla could become a more sustainable company in the future. Specifically, Tesla should attempt to recycle more materials and decrease the amount of carbon emissions during production of cars and allow workers to form unions and to work under better work environments. However, Tesla and other "sustainable" entrepreneurial companies should also focus on notable examples from the past of successful advocacy through labor unions to achieve their goals of having sustainable companies.

The Treaty of Detroit was incredibly powerful; at General Motors, employees essentially wanted co-determination in order to have a say in the decisions of the company. GM agreed to raise prices and wages and gave workers greater control over the decision making in the company, setting an institutional precedent for the rest of the industry. Currently, labor unions are beginning to realign with the green movement again and many workers are pushing for environmental changes from company practices. Perhaps rather than hastily pushing forward with innovative changes that are neither environmentally sustainable nor labor friendly, companies should listen to and negotiate with their workers and with labor unions about their visions with relation to the green movement. In other words, perhaps the UAW could seek to create environmental change through the established precedent of bargaining for sustainability through firms with which it has already established strong relations with, such as GM and Ford. Doing so might result in labor and environmental advancements that

entrepreneurial companies like Tesla are attempting and failing to achieve, as unions could incorporate environmental incentives and terms in their bargaining process to once again redefine the field of labor relations.

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Environmental Racism

By: Kataryna Restrepo, Althea Brennan, Heman Osibuo

A BACKGROUND ON THE ISSUE

The intersection between people of color and low-income citizens has been evident for many years in the current climate of the United States of America. The people of Cancer Alley, Louisiana, a predominantly African American settlement, suffer from inhumane amounts of industrial pollution causing at least one member in almost every family to fall victim to cancer; hence the name Cancer Alley. This serves as a more than accurate depiction of **environmental racism** in this country. Environmental racism can be described as the intentional siting of hazardous waste sites, landfills, incinerators, and polluting industries in communities inhabited mainly by minority races.[1] Many minority groups face racial discrimination in the form of environmental racism because they are regarded as weak and incapable of fighting against these corporations due to their inability to relocate or organize against them, on account of their lack of economic capital.

In the early 1980's, there was a resurgence of labor-climate cooperation in an effort to work towards environmental justice. Perhaps the most successful and well known of these collaborations was the Louisiana Labor-Neighbor project, which created a Royal Dutch/Shell plant that lay in Louisiana along "Cancer Alley," an 85-mile stretch from Baton Rouge to New Orleans with around 150 of the nation's largest fossil fuel and petrochemical refineries. The activists aimed to get the company to fund the relocation of the community out of the toxic pollutant zone created by the plant. The movement emerged during the beginning of Fordist capitalism in the early 20th century, where many jobs became automated. Many of the employers in Cancer Alley laid off their most experienced workers early, and replaced them with unskilled, poorly paid, non-union labor. As a result, the community continued to get sicker. Times were particularly difficult for unions, as Louisiana passed a Right-to-Work act in 1976, wherein workers who were not part of a union were not required to contribute to the union at their workplace, despite benefitting from it. This meant that unions all across the state lost significant power, but this was especially evident in Cancer Alley. Also important to note is that many of those employed at the plant lived around it, putting them in equal or more harm than the rest of the citizens.

The movement succeeded, however, in large part because of the flexibility on the sides of both labor and environmental activism. Unions began to consider the consequences of local industrial policy, while activists slightly moderated their social justice agenda to keep the relationship strong. The coalition succeeded because of its multilevel approach to collective activism, whereby national organizations worked with community based organizations and local unions, in collaboration with state politicians. While it was successful while it lasted, the project eventually failed because of a lack of cooperation between the different levels.[2]

THE STRUGGLE CONTINUES

Fast forward to today, the struggle continues as activists demonstrate and organize to prevent more plants from being built in Cancer Alley. In recent years many marches have taken place. The most recent one in May involved parishes, local environmental groups, and other ally groups in hopes of applying pressure on state legislators to stand against Big Oil and the chemical industry.[3] This time around, however, collaboration between the workers from these plants and environmental activists as it once existed in the 1980s seems to have all but disappeared. This aligns with a recent trend throughout the United States where workers' perspectives have not been

included in organizing campaigns, thus breaking the once established solidarity between the locals and the workers. This happens despite both groups sharing exposure to known carcinogens.[4] Even more alarming is the fact that these companies strategically fail to hire people from the local area yet pass their projects through local and state governments because they always promise to bring more jobs to the vicinity. They assert this despite knowing that people in the local labor market lack the skill set to work in these plants and that they will be able to get away with more since the workers' community and families are not being affected by the plant.[5] Organizing tactics would be greatly helped if attempts were made to get the workers to participate in a strike and/or organize informational picket lines. The importance of blue-green coalitions should not go unnoticed.

POLICY RECOMMENDATIONS

Environmental racism is a nuanced problem that will require bold progressive solutions to tackle. While legislation such as the Resource Conservation and Recovery Act aimed at addressing these issues, it did not go nearly far enough.[6] Regulations should be strengthened and greater resources should be devoted to enforcement. While stricter environmental regulations and a restructuring of the American energy sector will prevent environmental racism from continuing, there is restorative justice that must be done for the decades of exposure to contaminated water, air and other public safety hazards. This may take the form of remedies where we would give money to communities who have been affected.

Additionally, stakeholders, such as community members, non-profits, and environmental protection groups need a seat at the decision-making table. Public hearings involving the development of plants should be better advertised and attended by groups. Similarly, employees at these dangerous plants deserve dignity in work — unionization can and will promote safer conditions inside and outside of these plants. Encouraging unionization can be promoted via union-friendly policies such as the revocation of right to work laws.

The following policy implementations would likely have the biggest impact on the prevention of environmental racism. However, to implement any policy moving forward would require moving away from big money in politics, since the state legislatures are the ones supporting the plants that cause the detrimental environmental impacts. Given that the lobbying for plants weakens, the solution ahead is twofold: One is for the state to provide what it should for its citizens especially in the wake of causing the aforementioned effects, and to transition to a new type of work being brought in. Namely, universal healthcare is vital to the repairs that must be made to these citizens, and bringing in green jobs would ensure sustainable environmentally friendly jobs that allow them to earn without harming themselves.

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Challenges to Prioritizing The Green Industry Within Developing Countries

By: Ethan Lodge, Theresa Oduol, and Melissa Lau

INTRODUCTION

It is fair to say that developing countries play a crucial role in the future development of green energies and the overall health of the environment. While developing countries currently contribute a smaller relative share to global pollution than do countries with developed or emerging economies, they have a large potential to pollute more in the coming decades as they reach an emerging status. Going forward, climate change will also disproportionately affect these countries because they face larger economic and social costs than their developed counterparts. Indeed, ecological effects including harsher natural disasters as well as increased food and water scarcity are estimated to increase in prominence as nations continue to pollute. These circumstances, unfortunately, will be felt by those countries with insufficient infrastructure and resources to combat their own pollution. It is the stance of this publication that a shift from an unclean energy industry towards a green industry platform will be a beneficial long term plan for both economic development and investments in human capital.

MODERN IMPLICATIONS

The adoption of green initiatives by developing countries reflect the growing world-wide shift towards sustainable development; however, in the quest to grow out of poverty, how can developing countries "develop" when the standard for economic growth for centuries resulted in advancements that increase the output of carbon emissions? [1,2] Therefore, this undertaking, despite its promising preventative measures against global warming, encompass several challenges. According to the United Nations, developing countries are disproportionately affected by climate change although they contribute minimally to the world's total carbon emissions.[3] We must ask questions about the capacity developing countries have in mitigating the effects of climate change. How will pressures to limit oil exports, or other natural resource commodities shift the trajectory of market demands and impact state revenue? How feasible is it to mobilize the private sector to engage in environmentally conscious operations and what leverage do consumers have in making global and domestic enterprises meet these demands? Within developing countries, the lack of strong job markets, institutions, and infrastructure that support industrialization along with growing threat of climate change force a consideration for new indicators that define country advancement. This is because the green industry has created a new set of indicators in order to evaluate a country's environmental advancement. Now, it is not just how advanced a country is in terms of economic growth, but how well has a country adapted to mitigate climate change risks. This growing threat, then, places another pressure to adopt practices that may or may not integrate well with the current lifestyles of civilians in low-income countries, particularly rural populations.

Measurements that define economic growth are GDP, inflation, unemployment, among others.[4] Measurements that define environmental sustainability are CO2 intensity, energy intensity, and waste recycling. Qualitative measurements evaluate the equitable access to environmental goods while considering citizen needs.[5] These two measurements are undoubtedly linked as they serve to provide us with insight on the well-being of a country's citizens. However, the integration of these two indicators of development reveal to be challenging in the case of Rwanda for example, the cleanest country in Africa, but still among one of the poorest in the world.

Rwanda, a landlocked country in East Africa, has taken a strong stance on climate change by im-

plementing comprehensive environmental legislation that bans plastic bags, designs reforestation efforts, and implements the large green fund program committed to growing Rwanda's green economy.[6] However, malnutrition, malaria, and non-communicable diseases continue to affect the health of Rwanda's population.[7] In addition, financial sustainability is fickle as government contributions are strained and the reliability on donors to consistently provide is not sustainable in the long-term. This is not to say that policies that address climate change and well-being cannot intersect, as it is evident Rwanda is committed to addressing these issues concurrently. This example shows the difficulty in the transition to make a prioritization towards a green economy directly translate to better health outcomes, at least in the short-term. Therefore, a strong foundation that engages local citizens by focusing on capacity-strengthening and civilian input mobilizes environmental legislation and creates priorities that serve the needs of the citizens.[8,9]

POLICY RECOMMENDATIONS

Challenges that exist when prioritizing green industries are mainly due to the commitment to eliminate poverty and hunger. Therefore, focusing on the integration of environmentally conscious projects that incorporate poverty alleviation and nutrition provide high developmental and potentially economic return. It is critical that governments within low-income countries, like Rwanda, take a stance on moving toward a green economy as well as appreciate the importance of locally-led community engagement as it allows for national priorities to converge with local needs. As we recognize the limited resources and revenue to promote industrialization or sustainable mass production of commodities, it is critical that green economies are customized to different country capacities, as these abilities also impact the likelihood of long-term investment in sustainable practices.[10] Although environmental development policies exist within developing countries, especially under United Nations endorsement, the challenge is to enforce and enable active implementation that is effective in the long-term. Moreover, the creation of revenue-producing incentives could appeal to enterprises and governing bodies to adopt sustainable practices. This could especially be helpful for local businesses if sustainable practices involve lower investments in the goods or services they provide.

Aspects like government corruption as well the disproportionate effect of climate change in these regions demonstrate the barriers to a green economy, as a result, there is a need for diverse key stakeholders to understand these influences before country specific goals are implemented. Conversations should not necessarily focus on the passive promotion of green industries, but rather *how* to innovate a country's existing assets in order to benefit both civilians and the environment.[11] Plans that generate green jobs with hopes in providing positive economic outcomes can encourage other government sectors or enterprises to adopt this transition.

However, this responsibility shouldn't be left up to developing countries to address climate change and sustainable practices. With China placing first at contributing 27.2% of global emissions and the United States ranking second contributing 14.6%, these advanced countries contribute heavily towards climate change.[12] As such, developed countries need to play a part in creating a standard in which countries can all universally take a part of as it provides a justification for why developing countries should shift their current industrial operations. Therefore, the creation and enforcement of effective environmental legislation along with priorities tailored to individual needs provide a strong foundation in the shifts towards a green economy within low-income countries. This foundation then allows for integration of these priorities into current interventions that aid in addressing human health and well-being.

Overall, the prioritization of a green economy supports the established concept of One Health, the interdisciplinary paradigm that looks at how humans, animals, and the environment influence each other. With that, this balance serves as a reminder of how our environments shape the interactions we encounter as they are critical to our health, and even more so where extreme poverty prevails.

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WORKER-LED STRATEGIES

By: Caroline Manning, Camilla Bacolod, James Granata

HISTORICAL OVERVIEW OF U.S. WORKER-LED CLIMATE

Historically, United States labor unions have had a complicated relationship with environmental movements. Advocacy within unions for green transitions has largely depended on their ability to create or preserve specific sectoral jobs. The AFL-CIO, one of the most influential trade unions in the United States, has taken varied stances on climate movements depending on the implications of the issue for its workers at a given time. In the 21st century, the union has both supported progressive innovations in the field of renewable energy and also aligned itself with efforts to expand the system of pipelines that facilitate the United States' dependence on fossil fuel. Although only one of these decisions is environmentally conscious, [1] both create jobs for workers in their respective fields. This has been a common theme among many prominent unions in the United States labor movement since the 1970s and 80s. Green movements that had a place within the predetermined mission of the labor movement were brought to the forefront, while other issues were put aside. Despite the tension of the two sides [2] in the past, periods of meaningful teamwork between labor movements and environmental movements give reason for optimism in the years ahead.

Unions such as Oil, Chemical, and Atomic Workers (OCAW) show that workers can campaign for progressive solutions to environmental problems within their field of work while still bargaining for change that benefits the lives of the rank and file. This union's historic green movement was at its peak in the early 1970s. Leadership of the OCAW came together with many of the world's prominent environmental advocacy groups of the time. The then-president of the
OCAW, Al Grospiron, summarized the organization's beliefs with the idea that their "position must be that nearly all polluting facilities can be corrected without hardships to the workers."[3]

The synergy of the union and green organizations can be best demonstrated through their strike on Shell in 1973. In combination with unions' attack on the oil company, 11 of the largest environmental groups in the United States also launched boycotts against Shell. While the union mainly focused on gaining safer working conditions and the environmental groups boycotted for more sustainable standards, both sides took the oppor tunity to recognize the overlap in their interests. Ultimately, Shell conceded and agreed to make revisions to their health and safety policies, marking the success of the cooperative effort of the two entities. These alliances have [4] not been specific to the oil sector. Another example can be seen in the partnership between the National Woodwork-ers of America and different wilderness preservation groups. The woodworkers backed the environmental groups with their efforts to protect the forests. This also served to protect their place of work and secured them the support of environmental groups when it came to workplace safety issues. Worker initiatives such as these demonstrate that there is a [5] precedent for bottom-up change in environmentally problemat-ic sectors.

Despite these encouraging instances of worker led mobilization around climate issues,
the reality remains that in recent years, there has been a traditionally adversarial relationship between labor and environmentalists. While the AFL-CIO has been fickle on its positions on climate issues, its consistent backing of nuclear power has been especially archaic given its magnitude. According to Larry Savage and Dennis Soron, an obligation to "defend the short-

range economic interests of their members" has left the union with little flexibility to oppose this harmful form of energy production. This burden has been responsible for the [6] inability of environmentally conscious workers withinthe union to mobilize on a large scale despite the fact that many in the sector do oppose nuclear power. This relationship has been [7] emblematic of much of the labor and environmental partnership over the last 10 to 20 years. Eric Loomis of Environmental Health News describes a situation where organized labor views environmentalists as elitist and indifferent towards the needs of the working class.[8] With a response to climate change needed more urgently than ever before, labor's actions regarding the issue will be critical. While labor has had a strained relationship with green movements in the past, encouraging precedents have also been set that demonstrate that both interests can be taken into account, and impactful worker-led strategies are possible.

INCREASING INVESTMENT IN SUSTAINABILITY EFFORTS

In January of 2019, The International Labour Organization (ILO) created a report that addresses future changes in labor that need to be solved with contributions from all stakeholders within the world of work. One of their main argu-ments is the need for investment in sustainable work that will ultimately protect the workforce and envi-ronment. As such, they have laid out suggestive mea-sures that will prompt the adoption of beginning steps to address climate-related issues. The ILO reflects that "countries must now prioritize long-term, sustainable investments that favor human development and protect the planet." The first measure that countries can take [9] to achieve this goal is to increase investment in areas important for stimulating sustainable work. These key areas are specifically rural communities that are the most vulnerable to climate change and therefore need assistance with integrating green technologies into their local infrastructure.[10] The ILO recommends policies that improve the production of cash and food crops and a policy that supports investment in green infrastructure.[11]

These efforts can be further augmented by incentivizing businesses to adopt strategies that promote sustainability. ILO suggests two modes of change: "extend[ing] stakeholder representation, making corporations more accountable to wider social and community interests" and "establish[ing] incentives for long-term success." These two proposed aspects of change [12] promote equality and link businesses with those most vulnerable to climate change. These sentiments are shared by the Climate Justice Alliance whose "strategy and mobilizing capacity is building a Just Transition away from extractive systems of production, consumption and political oppression, and towards resilient, regenerative and equitable economies." This group [13] looks at moving climate issues into communities and using local alternatives to combat climate issues working to build networks between people and ecology. Moving incentives and [14] investments to converge on sustainability efforts will ultimately create links throughout society that motivate all stakeholders to convene on climate issues.

INCREASING ORGANIZATIONAL COMMITMENT TO CLIMATE ISSUES

In order to make strides in addressing climate change, workforces must transition and accept new business strategies that attempt to address climate concerns. Thus, the need to develop internally focused efforts to combat climate crises involves the buy-in of employees and management. One of the first steps in this movement involves an educational process where the workforce of an organization

can come to an understanding of the issue and the long-standing effects it will have throughout society if left unaddressed. The educational process can be lengthy, and therefore it must be paired with open communication strategies that are comprehensive for all. Many orga-nizations have shifted climate conversations to link it with "energy efficient" terminology, which has seen to be more accepted and understood by workforces. Linking "energy efficient" terminology has been in-tegrated into business strategies [15] that pair efficiency performance with rewards. This includes a system of recognition and rewards that encourages employ-ees to take personal steps toward climate awareness. Author Andrew Hoffman contextualizes this idea reflecting on Google's policy to "[offer] its full-time U.S.-based employees a $5,000 subsidy toward the purchase of a vehicle with an EPA fuel economy rat-ing of 45 mpg or higher."[16]

These efforts can reach increased effectiveness when supplemented with senior leadership actions. Individuals higher up in the organization often have influence over organizational culture and values and therefore play critical roles in supporting climate initiatives. Further emphasized by the point that "CEOs that take a strong leadership position on climate are not afraid to challenge their companies to achieve stretch goals and tend to have a long-term strategic perspective that extends decades beyond their own tenure." Organization [17] leaders that show dedication to climate causes often produce a trickling down effect in an organization that can prompt the company's workforce to adopt these causes as well. Companies can show dedication to climate issues through four main strategies, "establish a clear link between the climate-related strategy and company values, demonstrate clear CEO commitment, create a robust business case for climate-related initiatives, and educate the workforce." The [18] formation of these strategies within the workforce opens up a dialogue on climate issues through a process of education that therefore links workers with senior management, initiatives, and business strategies that can converge together to make introductory steps in addressing climate-related issues.

WORKER LED STRATEGIES

Another effort is to organize workers around climate change issues that will make workers the fore-front of this movement. Workers should be given the resources to understand climate change's effect on different workplaces. Th e d imate dh ange crisis d so presents the opportunity to recognize groups who will be most affected by climate change issues. Not only is climate change affecting workplace environments, but it also has a lasting effect on the general livelihood of workers. Therefore, labor unions can increase the sup-port and participation of workers in the fight for cli-mate justice by organizing around issues that will im-pact the labor market and the personal lives of workers.

DELIBERATIVE DEMOCRACY IN THE CLIMATE CHANGE MOVEMENT

In order to make strides in increasing worker engagement in the climate change movement, or-ganizations must practice deliberative democracy. Deliberative democracy's core principles include a process of public discussion that is understandable to interested stakeholders, that produces an accountable decisions, and that encourages ongoing dialogue on the issuesinvolved. These principles are relevant in increasing worker engagement in the climate change [19] move-ment because it considers every stakeholder's interests that formulates progressive dialogue. This mechanism allows participants to have their values and concerns heard as a way to spearhead labor organizational strategies. Workers feeling like their values are heard assists them in "examining and weighing trade-offs among various responses to advocate policy frames

that meet local needs while also accounting for global ways of knowing and representing the environment." Thus, a deliberative democracy strategy engages workers within a labor [20] organization to present their values that will generate ideas in organizing around climate change and workplace issues that will reflect their concerns.

UNIONS' ROLE IN CLIMATE CHANGE ORGANIZATION

For workers to confidently address their concerns to alleviate climate concerns, labor organizations should also provide some form of education about these ongoing issues. According to Jeremy Brecher, unions constitute their own social and political worlds, and many efforts have aimed to address labor-related climate change issues within unions themselves. Unions address these issues by educating members and the public, local and national resolutions, greening unions' own buildings, organizing, training, and green networks and caucuses. Inside unions, [21] "such education often includes the causes of global warming, the future threat, and the impacts already occurring, as well as the potential for jobs fighting climate change." Unions' positions [22] within workplaces and politics make them an integral advocate for tackling issues such as climate change. This will increase worker's abilities in developing skills that are essential to adapt toward a sustainable climate economy. The natural organizational commitment within unions will make it easier for workers to organize around issues relating to changes in mitigating climate change. For instance, the SEIU California Public Sector Local 1000 has included a "Joint Labor Management Committee on Waste Minimization" and "Joint Labor Management Committee on Greenhouse Gas Emissions Reduction" in its bargaining proposals. In order to [23] increase labor support in the climate change movement, labor unions should develop policies and partnerships that connect the ongoing issues in the workplace and the environment.

INCREASING WORKER PARTICIPATION IN THE CLIMATE CHANGE MOVEMENT

Unions in specific industries that have the most impact on climate deterioration must also pursue strategies for their members to support the transition into a green economy. Prior to the emergence of the climate change movement, workers have been complicit in their workplaces' contribution to carbon emissions. This complicity is partly because of workers' lack of autonomy in the structure and policies of their workplaces. As explained by Jeremy Brecher, "workers'
exclusion from ownership of society's means of production, and their consequent dependence on jobs offered by employers led many unions to fight for any kind of employment, even if it accelerated global warming." Thus, increased worker participation in the transition to policies [24] that support the greener industry will be more impactful since labor organization, in general, constitute a possibility for dynamic changes in the workplaces and its industry.

For unions to create dynamic changes to certain industries that have a large impact on the detrimental effects of climate change, contracts should also include policies that persuade employers to change their nature of production. Although the government is framing its concerns for climate change around the effects of consumer behavior, the most significant impacts on climate change will be through changes in production. For instance, unions can embody their [25] roles as "social partners" for government and businesses by creating identities and organize campaigns as social movements, become corporate partners of management, take part in negotiations with the government and business, or become part of environmental organizations.[26] Unions' role in creating social movements within typical labor negotiations with businesses and

the government can create a cohesive action plan between the labor and climate change movement. These negotiations affect multiple stakeholders, and factors in that changes in the nature of work will also affect those who are affected by production outcomes of different industries. Moreover, the effects of climate change will directly bounce back to workers' quality of life in the end. Another method to achieve such shifts in the production process is through a government-led approach based on econ planning, public investment, resource mobilization, and direct government intervention in economic decisions.[27]

Along with the push for climate-driven policies within their organizations, unions organize in a way that combines workers' employment and environmental interests. There's been a disconnect between workers and the relationship with nature in the past because they feel as if they don't have autonomy with nature. This lack of autonomy with nature stems back from the absence of the connection between nature and labor throughout the history of the labor movement. A possible reason for this discrepancy is that natural resources used in production are privately owned and have therefore been considered outside the reach of the worker's control.[28] Therefore, there is also an ideological divide between labor's contribution to the natural world.

Climate-driven labor policies will perhaps shift this divide and offer workers the space to genuinely care about the intersection between labor and climate change movements.

CONCLUSION

Climate change is a growing issue that, if left unresponded to, will lead to many alterations within the workforce and society as a whole. Therefore all stakeholders must implement measures toward advancing sustainability efforts that mitigate the effects of climate change. One proposal in this transition is advancing organizational commitment and awareness of climate issues. Added efforts of linking business incentives in sustainable work and methods will lead to investments that can benefit those most vulnerable. Another proposal is to organize labor campaigns that will incentivize workers to connect labor issues to the climate change movement. These suggestions will create introductory networks of commitment between workers, organizations, and vulnerable communities that have the potential of mitigating some climate issues.

[1]"Statement on Energy and Jobs: AFL-CIO." AFL, February 26, 2013. https://aflcio.org/about/leadership/statements/statement-energy-and-jobs.

[2] Larry Savage and Dennis Soron, "Organized Labor, Nuclear Power, and Environmental Justice: A Comparative Analysis of the Canadian and U.S. Labor Movements," *Labor Studies Journal* 36, no. 1 (August 2010): pp. 42.

[3] Loomis, Eric. "Why labor and environmental movements split—and how they can come back together." *Environmental Health News* (Pittsburgh, PA), September 18, 2018.

[4] Ibid.

[5] Ibid.

[6] Savage and Soron, "Organized Labor, Nuclear Power, and Environmental Justice", pp. 45-46

[7] Ibid, 47.

[8] Loomis, "Why labor and environmental movements split—and how they can come back together." (2018)

[9] International Labour Organization, "Global Commission on the Future of Work. Work for a Brighter Future." (2019). pp. 46

[10] Ibid.

[11] Ibid.

[12] Ibid., pp.49

[13] Climate Justice Alliance. "About." Accessed November 19, 2019. https://climatejusticealliance.org/about/.

[14] Ibid.

[15] Andrew Hoffman, "Getting Ahead of the Curve: Corporate Strategies That Address Climate Change." (The University of Michigan, October 2006)., pp.36

[16] Ibid., pp.37

[17] Ibid., pp.38

[18] Ibid., pp.39

[19] Romsdahl, Rebecca, Gwendolyn Blue, and Andrei Kirilenko. "Action on Climate Change Requires Deliberative Framing at Local Governance Level." Climatic Change 149, no. 3-4 (08, 2018): 277-287.

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