



LABOR NETWORK
FOR SUSTAINABILITY

The Impact of Climate Change on Work and Working People in Maryland

**A Guide for Working People, Organized Labor,
and Climate Protection Advocates**

Labor Network for Sustainability

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SUMMARY OF KEY POINTS

Maryland temperatures are already rising at about twice the global average. In the last fifty years, our average temperature has risen about 2 degrees F. A further increase of 2 degrees F is expected by 2025 with an additional 3 degrees F by 2050.

The most recent scientific report recommends that Maryland should plan for a rise in sea level of as much as two feet by 2050. It predicts more than a three-and-a-half foot rise by 2100, with a possible rise up to 5.7 feet.

Climate change threatens the wellbeing of Maryland's working people, both at work and as part of the broader community.

Climate protection offers the best potential way of meeting our pressing need for jobs.

Job-creating climate protection can be the bond needed to cement a broad progressive alliance of labor and climate protection advocates that can undermine forces that are both anti-worker and anti-environment.

Governor O'Malley's Greenhouse Gas Reduction Plan, designed to reduce Maryland's greenhouse gas emissions by 25% by 2020, will produce economic benefits estimated at \$1.6 billion, and support over 37,000 jobs.

Labor and climate protection advocates can cooperate right now to create climate-protecting jobs, for example by raising the state's renewable energy standard; expanding wind energy; and increasing the energy efficiency of new and existing buildings.

Maryland AFL-CIO president Fred Mason says we can "solve the climate crisis and the economic crisis with some of the same sets of policies. We can sit down on the basis that we all live on this planet, in this great state, and share a common humanity that requires respect for each other's families and communities."



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INTRODUCTION

This is a study of the impact of global climate change on work and working people in Maryland. It is designed as a guide for working people, labor unions, and climate protection advocates. It includes both a profile of existing data and recommendations on what is to be done.

2.3 million people work for a living in Maryland. Most of them rely on income from their work for their livelihoods. Most spend nearly half of their waking hours at work or getting to and from work. For many their jobs are deeply intertwined with their identities and lifestyles. And for most, their future prospects in life depend on what will happen to their jobs. We now know that future will be deeply affected by climate change.

The Maryland Commission on Climate Change study, *Climate Change Impacts on Maryland and the Cost of Inaction*, shows that Maryland is already experiencing the impacts of climate change and more is in the pipeline for the future.¹ Extreme weather events have already repeatedly closed our tunnels, roads and businesses. The toll of Hurricane Isabel on Maryland has been put at \$462 million. Rising sea levels pose a significant threat to the Port of Baltimore and Maryland's other ports, with a large potential negative impact on the shipping industry. A one percent decrease in shipping activity at the Port of Baltimore between now and 2018 would result in an indirect economic impact of roughly \$361 million on Maryland's GDP and a loss of more than 3,600 jobs. Commercial fishing and crabbing, agriculture, and tourism are also taking a hit. These are losses that go to the heart of the industries and occupations that make up the workforce and the trade unions in our state.

Fred Mason, the president of the Maryland and DC AFL-CIO, recently explained to the Maryland Governor's Climate Change Summit what climate change means to Maryland working people: "Addressing climate change is not a distraction from solving our economic problems but a critical element in the solution." It will increasingly affect our economy, "and that will affect Maryland working people in their workplaces and wallets, in addition to the effects they will share with all our fellow citizens."²

While there have been a number of excellent studies of the impact of global climate change on Maryland, most have barely mentioned its impact on work and working people. There are several reasons why this omission should be addressed:

- Workplaces are large emitters of carbon, and greening the



many workplaces can have a significant impact on carbon reduction.

- Solving the climate crisis will require that working people and their unions be part of the solution and active allies in the struggles to build a sustainable future for the planet and its people.
- Climate change, as well as efforts to mitigate and adapt to it, will fundamentally alter the nature of work.

Chapter 1, “Who are Maryland’s working people?” examines the occupations, industries, and demographics of people who work for a living in Maryland.

Chapter 2, “Maryland in peril: The impacts of climate change,” summarizes the impact floods, storms, heat waves, and other results of climate change are already having on Maryland and the predictable future consequences of failure to bring climate change under control.

Chapter 3, “What climate change means for Maryland working people – some examples” describes just a few cases of how climate change is already harming working people in ports, harbors, farms, tourism, health care, and government.

Chapter 4, “We will all pay the cost,” looks at effects of climate change that will affect all working people as a result of factors like destruction of infrastructure, rising energy costs, and loss of markets and public revenue.

Chapter 5, “Climate protecting jobs,” reviews present and future ways that climate protection can also be a means for addressing Maryland’s economic problems by creating large numbers of new jobs.

“Conclusion: The interests of Maryland working people,” explores how to move beyond the false “jobs vs. environment” argument and build a future for Maryland that is both prosperous and climate-safe.

This study was prepared for LNS by Jeremy Brecher. The author of this study would like to thank all those who have provided information, shared insights, and read and commented on preliminary drafts.

WHO ARE MARYLAND'S WORKING PEOPLE?

Maryland's working people are young and old, women and men, from many ethnic and racial groups around the world. They work in diverse industries and occupations. They are a changing group: Maryland working people frequently change jobs and even enter and leave the workforce. Here is a snapshot.

Working people from 25-54 hold two-thirds of all Maryland jobs. Younger and older working people each hold a little more than 15 percent of jobs. About the same number of jobs are held by women and by men.³

Maryland's eight largest industry sectors account for about 1.6 million jobs, about three-quarters of all jobs in the private sector. The four biggest sectors account for more than a million jobs, about half of the workforce. In order of size the private sector categories are:⁴

Retail trade: With many entry-level jobs, this sector employs many younger working people. About one-fourth of working people under 24 work in retail trade.

Health Care & Social Assistance: About four-fifths of the working people in this sector are female. They tend to hold jobs traditionally identified with women, such as nurses, nursing aides, medical office clerical staff, social workers, and other healthcare working people. This sector employs nearly a quarter of all women in the private sector. It is the largest employer for all but the youngest age group.

Professional, Scientific & Technical Services: Relatively few of the working people in this sector are young. A larger proportion are men than women, though this is less true in younger age groups.

Accommodation & Food Services: Like retail trade, this sector disproportionately employs younger working people in entry-level jobs.

Construction: Most construction jobs are in the various skilled trades and trades helpers. About four-fifths of Maryland's construction working people are male. It is the second largest employer for men, but tenth for women.

Administrative & Support & Waste Management. & Remediation Services: This sector provides ancillary services like office and facilities support, security services, and waste collection to businesses and other establishments. Many jobs require only a high school education or less and provide on-the-job training. A relatively high proportion of working people are young. Temporary help agencies play an important role in this sector.

Manufacturing: Jobs in this sector have long been declining in Maryland as throughout the US. The state has lost 85,000 manufacturing jobs since 1990. As a result, there are relatively few younger manufacturing working people. Many older manufacturing working people leave the workforce after age 54. Seven out of ten manufacturing working people are men, but in some industries, such as the small textile and garment industries, working people are predominantly women.

Finance & Insurance: About two-thirds of working people in this sector are female, often in clerical and administrative support occupations.⁵

In addition to private sector working people, about half a million of Maryland's employees work for federal, state, and local government.⁶

Nine-tenths of those who work in Maryland live in Maryland.⁷ About a tenth of working people who live in Maryland work in the District of Columbia. Another tenth work in adjoining states, particularly in Virginia.⁸

Work in Maryland is geographically concentrated. Nearly half of Maryland's working people live in four counties: Baltimore, Montgomery, Baltimore city (often regarded for statistical purposes as equivalent to a county), and Prince George's. The Baltimore-Washington corridor produces nearly 90 percent of the state's wages.⁹

MARYLAND IN PERIL: THE IMPACTS OF CLIMATE CHANGE

Climate scientists have established that climate change is caused by “greenhouse gases,” above all carbon dioxide, which trap the sun’s heat and therefore raise the earth’s temperature. The greenhouse gasses already in the atmosphere mean some climate change is already in the pipeline. And without comprehensive climate policy that changes our energy use at the national and international level, global warming will continue to increase. Indeed, starting from a 2006 baseline, world energy consumption is projected to grow by 44 percent by 2030.¹⁰

The dynamics of climate change can be confusing and paradoxical. For example, global warming can lead to both heat waves and blizzards and to both floods and droughts. What will be the impact of climate change on Maryland working people if the US and other countries around the world fail to significantly reduce greenhouse gas emissions? In other words, what happens in a “do nothing” scenario?

Maryland temperatures are already rising at about twice the global average. In the last fifty years, our average temperature has risen about 2 degrees F.¹¹ A further increase of 2 degrees F is expected by 2025 with an additional 3 degrees F by 2050.¹²

Maryland’s geography greatly increases its vulnerability to climate change. Two-thirds of its land area and 70% of its residents are within its coastal zone, where effects of climate change are likely to be far more extreme than elsewhere.¹³

The rising temperature of the earth has many serious effects that are already affecting Maryland and will do so even more over the course of this century if we continue on our present course.

Sea level rise: Maryland’s sea level has been rising at nearly twice the global average.¹⁴ Thirteen islands in the Chesapeake Bay have already been submerged by rising sea levels. Ocean City is threatened by the rising ocean. The most recent scientific report recommends that Maryland should plan for a rise in sea level of as much as two feet by 2050. It predicts more than three-and-a-half foot rise by 2100, with a possible rise up to 5.7 feet.¹⁵ Maryland has more than three thousand miles of coastline. By 2100 an estimated 6% of it will be vulnerable to inundation.¹⁶

Precipitation: In Maryland, as in many areas, rain and snowfall are likely to become more irregular and more intense, with extreme downpours increasing



stream and river flooding. Snow storms will decrease but become more severe.¹⁷ Summer droughts are more likely due to irregular rainfall and greater heat evaporation.¹⁸

Heat waves: Average temperature of the Chesapeake Bay has already warmed 2 degrees F over the past fifty years. By 2050 the air will warm more than 3 degrees F. Days hotter than 90 degrees F will triple to 90 days a year. 25 to 35 days will be hotter than 100 degrees F.¹⁹

Storms: Climate change will make coastal storms more frequent and more severe in Maryland. Over the last ten years, the most severe (Category 5) North Atlantic storms have increased by three hundred to four hundred percent.²⁰ A 2 degree F rise in ocean temperature is expected to lead to a doubling of Category 5 storms.²¹ Sea level rise and warmer, moister air will make such storms far more destructive. A storm equivalent to hurricane Isabel, which did nearly half a billion dollars of damage to Maryland in 2010, would be likely to cause two billion dollars damage in 2100.²²

Indirect effects: In addition to direct effects of global climate change like storms and heat waves, there will be many indirect effects growing out of those direct effects. For example, increasing storm damage may lead to higher insurance rates that in turn may lead some coastal areas to be abandoned. Heat waves may lead to increased illnesses that reduce worker productivity.

Non-local impacts: Because we live in an interdependent world, effects of climate change far away may impact us right here in Maryland. For example, when hurricanes hit the Gulf region, they have already disrupted the flow of fuel to Maryland, leading to shortages and higher prices. Climate change is expected to cause rising food prices around the world, which will in turn affect those in Maryland. And climate change is already causing mass migration from impacted areas around the world, with much more expected in the future; Maryland is already a destination for migrants from many parts of the world.

Many of these effects will amplify each other. For example, the combination of rising sea levels and floods can combine to threaten coastal areas.

These estimates of climate impacts are conservative; each year's evidence indicates that global warming and its climate effects are occurring much faster than previously believed. Global warming may also lead to "tipping points" that will lead to abrupt and even more extreme climate change. Potential tipping points include melting of Arctic sea ice; release of frozen methane from the Arctic tundra; and collapse of the Amazon or other rainforests. Those could add many degrees to global warming, add many feet to sea level rise, and greatly increase the destructive effects of extreme weather.

Fred Mason, the president of the Maryland and DC AFL-CIO, told the Maryland Governor's Climate Change Summit:

Some of the best science available tells us that we are headed, ever more swiftly toward irreversible climate change - with catastrophic consequences for human civilization as we know it, and that it is happening NOW.

The urgency of NOW demands that we have a stable climate to feed our populations, to ensure that there is safe drinking water for our communities but not floodwaters at our doors.

This situation demands action: The carbon emissions from coal, oil, natural gas, and agriculture and so much other human activity causes global warming, and we have to act to cut those emissions, and act now.²³

Although considerable climate change is already locked in by past greenhouse gas emissions, we can still forestall even worse consequences of climate change. We can greatly reduce the amount of carbon dioxide and other greenhouse gasses we put into the atmosphere. The world's leading organization of climate scientists, the Nobel-prize winning Intergovernmental Panel on Climate Change (IPCC) says that climate can be stabilized by reducing developed country emissions to 25-40 percent of 1990 levels by 2020 and 85-95 percent by 2050. That will require big changes – but if labor is involved in shaping those changes, we can ensure that they are successful and worker friendly.

WHAT CLIMATE CHANGE MEANS FOR MARYLAND WORKING PEOPLE — SOME EXAMPLES

What will happen to Maryland working people if we do nothing to reduce greenhouse gasses? We will look at the projected impacts global climate change will have—in a do-nothing scenario—on the following sectors over the course of this century:

Port and airport workers: Fifty thousand jobs are directly or indirectly created by the Port of Baltimore itself and more than 120,000 maritime and related jobs are linked to the Port. Flooding and coastal erosion are likely to silt up navigation channels. Storms will interfere with docking. Access roads near ports will be vulnerable to flooding.²⁴ According to a study of climate change vulnerability by the Maryland Port Administration, “Every maritime terminal site modeled will likely experience substantial flooding during a Category III Hurricane when combined with up to 3 feet of sea level rise. Loading and unloading areas, cranes, buildings, and roadways are all at risk for potential damage from flooding and high winds.”²⁵ Each one per cent decrease in shipping at the Port of Baltimore between now and 2018 will result in a loss of more than 3,600 jobs.²⁶

Maryland sea level is expected to rise 3.5 feet or more by the end of the century. Bay Bridge, Martin State, and Ocean City Municipal airports will be inundated by such a rise.

Tourism and recreation workers: Thirty million visitors come to Maryland each year; they stay less than two days on average. Many of these are short-term summer trips from nearby states. Visitors shop, dine, attend entertainments, go sightseeing, and visit the beach. The money they spend on transportation, meals, accommodations, and other services support 135,000 full-time-equivalent tourism jobs paying \$3.8 billion in wages and salaries.²⁷

By 2050, days hotter than 90 degrees F will triple to 90 days a year. 25 to 35 days will be hotter than 100 degrees F.²⁸ Maryland tourism is sensitive to such extreme heat. If visitors canceled half of their trips on days over 100 degrees F, it would lead to loss of one-sixth of tourism revenues, approximately 22,500 jobs.²⁹

Recreation facilities that will be inundated by the three-and-a-half foot sea level rise expected by the end of the century include country clubs, golf courses, shopping malls, stadiums, and amusement parks.³⁰ Erosion, major storms, and algae blooms will impede swimming and fishing and reduce the propensity of



tourists to visit Maryland's beaches and coastline. Hunting, fishing, wildlife-watching, and other environment-based activities result in about 20,000 jobs; a 20 percent reduction would lead to the loss of 4,000 jobs.³¹ Popular Baltimore tourist destinations, including the Inner Harbor and the Fells Point Historic district, are in the coastal flood plain and therefore vulnerable to closure and damage from rising sea levels, especially in combination with intensified storms.³² Some of the most important historical sites in the new Harriet Tubman Underground Railroad National Monument will be largely under water within fifty years.³³

Hurricane Sandy gave a foretaste of what is to come. Flooding in Crisfield and in Ocean City, Maryland's largest resort town, left many residents in shelters and caused sand displacement, debris, and damage to boardwalks and fishing piers.³⁴

Public sector workers: Every cost of climate change in Maryland we have discussed, from coastal flooding to heat waves, will increase budget pressures. So will every reduced source of tax revenue, from closed beaches to reduced maritime activity. The impact of these budget pressures on working people in the public sector is likely to include extensive layoffs, permanent downsizings, further pressure on wages and benefits, speed-up, and deteriorating working conditions. They will also reduce the bargaining power of public sector unions by reducing the funds available to governments to allocate for labor contracts.

Federal facilities that will be inundated by the 3.5 foot sea level rise expected by the end of this century include Patuxent Naval Air Station, Naval Surface Warfare Center, Naval Electronics Systems Center, Naval Academy Complex, the Aberdeen Proving Grounds, and the Naval Academy.³⁵

Health care workers: Climate change will deteriorate air quality. It will lead to heat stress. It will increase vector-borne diseases. It may lead to water contamination, for example by algae blooms.³⁶ Short-term variability in temperatures also has harmful health effects. These effects are more intense for the disenfranchised: low income, elderly, disabled most vulnerable. These effects will require more work from health care working people, especially in emergency and high-stress situations, without making available any additional revenue.

Medical facilities that will be inundated by the three-and-a-half foot sea level rise expected by the end of the century include Dorchester General and Harbor Hospital.³⁷

Agricultural workers: Farms cover about one-third of Maryland's land. Eggs and poultry, produced mostly on the Eastern Shore, represent about half the value of agricultural products. The rest is divided between other livestock and



crops.³⁸

Farms will face growing costs resulting from climate change. The low-lying Eastern Shore is threatened with inundation from rising sea levels. Heat waves threaten animal health and require cooling and ventilation of enclosures. Crops will require protection against drought, flooding, salt-water intrusion, and new pests.³⁹ Work will be made far more difficult, onerous, and health-threatening by summer temperatures exceeding 90 and often 100 degrees F.

Commercial fishing and crabbing in Maryland generates more than \$200 million annually in wages.⁴⁰ Crabs, fish and other seafood industries will be damaged by rising water temperatures, by climate-produced ocean acidification, and impairment of port access.



WE WILL ALL PAY THE COST

Every flooded tourist attraction, storm-ravaged community, and heat-aggravated illness is a cost that is charged to every Maryland worker and taxpayer. The damages if no action is taken will include billions of dollars per year in direct costs, even higher indirect costs, and extensive assets exposed to climate risk. These costs will be shared in one way or another by all the people of Maryland. Almost everyone will get poorer than they otherwise would be.

The economic costs of climate change will be experienced partly in costs of direct damage. An individual whose house is flooded out or a town whose roads are destroyed will bear the initial brunt. So will those who get sick, stay home from work, or have to visit the hospital as a result of heat stroke, asthma, or epidemics.

But these direct effects are only a part of the picture. As the University of Maryland study *The US Economic Impacts of Climate Change* points out, “Secondary effects of climate change can include higher prices, reduced income and job loss.”⁴¹

Many products will cost more because “prices of raw materials and energy, transport, insurance and taxes” will increase. If there is not enough electricity or water to meet Maryland’s needs, their prices will go up. Per capita residential electricity use could increase significantly for air conditioning, putting a strain on the power system, raising households’ electrical bills, and undoubtedly leading to far higher electricity costs. If more properties are destroyed, the price of insurance will go up. If farms are flooded or can’t pay for electricity, the price of food will go up.

Jobs will be lost as a result. “As the costs for doing business increase, competitiveness of individual firms, entire sectors or regions may decline. With this decline may come a loss of employment and overall economic security” and effects on “household income.” The effects of climate change can be thought of as a “negative stimulus” to the economy, leading to reduced profitability, decreased investment, job loss, and falling wages. The painful economic conditions Maryland working people have faced in the “Great Recession” since 2008 may be greatly intensified by the secondary effects of climate change.

Climate change will also create pressures for higher taxes, government service cuts, or both. Fighting fires, fixing destroyed ports and airports, and providing more hospital care will all cost money. So will efforts to adapt to climate change by such means as elevating coastal highways, expanding water storage, and investing in power plants. These pressures will affect public



budgets at every level. One way or another, the taxpayer will ultimately pay most of these costs.

Here are some examples of such broad social costs of climate change in Maryland:

Infrastructure: All Maryland jobs depend on infrastructure. Extreme weather will affect supply chains, damage businesses, and require more emergency services.⁴²

Higher peak electricity demand in summer will require investment in capacity and generation and therefore higher electrical rates.⁴³

Maryland's fuel supply is vulnerable to disruption. Gas prices increased 17% in the Mid-Atlantic region after hurricane Katrina; Maryland's supplies of gasoline, jet fuel, heating oil, and propane were cut when hurricanes Ike and Gustav hit the Gulf Coast.⁴⁴

Maryland's electrical supply is also vulnerable to disruption. For example, 1.2 million Maryland residents lost power due to hurricane Isabel.⁴⁵ Nuclear power plants must shut down when hurricanes approach.⁴⁶

Transportation: Nearly ninety percent of Maryland working people commute by car.⁴⁷ Floods, storms, heat waves, intense snowstorms, and other results of climate change disrupt transportation. Roads, bridges, tunnels, and ferries are increasingly vulnerable. Hurricane Isabel closed the Baltimore Harbor Tunnel. The 2010 blizzard "Snowmageddon" virtually stopped Maryland transportation.⁴⁸ A sea level rise of 2 feet will threaten 156 miles of Maryland roads; an increase of 5 feet will threaten 371 miles.⁴⁹

Tax revenues: As the University of Maryland study *The U.S. Economic Impacts of Climate Change* points out, "Economic losses may translate into lost tax revenue."⁵⁰ Indeed, many impacts of climate change will reduce tax revenues. For example, Maryland's climate-vulnerable tourist industry generates \$1.6 billion in tax revenues as well as providing \$3.8 billion in taxable wages and salaries.

Public costs: *The U.S. Economic Impacts of Climate Change* points out that "The effects of climate change will likely place immense strains on public budgets, particularly as the cost of infrastructure maintenance and replacement increase."⁵¹ "Efforts at adaptation will be costly. For example, the cost of restoring the Maryland coastline after a 20-inch rise in sea level will be between \$35 and \$200 million.⁵² The costs of dealing with emergencies are already impacting public budgets; snow removal emergency costs for "Snowmageddon," for example, exhausted available funds.



Health effects: Maryland working people will face significant threats to their health as a result of climate change. With summer days typically over 90 degrees F and often over 100, anyone who works outside or in buildings without air conditioning will face heat stress. For example, the US Postal Service is deeply concerned about the impact of rising daytime temperatures on the health of its workforce and has warned that climate change could “burden and disrupt” its “ability to fulfill its mission.”⁵³ Above a certain temperature, mortality increases rapidly. A study of East Coast cities discovered that heat-related mortality in Baltimore increased more than 6.5 percent for each 1.8 percent F increase in temperature — the highest rate of any city studied.⁵⁴ Excess heat creates urban “heat islands” with high levels of health-threatening ozone; climate change may also increase smog, smoke, pollen, and other air quality problems. Climate change is likely to aggravate such vector-borne diseases as Dengue Fever, West Nile virus, and Lyme disease.

CLIMATE-PROTECTING JOBS

While issues are often framed as “jobs vs. the environment,” making the transition to a climate-safe economy can become Maryland’s greatest source of jobs and economic progress. As Maryland AFL-CIO President Fred Mason put it, “As we move forward into the middle part of the 21st Century, every factory and every power plant, every home and office, every rail line and highway, every vehicle, locomotive and plane, every school and hospital, must be modernized, upgraded, renovated or replaced with something cleaner, more efficient, and less wasteful. That means there is plenty of work to be done, work that will require the skill and effort of our working men and women.”

A 2010 study by the Maryland Department of Labor estimates that Maryland is already home to 75,000 environment-protecting “green jobs,” and Governor O’Malley has set a goal of increasing Maryland’s green jobs to 100,000 by 2015. Today’s green jobs are concentrated in the following sectors.⁵⁵

Professional & Technical Services	23%
Construction	19%
Administrative & Waste Services	15%
Wholesale & Retail Trade	15%
State & Local Government	6%
Educational & Health Services	5%
Other	17%

Maryland is nationally recognized as a leader on climate policy. At his July, 2013 Climate Summit, Governor O’Malley announced a Greenhouse Gas Reduction Plan that included more than 150 programs and initiatives designed to reduce Maryland’s greenhouse gas emissions by 25% by 2020. The state estimates that the plan will produce economic benefits of \$1.6 billion and support over 37,000 jobs.⁵⁶

Employment impacts by strategy subject area (net employment impacts in the year 2020)

Energy	11,337.5
Transportation	17,279.8
Agriculture & Forestry	-128.0
Buildings	115.2
Zero Waste	4.4
Innovative Initiatives ⁵⁷	4,517.8
Land Use	4,006.4
Outreach	0.1
Other Programs	62.0
Total	37,195.2⁵⁸

Many of these jobs will go to elements of the workforce represented by Maryland's unions. For example, Gov. O'Malley's plan for offshore wind energy provides funding from electric rates over a 20-year period to build a wind power farm 10 to 30 miles off the coast of Ocean City.⁵⁹ The initial proposal was estimated to create 850 construction jobs and 160 permanent jobs.⁶⁰

Maryland climate protection advocates and unions have collaborated to support the push for off-shore wind farms. A 2011 report co-authored by the Environment Maryland Research & Policy Center and the United Steelworkers union called "Catching the Wind: Harnessing the Potential of Offshore Wind Power to Clean Our Air and Create Jobs in Maryland," noted that "Maryland is blessed with a tremendous offshore wind resource that can meet a significant share of the state's electricity needs."⁶¹ State and Federal officials should "set bold goals for offshore development in the Atlantic, in order to provide clear leadership and vision regarding the important role of offshore wind in America's energy future and to demonstrate that it is a high priority."⁶² Maryland's burgeoning market for wind power generation can also increase jobs manufacturing wind turbines and other equipment. Companies like Skystream and Clean Currents have already started manufacturing wind power equipment in Maryland.



New jobs can also be created by raising Maryland's Renewable Energy Standard (RES), which requires electrical utilities to get a certain percentage of their energy from renewable sources like solar, wind, and biomass. Gov. O'Malley's Greenhouse Gas Reduction Plan from its current 20% by 2022 to 25% by 2020. Because renewable energy is far more job-intensive than fossil fuel energy, and because renewable energy jobs are more likely to be in-state, this will lead to an increase in jobs in Maryland.

Raising the RES can be a significant source of green jobs. In Minnesota, labor, energy, business, faith, environment, youth, and conservation groups joined to campaign to raise the RES to 40% by 2030, including a new solar energy standard of 10%. The solar energy standard alone was projected to create 2000 permanent jobs in the first year and thousands of additional jobs in the future. "We know that transitioning to a clean economy — investing in renewable energy, energy efficiency and making it cheaper and easier to use — are the keys to creating good jobs in this state," said Pete Parris, Political Director for Sheet Metal Workers Local 10 and a representative of the BlueGreen Alliance, a partnership of labor and environmental groups.⁶³

The GHGs we have already pumped into the atmosphere guarantee substantial further climate change. That will require substantial adaptation to protect against rising sea levels, extreme weather events, and other effects of climate change. For example, changes in sea level and rainfall are already putting substantial stress on Maryland's already obsolete and decaying infrastructure, such as our water and sewer systems. Storm sewers in particular are in need of a complete overhaul. In the 2013 *Report Card for America's Infrastructure* of the American Society of Civil Engineers, Maryland received a grade of C for wastewater and C- for drinking water. According to the Report Card, Maryland reported \$8.5 billion in wastewater infrastructure needs and \$5.4 billion in drinking water infrastructure needs over the next 20 years.⁶⁴

In many cases, the same policies and programs can protect against climate change effects and reduce carbon emissions. For example, planting and properly managing forests can simultaneously reduce the threat of flooding and withdraw carbon from the atmosphere. While adaptation to climate change will require substantial amounts of employment, there is no way it can fully compensate for the economic losses produced by climate change.

CONCLUSION: THE INTEREST OF MARYLAND WORKING PEOPLE IN CLIMATE PROTECTION

Maryland working people have an overwhelming interest in climate protection for at least three reasons.

- Climate change threatens the wellbeing of working people, both at work and as part of the broader community.
- Climate protection offers the best potential way of meeting our pressing need for jobs.
- Job-creating climate protection can be the bond needed to cement a broad progressive alliance of labor and climate protection advocates that can undermine the forces that are both anti-worker and anti-environment.

There are a variety of areas in which labor and climate protection advocates can cooperate right now to create jobs by protecting the climate. For example, raising the state's renewable energy standard to 40% will lead to a substantial reduction in carbon emissions while creating thousands of new jobs in construction, manufacturing, and related industries. Expansion of wind energy can create thousands of jobs in construction and manufacturing. Increasing the energy efficiency of new and existing buildings is both a highly cost-effective way to reduce carbon emissions and to create new green jobs.

Such cooperation is already under way. For example, the Steelworkers union (USW) gave strong support to Maryland's plan for a one gigawatt wind farm in the waters off of the Delmarva coast which could generate as many as 4,000 manufacturing and construction jobs during the five year development period and an additional 800 permanent jobs thereafter. Endorsing the project, James Strong, local District Director of the United Steelworkers, said, "I'm proud to stand here today with Governor O'Malley on behalf of the men and women of the United Steelworkers." Offshore wind presents a tremendous opportunity to secure and expand the steel industry in Maryland and throughout the region."⁶⁵

Such a cooperative approach can contribute not only to climate protection, but to a broad vision of a future for Maryland that is sustainable economically, socially, and environmentally. Such a long-range vision gives labor and its partners a strong incentive not to let any short-term differences impede their long-term cooperation in their own – and the public's – interest.

Maryland AFL-CIO president Fred Mason told the governor's climate summit that "an open and honest dialogue between working people, their organizations and communities and environmental advocates, government officials and agencies and companies and investors is possible and necessary for forging a pathway to fair and politically sustainable change." We can envision "massive, job creating public investment linking environmental protections and good jobs." We can imagine "healthy and equitable projects protecting our environment, bringing clean and safe power to our homes and workplaces, while releasing the stored up energy and skill of thousands of idled Marylanders." We can "solve the climate crisis and the economic crisis with some of the same sets of policies. We can sit down on the basis that we all live on this planet, in this great state, and share a common humanity that requires respect for each other's families and communities."

It is in the interest of all of us who need jobs and need a climate-safe world to do so.

JUST TRANSITION POLICIES

While organized labor and working people more generally in Maryland have increasingly recognized the reality of climate change and the threat it poses to their wellbeing, there have been a series of conflicts that have impeded labor's cooperation with climate protection efforts. As Maryland AFL-CIO president Fred Mason has pointed out, "There are issues that divide the labor and environmental movements, even though there's more that unites us. There is a fear that addressing climate change and moving to a 'green' economy will not help improve the social and economic conditions of Maryland working people."

To overcome that fear, Mason says, we need to ensure "a just transition to a low carbon-emissions economy." A just transition for workers and communities "requires that we consider the particular concerns of the hundreds of thousands of Marylanders whose lives are intricately tied up with high emissions energy sources, whether they work in mines, paper plants, rubber plants, steel and steel fabrication plants, railroads and rail yards, and trucks and on and on."

Transition assistance

Transition assistance in the past has often meant little more than an economic hospice for working people and communities threatened by the side effects of globalization, environmental protection, and other public policies. Without a clear program to protect working people from the effects of climate-protection



related plant closures and bans, the struggle for clean energy can all too easily come to be perceived as a struggle against American working people.

Perhaps surprisingly, some of the best ideas for protecting working people and communities hit by the side effects of public policy decisions were embodied in legislation championed in 1988 by Sen. John McCain to protect tobacco working people and farmers from tobacco control policy. McCain's Universal Tobacco Settlement bill, which passed out of committee 19–1 but was defeated on the Senate floor, would have created an industry-funded \$28 billion trust fund to help tobacco growers, cigarette factory working people, their families, and their communities adjust to the reduced purchase of American tobacco.⁶⁶

Working people and farmers would have received transition assistance from the fund if “the implementation of the national tobacco settlement contributed importantly to such workers’ separation” from their jobs. Several tobacco states subsequently developed their own programs to help with the transition away from tobacco, such as Kentucky’s Bill 611, which allocates half of the state’s tobacco settlement funds for agricultural diversification. Because the McCain bill received such wide bipartisan support, we will reference it where possible in this discussion as an instructive example.

Protecting individual workers

The principle that the cost of policies that benefit society shouldn’t be borne by those who are adversely affected by their side effects was recognized in the Trade Act of 1974 and subsequent programs for trade adjustment assistance, which provide compensatory benefits to working people who lose their jobs as a result of U.S. trade policies. The eligibility requirements, benefits, and administration of trade adjustment programs are widely recognized as inadequate, however.

A similar but better program can be developed for workers affected by energy transition policies. Specifically, people who lose their jobs because of coal transition should be eligible for:

full wages and benefits for at least three years

up to four years of education or training, including tuition and living expenses

decent pensions with healthcare for those ready to retire

The opportunity for individuals to access higher education and advanced training will also mesh with the need to develop new labor force capabilities for

the emerging green economy.

Protecting communities

The McCain tobacco bill provided not just for individuals, but for hard-hit communities. It created a Tobacco Community Revitalization Trust Fund to offer economic development grants over a twenty-five-year period. They would support:

- Business development and employment-creating activities “to provide a more viable economic base and enhance opportunities for improved incomes, living standards, and contributions by rural individuals to the economic and social development of their communities.”
- Activities that “expand existing infrastructure, facilities, and services to capitalize on opportunities to diversify economies in tobacco communities that support the development of new industries or commercial ventures.”
- Initiatives and technical assistance designed to “create or expand locally owned value-added processing and marketing operations in tobacco communities.”
- Preference in employment under the program would be given to former tobacco working people and members of tobacco worker communities.

The base closing model

Job reductions often affect not just individual workers but whole communities, and a just transition needs to address those impacts. Such transitions can emulate the highly successful process that helped local communities adjust to the disruption and job shifting that resulted from the closing of military bases under the Base Realignment and Closing Commission (BRAC). Those communities were provided a wide range of federal assistance, including planning and economic adjustment assistance, environmental cleanup, community development block grants, and community service grants.

Individual working people dislocated by base closings also received extensive support. The Department of Defense itself provided advance notification of a reduction in force; pre-separation counseling; a hiring preference system with federal agencies to reemploy qualified displaced DOD employees; and financial incentives to encourage early retirement of those eligible. Workers affected by base closings were also eligible for help under national emergency grants,



rapid response programs, comprehensive assessments and development of individual employment plans, and job training programs.

Communities and individuals affected by coal plant transitions could be similarly targeted for assistance from such existing programs as the Department of Labor's Rapid Response Services and the national emergency grants of the DOL's Employment and Training Administration, as well as funding for economic development and industrial efficiency and modernization from the Departments of Energy and Commerce.



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