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2018 MICHIGAN GUBERNATORIAL CANDIDATE CLEAN ENERGY QUESTIONNAIRE  
*Compiled by the Groundwork Center for Resilient Communities*

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MICHIGAN CLEAN ENERGY CONFERENCE & EXPO  
JUNE 21-23, 2018



**groundwork**  
CENTER FOR RESILIENT COMMUNITIES



The Groundwork Center for Resilient Communities reached out to 2018 Michigan gubernatorial campaigns, offering candidates an equivalent opportunity to share their positions on Michigan energy issues at the 2018 Michigan Clean Energy Conference & Expo.

Providing each campaign four questions pertaining to clean energy, candidates were asked to answer each question without exceeding 200 words. The topics of each of the four questions pertain to: (1) the state's Renewable Energy Portfolio Standard (RPS) and energy efficiency, (2) clean energy jobs, (3) electric vehicles, (4) the Enbridge Line 5 Pipeline.

In addition to the clean energy questionnaire, participating campaigns were also asked to provide a short video discussing their views on Michigan's clean energy economy, without exceeding 4 minutes. Both the Clean Energy Questionnaire and the corresponding videos are released as featured components of the 2018 Michigan Clean Energy Conference & Expo.

Of all candidates running for office of Governor to the state of Michigan, Groundwork Center received eight Clean Energy Questionnaire submissions and video submissions.

The purpose of Groundwork Center's Michigan Gubernatorial Candidate Clean Energy Questionnaire—as well as its corresponding video component—is to serve as a voter educational tool and a Michigan clean energy awareness campaign. After the 2018 Michigan Clean Energy Conference & Expo, all participating candidates' responses to the Clean Energy Questionnaire and provided videos will be displayed on Groundwork's website at [groundworkcenter.org](http://groundworkcenter.org).

As a non-profit organization, Groundwork Center cannot provide endorsement or preference to any candidate.

*~Christian Koch, Project Manager*

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**COLBECK, PATRICK** (REPUBLICAN)

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A current member of the Michigan Senate, serving his second term, Colbeck represents Michigan’s 7th Senate district, which consists of the northwestern portion of Wayne County. As a Michigan senator, Colbeck has received numerous awards including the Senator Paul Fannin Statesman of the Year Award for his leadership in making Michigan the 24th Right-to-Work state and Legislator of the Year Awards from The Senior Alliance, Police Officers Association, and Associated Builders and Contractors. He is a graduate of the University of Michigan with Bachelor’s and Master’s Degrees in Aerospace Engineering as well as a graduate of the International Space University in Strasbourg, France.

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**QUESTION 1** In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?

In 2016, I introduced SB 1164 to specify how we should create an Integrated Resource Plan based upon market rates for electricity and consumer preferences for energy sources. I do not believe that arbitrary portfolio standards are the best way to promote clean energy. I believe that market forces will drive efforts to protect our environment in a much more effective way.

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**QUESTION 2** According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?

In order to comply with MI Constitution Article I Section I and the intent of numerous other provisions of our MI Constitution, I believe that I am bound by oath to ensure that our economic policies are intended for the equal benefit of all of our citizens and business sectors. That is why I support what I refer to as a Broad-based Economic Development Strategy that treats all businesses equally. This strategy incentivizes economic growth by lowering the total cost of business for all businesses by lowering the cost of government, healthcare, and energy. We can lower the cost of government by eliminating the state personal income tax. We can lower the cost of healthcare by making Michigan the center of a free market healthcare revolution featuring Direct Primary Care Services and the elimination of Certificate of Need policies. We can lower the cost of energy by promoting 100% energy choice and let all consumers experience the 10–20% savings enjoyed by the 10% of the current market with access to energy choice.

QUESTION 3

**Auto emissions are a significant factor in global CO2 emissions causing climate change. Michigan, as a leader in automotive technologies, is in a powerful position to reduce CO2 emissions through the development of electric vehicles and to capitalize on the great economic opportunity electric vehicles present. As governor, how would your energy and transportation policies propel Michigan’s role in electric vehicle technology and auto emission reductions?**

Auto emissions are best managed by transparency and encouraging manufacturers to brand themselves as “green” manufacturers as many have done in recent years. One of the largest sources of manmade CO2 emissions is actually concrete. My plan to build roads that last three to four times as long will cut our CO2 emissions from road pavement by as much as 75%.

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As an engineer who has performed numerous Failure Modes and Effects Analyses (FMEAs) on life critical systems for the International Space Station and other engineering endeavors, I believe it is important to note from an engineering perspective that pipelines are the most reliable way to move a gas or liquid from Point A to Point B. Every other mode of transportation (rail, truck, ship) is more likely to result in an environmental spill than a pipeline. So, if we are to transport gas and liquids, a pipeline is the way to go. That being said, pipelines, like any other engineered system, needs to be properly maintained. Enbridge is responsible for such maintenance. If they are found deficient in their maintenance regimen, they should be fined and forced to repair or replace the pipeline as warranted.

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**EL-SAYED, ABDUL (DEMOCRAT)**

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El-Sayed is an American physician, epidemiologist and public health expert. El-Sayed served as Executive Director of the Detroit Health Department and Health Officer for the City of Detroit from 2015 to 2017. Appointed at age 30, he was the youngest Health Commissioner in a major U.S. city. Born and raised in metro-Detroit, El-Sayed attended the University of Michigan, where he majored in biology and political science. He attended Oriel College, Oxford as a Rhodes Scholar, where he completed a Doctor of Philosophy in Public Health in 2011 and completed his MD at Columbia University’s College of Physicians & Surgeons in 2014 on a Soros Fellowship for New Americans and Medical Scientist Training Program fellow funded through the National Institutes of Health.



**QUESTION 1** **In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?**

I am committed to seeing Michigan move to 100% renewable energy by 2050. This is our responsibility to our globe and to our public health. Every ounce of fossil fuel burned will leave harmful chemicals in the lungs of our children, leading to asthma and various cancers. To set us on a path to universal renewable energy as soon as possible, I want to invest in our electricity grid and other utilities to make Michigan more energy efficient and affordable for families. Currently the majority of the state’s energy needs are met through imports, costing Michigan billions while tons of fossil fuel pollution are released. To address this issue, I support net-metering policies that allow individuals and small businesses to harvest clean energy and sell it back to the electric grid. Second, to invest in infrastructure, I will create a clean energy infrastructure stream within our proposed Pure Michigan Bank to leverage financing for clean energy infrastructure while creating conditions for green manufacturing jobs. The Clean Energy Bank will establish revolving loans for energy efficiency and renewables, and will provide credit enhancements for low and mid-income homeowners to invest in efficiency upgrades, small-scale solar, and other clean energy products.

**QUESTION 2** **According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?**

I am dedicated to a wholesale reinvestment into improving our water piping infrastructure, an investment which has the potential to yield a tremendous number of high-quality jobs across our state. Michigan has the opportunity to lead the renewable energy revolution nationwide. To replace oil and gas energy, I am committed to statewide investment in clean and renewable energies through the Pure Michigan Infrastructure Bank. These investments will create demand for clean energy research and development, manufacturing, installation, and maintenance talent. My intention is that union labor will benefit from the jobs created through these efforts as well, and that we can partner with unions to create, fund, and promote retraining opportunities for workers already in the workforce. We also intend to support a workforce pipeline through 1- and 2-year accredited training programs through partnerships between community colleges and union apprenticeships to create a skilled workforce to take on work opportunities.

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Michigan is the birthplace of the automobile. We should not ignore the opportunity to build off our history and lead the world in transportation technology and manufacturing yet again. As governor, I intend to protect our environment while investing in a deliberate vision of the future with Michigan at the forefront of EV innovation. First, we must disinvest from outdated and dirty forms of energy. We will accomplish this by offering a tax credit to those who invest in electric vehicles. This would incentivize consumers to switch, increasing demand for EVs and hastening our transition from fossil fuels. This transition will be impossible without targeted investment into EV infrastructure, like charging stations. My administration would employ our Clean Energy Infrastructure Bank to finance the construction of fast charge stations on major highways and population centers by offering low-interest loans to businesses and municipalities. We will also maintain a competitive market to ensure that access to EVs is not prohibited by high costs or lack of availability. We must repeal laws that allow industry to rent-seek at the cost of consumers and the environment and ensure a fair, well-regulated and competitive marketplace that encourages innovation and holds corporations accountable.

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As governor, I will work to immediately shut down Line 5 by revoking the easement with Enbridge and forcing the pipeline’s immediate decommissioning. Every day the pipeline continues to operate is a day that we put our Great Lakes at risk. I also categorically oppose Snyder’s suggested tunnel, as a tunnel is nothing but a large gauge pipe which carries all the risks of the original pipe. We would also work with the state legislature to adopt legislation that increases state oversight of oil and gas pipelines, implements minimum safety standards and inspection requirements, prohibits running any future pipelines through the Great Lakes and requires current operators to undergo a full risk analysis by a qualified third party. Most importantly, using \$150 million—a quarter of what it would cost to cleanup in the case of Line 5’s rupture—we would capitalize the Pure Michigan Infrastructure Bank, a “Green Bank” that pairs public and private capital to fund investments in clean energy and infrastructure.

**GELINEAU, BILL (LIBERTARIAN)**



Bill Gelineau, a west-Michigan Libertarian candidate for governor, has been a longtime activist for political involvement and civic engagement. Working on a wide range of projects—from voter registration drives to ballot initiatives; to protests to public presentations; to leading the Libertarian Party of West Michigan’s road cleanup in downtown Grand Rapids—Gelineau has been embraced by both conservative and liberal thinkers for the past 40 years. In addition to his passion for advocating for civil liberties, Gelineau is currently serving his second term as the Chairman of the Libertarian Party of Michigan. Gelineau is a west-Michigan, small business owner and holds degrees from the University of Michigan ('77) and Wayne State University ('81).

**QUESTION 1**

**In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?**

I appreciate this question. It allows me to highlight a long-standing commitment of Libertarians to the environmental movement—AND, cite a difference between not only the D’s and R’s in the race, but also my Libertarian opponent.

Our environment MUST be managed using science, and not negative speculation and myth—often generated by businesses seeking to avoid responsibilities. Others try to pretend that climate change is not real. I’m not one of those people.

My bold plan to exceed and dwarf the current RPS will be accomplished by the following.

1. Modification of Act 295 of 2008 to include authorization for a Feed-In Tariff—reviewed and approved by the PSC and not to exceed 10% of real cost.
2. My opponent opposes Smart Meters. I discuss this at length on my website—but, Smart Meters are NEEDED to make the FIT work. Which not only will help us reach for 30% RPS by 2025, but also will create thousands of good-paying jobs.
3. The authorization of private-funding corporation specifically to manage longer-term asset attachment for businesses and homeowners hoping to become producers.

The FIT is a key component in European renewable success. See: [ComeTogetherMichigan.org](http://ComeTogetherMichigan.org)

**QUESTION 2**

**According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?**

An important part of the FIT is the jobs / financial incentives it creates. A FIT-based energy network empowers literally thousands of producers to become independent of the power company—and thus opportunity to cut costs. This is VITAL to bringing rural Michigan into the culture of renewable energy.

Windfarms have provided modest financial benefit to farmers. A substantial commitment to expansive use of solar, wind, and in a lesser extent—hydro capabilities—will induce the industrial financing and locating of production facilities needed to serve millions of potential power producers. It’s key to get the agricultural community on board. I can do that.

The sale, installation, repair and management of an enormous renewable grid will create thousands of good paying jobs.

The key is to create broad consensus across both urban and rural areas and ensure that opportunities are market-based. Market domination by DTE and CEC will mean only a slow change and is likely to lose public support. We need to unleash the small entrepreneur as was done in Germany.

The election of a Libertarian—free from the interest group politics that have come to dominate Lansing, will shock not only the state, but the nation.

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**QUESTION 3** **Auto emissions are a significant factor in global CO2 emissions causing climate change. Michigan, as a leader in automotive technologies, is in a powerful position to reduce CO2 emissions through the development of electric vehicles and to capitalize on the great economic opportunity electric vehicles present. As governor, how would your energy and transportation policies propel Michigan’s role in electric vehicle technology and auto emission reductions?**

I’m not yet convinced that electric vehicles are likely to create significant opportunities to reduce emissions. It’s a capacity / price issue that the marketplace does not support. Tax incentives or other manipulations for automobiles is the wrong approach.

However, electrified mass-transit vehicles and intra-urban modules may be the best tool to take a bite out of not only emissions, but urban congestion. To achieve this and meet market-based price points, we need to have an “all of the above” strategy.

1. Rapid implementation of the FIT. (key to increasing production)—We can’t manage the future load expectations to increase ELV unless we expand capacity. Coal plant retirement makes this more vital.
2. Natural gas conversion of urban fleets: buses, trash trucks, county plow vehicles, etc. natural gas vs. oil-based CO2/mile is a tremendous trade-out that environmentally conscious people should endorse. The good should not be the enemy of the perfect.
3. Hemp-based ethanol production—including the increasing promising indoor multi-level platforms.
4. Development of electric / renewable-only urban turnpikes for point-to-point commuting. We should develop preferential toll-roads.
5. Electrified mass-transit corridors to reduce urban drive-miles.

Each of these are covered in depth on our website at [ComeTogetherMichigan.org](http://ComeTogetherMichigan.org)

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**QUESTION 4** **Michigan citizens are deeply concerned about the risk of an oil spill in the Straits of Mackinac from the Line 5 pipeline. Nearly all of Line 5’s oil is merely passing through the Straits as a shortcut from western Canada to eastern Canadian refineries, leaving Michigan with all of the risk while Canadian corporations benefit. As governor, how will you address this risk from Enbridge’s Line 5 pipeline?**

As governor, I would rapidly select a commission to determine what critical areas (unique wetlands, other risk factors) which may be forever “off limits” to future leasing. Some Michigan citizens believe the Straits area is such an area. I want all the evidence before action is taken to shut down Line 5.

However, I am the only candidate which authored a comprehensive plan—insure we protect against future disasters; also move to clean up more than 6-k toxic sites in Michigan. Here is the short version of the plan detailed on my website.

1. Categorical designation of toxic chemicals. (largely complete via EPA)
2. Raising of the corporate liability limit for companies which handle designated substances.
3. The corollary effect on insurance levels mandated – and corporate insurers will require best practices to mitigate risk. High-risk areas may also qualify for additional insurance requirement. We, the citizens of Michigan—may simply require a level of insurance that makes continued use of Line 5 uneconomical.
4. Application and extension of the little-known IFT (or Industrial Facilities Tax). I would work to extend the IFT to cover all toxic chemical agencies.

Feel free to e-mail me at [Campaign@Liberty4Gov.org](mailto:Campaign@Liberty4Gov.org)

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**KURLAND, JENNIFER (GREEN)**

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After graduating from Wayne State University, Kurland worked as a field manager for Michigan Clean Water Action for a number of years, and later developed a career in banking, at Charter One Bank and Huntington National Bank. Later she became President of the Redford Union School Board in 2015, and launched her own podcast, The Offensive Feminist. Kurland also manages a jewelry design firm in Redford. Kurland has her Associate Degree from Schoolcraft College, and a B.A. in Political Science and Public Affairs from Wayne State University.



**QUESTION 1** In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?

Climate change is real, and is an immediate danger to our planet and our state. We must move towards 100% clean energy as soon as possible, and that starts with changing our priorities from pipelines and pollution to public health and green innovation. We have the unique opportunity in Michigan to utilize hydropower and technology more so than any other state, and one way to do so is by ensuring STEM and STEAM technology is available in our public schools. We can’t plan for future innovation and change without giving the resources and knowledge to the next generation. We must change how we give tax credits to businesses, as well as create stricter policies around pollution and enforcement. Businesses must be held accountable for their true cost of doing business, including public health and cleanup of environmental damage. Giving tax credits for using green innovation and technologies like solar panels or using recycled materials will change the economics of green policy and naturally increase our state’s usage of clean energy.

**QUESTION 2** According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?

Part of my small business plan is to give grants to Michiganders without means to start their own business. Just giving startup money isn’t enough, and we must also give supports including training and free college. In order for our state to have successful small businesses, we must ensure all citizens have access to business training including marketing and accounting skills. Access to technology is also part of this support for job growth and economic opportunity across the state. Especially in the UP and rural northern Michigan, but also in some urban areas across the state, citizens don’t have access to broadband internet. These areas are inherently disenfranchised from entrepreneurship due to this lack of access to technology and the internet. There is federal money that the state is leaving on the table when it comes to laying down technology infrastructure, and this is part of my infrastructure plan. As we replace roads that are crumbling, we must also replace the water and sewer pipelines at the same time, and also lay new technology infrastructure. This is not only the most cost-effective way to fix these issues, but is how we can create new green jobs.

QUESTION 3

**Auto emissions are a significant factor in global CO2 emissions causing climate change. Michigan, as a leader in automotive technologies, is in a powerful position to reduce CO2 emissions through the development of electric vehicles and to capitalize on the great economic opportunity electric vehicles present. As governor, how would your energy and transportation policies propel Michigan's role in electric vehicle technology and auto emission reductions?**

During the Great Recession, the Big Three's reluctance to produce electric vehicles and lowered emissions was part of the reason for their failures. We must first ensure that Michiganders have good paying jobs and can afford to purchase new vehicles, otherwise any policies around vehicle emissions and standards will be negated. Around the world, new technology for solar roads and electric vehicles is being innovated while the U.S. is continuing to be the last one to this race. We must encourage innovation not just in electric vehicles and emission reduction technology from our automakers, but also with how we can fix our roads and highways. As a state, we need to explore how we can lead these new technologies by my grant program for small business, and making innovation a priority. We can lead the way in new technologies for energy and transportation focused on not just reducing emissions, but eliminating them completely with self-charging roads and clean alternatives to gas combustion. We must invest in statewide mass transit by creating a light-rail line that connects Detroit, Lansing, Grand Rapids, and Traverse City. This will help with tourism across the state, and reducing emissions based on mass transit access.

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QUESTION 4

**Michigan citizens are deeply concerned about the risk of an oil spill in the Straits of Mackinac from the Line 5 pipeline. Nearly all of Line 5's oil is merely passing through the Straits as a shortcut from western Canada to eastern Canadian refineries, leaving Michigan with all of the risk while Canadian corporations benefit. As governor, how will you address this risk from Enbridge's Line 5 pipeline?**

Line 5 must be shut down and completely decommissioned. We should have learned from the Kalamazoo oil spill that Enbridge is not a responsible corporate partner regarding the protection of our precious natural resources. As governor, I would put a moratorium on all new pipelines and require full environmental assessments of the Nexus pipeline and all others across the state. I would also direct our attorney general to question the legality of these companies using eminent domain to build pipelines for private companies and their profits. We must also ban fracking in Michigan, and create public right-to-know laws that encompass all chemicals in use for all businesses in the state with a priority to any chemicals that have any contact with Michigan's waterways. I would also do a full public assessment of any other chemicals that may be in storage across our state with contact with public waterways and wilderness. The recent leak of dielectric fluid into the Great Lakes showed there are other chemicals and companies abusing their access to our waterways.

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**SCHUETTE, BILL (REPUBLICAN)**

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William “Bill” Schuette is an American politician, lawyer, and current Attorney General of Michigan. Serving as a member of the U.S. House of Representatives from 1985 to 1991, Schuette was then named the Director of Michigan’s Department of Agriculture from 1991 to 1994, under the administration of Governor Engler. Prior to serving as Michigan’s Attorney General, Schuette also served at the Michigan Senate, and as a judge for the Michigan Fourth Court of Appeals. Schuette hold his B.A. from Georgetown University and his J.D. from University of San Francisco.



**QUESTION 1** In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?

Reliable sources of base load energy are the foundation of Michigan’s manufacturing leadership and a prime source of our competitive advantage in the global economy. Michigan must maintain a regulatory climate that provides reliable and affordable energy for Michigan’s businesses.

As Governor, I would support a review of Michigan energy policy to provide a mix of nuclear, clean coal, natural gas, renewables and to encourage more choices for businesses, consumers and families. We must examine every avenue, so Michigan can compete and win with more jobs and bigger paychecks.

**QUESTION 2** According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?

As Governor, I would work to accelerate job growth in all sectors.

I have a growth vision for our state that includes economic expansion, so we can compete and win against states like Tennessee and Texas. My vision includes lower taxes, bigger paychecks and more people.

Michigan has stabilized from the “Lost Decade” but needs to reach much higher in order to be a truly winning state again. Too many families are still feeling the pain of job loss or stagnant wages, while rising costs continue to squeeze their checkbooks. My top priorities as governor will be to eliminate the Granholm income tax hike, lower auto insurance rates, and improve Michigan’s third grade reading scores.

Michigan’s biggest problem is population loss, which means less jobs and smaller paychecks for hardworking Michigan residents and less revenue for vital services like public safety and infrastructure. As governor, I’ll cut regulations and implement growth-friendly policies that make Michigan attractive to job creators and families and help rebuild our population.

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As Governor, I would support policies that allow Michigan to continue its leadership in the automotive and mobility sectors and that grow talent here to support our state’s economic advantage. We need to win the mobility race and capitalize on our automotive cluster capabilities by encouraging collaboration among research universities, cities, tech companies, car companies, manufacturers, trade groups, business groups, state agencies, the military and others.

We must leverage economic development dollars to turn in-state entrepreneurs and innovative ideas into new start-up companies and jobs. When I am governor, Michigan will attract more job creators by creating a welcoming tax environment, business-friendly regulations and good schools. We need to grow our talent in Michigan with better educational outcomes, more skilled trades job training and by keeping more STEM and other college graduates here in our state.

We will rebuild our population and attract top talent with a competitive income tax rate, better paying jobs and a higher quality of life.

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Our Great Lakes are the crown jewels of Michigan and the safety and security of our Great Lakes is etched in the DNA of every Michigan resident.

I support building a 4.1-mile-long utility tunnel in the Straits that puts all existing utility connections into one underground concrete tunnel which would protect the lines from hazards and would also contain possible spills. A utility tunnel would allow for better safety through continuous visual inspections.

I have a 5-point plan for Line 5:

- Nothing Lasts Forever—a specific and definite timetable to close Line 5 should be established.
- Legislative Ban on Heavy Crude and Tar Sands—we need to preserve this ban in statute.
- Propane for the Upper Peninsula—Propane processing in Rapid River, Michigan, or a similar supply of propane for families in the Upper Peninsula must be provided for heating purposes.
- Michigan Energy—Michigan’s energy industry and the jobs associated with energy production must be encouraged and protected.
- Creation of the Michigan Pipeline Authority—Patterned after the Mackinac Bridge Authority, a pipeline authority should be established to provide recommendations on behalf of Michigan residents.

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**SPACE, EVAN (REPUBLICAN)**

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Evan Space is a small business owner of 28 years and Michigan Veteran. Enlisting in the Michigan Army National Guard as a combat engineer in 2008, Space then served in two sapper engineer units and was deployed to Afghanistan before earning the rank of Sergeant in 2012. A proud Freemason, Space is in pursuit of a B.A. in Political Science at Grand Valley State University.



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**QUESTION 1** **In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?**

As your candidate for governor I will work directly with the people of Michigan and the companies that employ our workers to create clean renewable energy for the state of Michigan. In my agenda I will push for us as a state to develop more places for generating renewable energy like hydro water energy resources, solar fields, and wind farms. For companies that use these clean resources of renewable energy, I will push for a tax incentive break. If you are a resident in the state of Michigan and you are able to create renewable energy through resources like solar panels that produce more energy than what you use, I will work as your next governor to give a tax bonus to those who help our state. Having money funds set aside directly with the communities of where these energy resources are being put is how it will help create this effect .

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**QUESTION 2** **According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?**

In order for Michigan to help accelerate job growth in the economic opportunities available for residents, I will push for creation of green jobs readily available here within the communities. Being your next governor protecting and supporting the legalization of marijuana and the taxes it provides will be the booster to the economy our state needs. When this happens we will be able to open up new job opportunities in a green revolution of an “agricultural boom” by this legalization of marijuana. This In return opens the doors for cultivation of industrial hemp and its limitless possibilities of uses through research and development as Michigan becomes progressive and a better tomorrow for its movement forward. With this creation, our capitalization off of new materials transponds into opportunities for industrial production of many avenues that marijuana uses, we will be able to export and become more lucrative for the state.

QUESTION 3

**Auto emissions are a significant factor in global CO2 emissions causing climate change. Michigan, as a leader in automotive technologies, is in a powerful position to reduce CO2 emissions through the development of electric vehicles and to capitalize on the great economic opportunity electric vehicles present. As governor, how would your energy and transportation policies propel Michigan’s role in electric vehicle technology and auto emission reductions?**

Having my administration move forward with energy and transportation policies that help Michigan with electric technology and the auto emissions will be an important direction by the utilization of creating more electric vehicle power hubs across the state. This leads to a lesser amount of fossil fuel usage and a greater green foot imprint for our future. One of my large projects that I want to put forward in the state of Michigan as your next governor will be to create a clean energy transit system for train and railway to travel between the Lower and Upper Peninsula of the state. Having a train system that travels both parts of our state will lessen amounts of traffic to help change our transportation across Michigan.

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QUESTION 4

**Michigan citizens are deeply concerned about the risk of an oil spill in the Straits of Mackinac from the Line 5 pipeline. Nearly all of Line 5’s oil is merely passing through the Straits as a shortcut from western Canada to eastern Canadian refineries, leaving Michigan with all of the risk while Canadian corporations benefit. As governor, how will you address this risk from Enbridge’s Line 5 pipeline?**

I will address the risk of pipeline five to be one of our very top priorities in the fixation of this connection between Canada and Michigan. My plan of action will be to create a tunnel system for our trains to travel between Lower Michigan and the Upper Peninsula during the same time of us taking care of our pipelines to our state and making it a cleaner and more safe environment that allows freedom of our Michiganders to access more of this wonderful state we call home. Adjusting pipeline 5 into a well secured tunnel transit system will allow the residents that enjoy our natural resources to be able to feel much safer in our homes knowing that it is under control and free from defects. This will be how I make our economy strong with clean, green, effective, and environmentally friendly energy and renewable resources. I will push for improvements across our state. Let’s get to work regrowing Michigan. I’m Evan Space, a candidate for governor that will get things done.

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**THANEDAR, SHRI (DEMOCRAT)**

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Shri Thanedar is an Indian-born American entrepreneur and author. In pursuit of the American dream, Shri came to the United States from Karnataka, India, to earn his Ph.D. in polymer chemistry. Attending the University of Michigan for post-doctoral work, Thanedar later began to work as a researcher for Petrolite Corp, and Chemir/ Polyte Laboratories; later purchasing Chemir in 1991. Coming out of retirement in 2010 to launch Avomeen Analytical Services, an Ann Arbor-based chemical testing laboratory, Thanedar now seeks to be Michigan’s next governor. Thanedar holds his B.A., and M.A. from the University of Mumbai, and his Ph.D. from the University of Akron.



**QUESTION 1** **In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?**

Yes. First, there are many successful models across the country and the globe we can emulate. I believe that our values should guide our decision-making, and that to be committed to developing the path to a clean energy future—one where we are powered 100% with clean energy by 2050—we need it codified into law. California enacted such legislation a decade ago, and every year they make progress because it’s not a commitment that can be simply walked away from. I also believe programs like the Regional Greenhouse Gas Initiative in the Northeast provide clear ways to ratchet down carbon emissions while creating new revenue to invest back into our communities in the form of energy efficiency standards and improvements, solar installations, and even building out the charging infrastructure grid for zero-emission vehicles.

**QUESTION 2** **According to a report by Clean Jobs Midwest, Michigan increased clean energy jobs by 5.3 percent, making it one of the fastest growing job sectors in the state. More than 92,000 people now work in the clean energy industry in Michigan, which ranks third among 11 Midwest states in clean energy employment. How would your administration support and accelerate this job growth and economic opportunity, while also helping those affected by declining jobs in traditional fossil fuel related industries?**

While Michigan ranks 3rd in the region, we still only generate about 8% of our energy from clean renewable sources, meaning that we’re leaving a lot of economic opportunity on the table. As alluded to in the previous question, we must create new revenue streams dedicated for wind and solar, otherwise we risk budgetary raids. Renewable energy manufacturing will be key to Michigan’s economic growth in the coming years—that starts with implementing training programs in our colleges, and creating incentives to attract wind and solar development.

QUESTION 3

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Market factors are the primary hurdle right now on electric vehicles—people simply don’t trust them and have memories of cars stalling out decades ago, or unable to muster enough power to make it up the hill. So part of this is a branding program with automakers. Manufacturers get it now, however, and increasingly, the new hurdle is lack of charging infrastructure. I believe given our role as America’s automaker, we should embrace another role, as the most visionary electric car grid in the nation. From public transportation to consumer vehicles, we can demonstrate that environmental progress and economic development go hand-in-hand. A tax credit program for purchasing ZECs is smart, as is a grant program to help municipalities and counties make the changes within their own fleet. And every year, the budget must include funds that facilitate the buildout of a charging infrastructure.

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Simple – I will revoke the Straits of Mackinac Pipe Line Easement of 1953. Everyone is in agreement that a Line 5 disaster is a matter of when, not if. The consequence of inaction will be enormous. We saw what inaction led to in Flint. I have called on the Snyder Administration to take action now, and if they fail to, will if given the privilege to serve.

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**WHITMER, GRETCHEN (DEMOCRAT)**

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Serving at the Michigan House of Representatives from 2000 to 2006, and then as a Michigan Senator from 2006 to 2013, Whitmer’s Democratic colleagues unanimously chose her to serve as their top ranking leader, making her the first woman to lead a party caucus in the Senate. Facing being term-limited, Whitmer then became the Ingham County Prosecutor until her term expired in 2016. Since then, Whitmer has been campaigning full time for this year’s gubernatorial election. Whitmer holds a B.A. and a J.D. from Michigan State University.



**QUESTION 1**

**In 2016, the Michigan legislature raised the Renewable Portfolio Standard (RPS) from 10 percent to 15 percent by 2021, while boosting incentives for utilities to hit higher energy efficiency targets. States such as Vermont, California, Massachusetts, and Minnesota have set even bolder statewide commitments for clean energy and energy efficiency. As governor, would you work to increase Michigan’s commitments to clean energy and energy efficiency—and if so, how?**

I’m encouraged by the agreement that clean energy advocates reached with Michigan energy producers to move our state to a 50 percent clean energy portfolio and energy efficiency measures by 2030. With this agreement, Michigan has a chance to create thousands of good-paying jobs and become a world leader in clean energy. Diversifying Michigan’s energy generation portfolio means diversifying and strengthening Michigan’s economy. I support increased investment in the renewable energy sector of the economy and the 92,000 Michigan jobs it supports. Future energy legislation should continue the progress of the state’s transition to a clean energy economy that lowers energy costs for families and businesses. Not only are these less expensive forms of energy generation, but they pay dividends in savings on our state’s healthcare system and costs of enforcement of environmental regulations. And I’d like to see all 8,000 parts of the wind turbine built here in Michigan.

**QUESTION 2**

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We’re going to rebuild Michigan’s infrastructure the right way, the first time. That means when we dig up a bad road, we can at the same time replace drinking water lines, maintain drainage systems, install new sewers, and upgrade electrical lines and the heating grid to make Michigan more energy efficient.

As we develop more advanced energy technologies, we will need a highly trained workforce to fill those jobs needs. As we transition to a greater renewable generation portfolio, we will make sure workers of today’s industry don’t get left behind. My plan to create good-paying jobs and raise wages for Michiganders includes a two-year talent investment in our workforce, more pathways to skilled trades training, and a reconnect program for adults who need to reskill to get ahead. We’re going to create pathways for more Michiganders to get a good, long-term job that pays them well, and we’re going to help people get the skills they need to work in the renewable sector.

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Ridesharing and electric engines are the biggest factors in increased energy efficiency. We must continue our state’s investment in the growing autonomous-electric vehicle industry, which will unleash the future of mobility while reducing emissions. As governor, I will work to ensure that the next generation of autonomous-electric vehicles are built in Automation Alley by Michigan workers.

We’ve got to invest in regional transit if we want businesses to move to Michigan and our kids to stay here. A good regional public transportation system means less CO2 emissions and easier commutes for hardworking Michiganders.

Finally, we’re going to fix Michigan’s crumbling roads to make commutes faster and safer. We can accomplish this by rebuilding roads in ways that reduce congestion and collisions, like smart lanes and traffic controls. This will decrease the amount of CO2 emissions.

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An oil spill in the Great Lakes would be an absolutely devastating \$6 billion blow to our environment and our economy. We can’t afford to sit around and wait for disaster to strike, we need state leadership to stop making excuses and take steps immediately to shut down Line 5. Enough is enough. My administration will immediately file to enjoin the easement and begin the legal process for shutting down Line 5 to protect the Great Lakes, protect our drinking water and protect Michigan jobs.

Groundwork Center for Resilient Communities is a nonprofit based in Traverse City with a mission to protect the environment, strengthen the economy, and build community. Our Clean Energy program works to advance renewable energy initiatives, promote energy efficiency, and reduce carbon emissions.



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