

Clean Energy for Biden - June 25, 2020 5-6 PM PDT

**Energy & Environmental Justice: e-Teach-In
with Daniel Kammen & Tracey Osborne**



People of color and low-income communities are more likely to live and work in areas most vulnerable to flooding and other climate change-related weather events. They are also less likely to have the funds to prepare for and recover from extreme weather. Joe Biden is working with Clean Energy leaders to develop strategies to ensure that the clean economy will create jobs that will mitigate the impact of climate change, especially in diverse and varied communities across the nation, and insure that the benefits of the clean economy are equitably shared. Join us in a friendly discussion and open exchange on environmental justice, clean energy and equity.



Hosted by Clean Energy for Biden - Northern California chapter
Clean Energy for Biden is online at:
<https://www.cleanenergyforbiden.com/>
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Q&A dialog, Version update: July 2, 2020

To [access the event video, click here:](#)
<https://tinyurl.com/y8bykvoy>

https://us02web.zoom.us/rec/play/u5wrIe_8_Gg3Htyc5gSDAv4qW9ToJ6mshyhKrvYOz03gVXI CZ1GIYbMQYudRzAyZg97jzGdnSrInieIK?continueMode=true&_x_zm_rtaid=MvpTJMi1RBa7w PyE5c0i9Q.1593585048392.a7570db1299cac4b384a7497949d09fb&_x_zm_rhtaid=274

View it there & note that there is a *Download (3 files)* button in the video window (at the top, right).

To access the slides look here: <https://tinyurl.com/ydaruvnq>

The event included two introductory talks by presenters Professor **Daniel Kammen** (UC Berkeley) and Professor **Tracey Osborne** (UC Merced).

Their coordinates and contact information for those who would like to follow their work are:

Daniel Kammen	Tracey Osborne
Professor and Chair, Energy and Resources Group (ERG) Professor, Goldman School of Public Policy Professor, Nuclear Engineering Director, Renewable and Appropriate Energy Laboratory	Associate Professor and UC Presidential Chair Management of Complex Systems Management of Innovation, Sustainability & Technology Director, Center for Climate Justice
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Questions and Answers from the Discussion

Question: With 100% clean energy the Biden goal by 2050, what are some lessons learned from each of your work that give us some hope?

Answer: First, thanks so much for joining and for all the great questions! What gives me most hope is that economies large and small have been able to design a locally appropriate path and to get moving on not just climate sanity, but racial justice. It is not at all easy, but the examples are there. California, for one, has set a fully decarbonized economy as the objective for 2045¹ (and carbon *negative* thereafter!) and has made racial justice a cornerstone component, with a commitment to spent, *at minimum*, 35% of the carbon Cap & Trade revenues on low-income and disadvantaged communities. Bangladesh, Kenya, Morocco, and Nicaragua, just to name a few, are countries that have significant green energy, pro-job creation policies in place. None are perfect, but each shows real promise and are commitments to fully decarbonizing by mid-century (or earlier).

Question: Can we realistically think about phasing out gas-powered vehicles over 20 years?

Well, Volvo has already committed to completely end internal combustion (ICE) vehicle manufacturing, and to turn entirely to electric vehicles (EV) and hydrogen powered cars and trucks². More broadly, EVs are 1/3 to 1/5 the cost of gas-powered cars to operate, and as prices for ICE and EV vehicles come into price parity, the clean air benefits, longer and longer range of EVs all make this the far superior choice.

A recent example (and one that shows how much more we can get done if the US and China push each other to innovate, instead of descending into a needless and destructive tariff wars) are the transitions we are seeing in cities like Shenzhen, China, which decided to go from 100 to 25,000 EV taxis in one year³. They did it by subsidizing EV taxis for low-income drivers and using smart apps to direct drivers to under-used charging stations. Other cities are following suit, and at long last *Lycft* has committed to a 100% electric driver fleet by 2030⁴. Can they go faster? Probably, but likely only if governments help to make EVs affordable to the lowest-income drivers. India has already launched such a fleet conversion in steady steps.

Question: Dovetailing off the topic of race and climate, I think a federal community renewables policy could assist with reducing pollution in environmental justice areas, creating jobs, and permitting greater local control of energy resources. Do we have evidence of this?

Answer: Yes, we do (and Yes, we can)! California and now several other states are test-driving a ‘Solar Gardens’ bill that incentivizes apartment building owners to install solar and pass the savings

¹ Daniel Kammen “Green is gold for California, US,” *San Francisco Chronicle*, August 17, 2018 <https://www.sfchronicle.com/opinion/article/Green-energy-is-gold-for-California-US-13164863.php>

² <https://www.marketwatch.com/story/volvo-to-phase-out-gas-only-cars-within-2-years-2017-07-05>

³ <https://rael.berkeley.edu/publication/on-demand-automotive-fleet-electrification-can-catalyze-global-transportation-decarbonization-and-smart-urban-mobility-2/>

⁴ Daniel M Kammen, “How electric vehicles can help advance social justice”, *San Francisco Chronicle*, June 21, 2020, <https://www.sfchronicle.com/opinion/article/How-electric-vehicles-can-help-advance-social-15351293.php>

on to renters. In a nutshell, community-owned solar gardens & farms let their participants partake in the financial and environmental benefits of solar power even without a roof. If you are a participant in a community solar project, you should expect to save money on your power bill. Exactly how these savings are delivered will vary by location and program, but as with rooftop solar, it is key that anyone considering buying electricity from a community solar garden shop around and be well-informed before making a decision⁵.

Question: While we need all the tools to address climate change, but the single most effective way to make an immediate impact on emissions is to build as much nuclear energy as possible, as quickly as possible. We should not wait for “advanced nuclear,” but instead build now. There are shovel-ready, licensed sites already, and building more will allow US to regain skills needed to lower costs. What will Biden do to accelerate this?



Answer: Well, speaking as a Professor of Nuclear Engineering (DK), I know we are not in widespread agreement on this one. Certainly, nuclear is convenient (“baseload”), has a small physical footprint, but also comes with very high costs, and large risks and long-term management challenges. At least that is the case for current conventional reactors. A whole new generation of privately funded and managed companies may be changing that narrative. Small Modular Reactor (SMR) designs, fast gas and liquid metal reactors, and pebble-bed reactors all have exciting innovations on their path to the market. How fast and how safely can they arrive? Proponents and critics see wildly divergent futures here. There are actual pilot plant designs headed for testing, beginning in 2026.

Question: One thing I've heard from several of my friends is that Biden "doesn't care enough about the environment." I hope the Biden campaign will find a way to counter this perception to gain more progressive support.

Answer: The Biden plan, as of today, invests less in the green transition than the plans of Senators Sanders and Warren. However, there are many reasons to be not only hopeful, but actively engaged. As DK laid out in the slides, the Biden plan is to achieve a zero-emission economy *by 2050*. This leaves the door wide-open for lessons learned on the innovation and deployment side to accelerate that timetable. California, for example, set an RPS (renewable energy portfolio standard) of 20% in 2010, and then 33% in 2020. Well, California did not achieve 20% until 2013, *but then met the 33% goal 3 years early!* China agreed to peak emissions in 2030, then moved that forward to 2025, and now believes that they may have already peaked emissions.

Good policy sets targets and objectives, and then is organic enough to embrace new more aggressive targets and milestones are reached. First, we need to get rid of Trump and regain the innovative path we were on before the disaster that has been the last 3 years, and then move to more and more progressive, pro-job, pro-diversity, and



⁵ <https://news.energysage.com/community-solar-gardens-sharing-the-sun/>

pro-environment goals. I personally (DK) am hopeful and confident that President Biden can and will full embrace and support that agenda.

You can read more on VP Biden's plans here: <https://joebiden.com/climate/>.

Question: Can you specifically about how the building decarbonization and vehicle charging will work to create a virtuous cycle which results in decarbonization being the default behavior. I try to deflect discussion about net zero by 2050, because the more radical among my friends want it to be sooner.

Answer: Great question. Buildings are key as 70%+ of energy use occurs there, and buildings last a long time and are expensive to retrofit. Really important building science and technology innovations are now happening worldwide, from the use of smart glass, to transparent solar thin-films for windows⁶, to the use of heat-pumps, etc. ...

There are many key issues and potential failure points, but not requiring innovations to move to the market is one challenge that we need to implement more widely at both the state and federal levels. The savings can be huge, but are spread-out over time. California now requires that *every* new home built generate as much energy as it needs over the course of a year. Great start, now we need to use the solar garden and other bills to extend this to benefit low-income and renters, too.

Question: I am interested in hearing more about approaches to eliminate Climate Racism.

Answer, Wow, where to begin! So many challenges here that we have ignored for far too long. One, right off, is that the environmental movement is far too 'white', and far too homogenous in its leadership. A new generation of diverse leaders are arriving, but as we saw in the rude and unwelcoming reception they received at the Madrid Climate Conference in December 2019 (COP24), a huge amount of greed and self-interest is blocking their full arrival. We also need to uplift women in agencies such as the US DoE, EPA, and at state and local levels. I don't think that it is a coincidence at all that the nations most rapidly adopting and embracing the science and public policy of COVID-19 responses are overwhelming led by women.

Question: How can we plan for and execute the placement of new, small modular nuclear reactors in communities where coal and gas plants currently pollute the environment, but where a nuclear replacement would be clean, safe and provide opportunity for the community to sell excess power back to the grid?

Answer: The research and development process for several small modular (SMR) nuclear designs are advancing, with first plant plans for 2026 (see above). One of the real hopes of this innovation is that learning process (Swanson's Law, the 'learning curve') that we see for solar, wind and now storage can be brought to the benefit of nuclear by more orders for smaller reactors. This holds promise, but requires both more research, and a more open and transparent process than has been the case in the past.

⁶ <http://www.altfuelsnow.com/solar-energy/thin-film-solar-cells.shtml>

Question: Great to hear your passion and commitment, Ben and Sophia [webinar participants from the Biden Campaign team]. Would love to hear about how the Biden campaign is working to mobilize voters around climate change and clean energy, especially young voters. Also, how do you suggest advocates effectively make a case for building a strong pro-climate cabinet (including people like Gov. Jay Inslee, for example).

Answer: Well, stay tuned for announcements from the campaign!

Question/comment: Building decarbonization for existing multi-family buildings is where we should focus our efforts to address impacts to disadvantaged populations.

Answer: Absolutely! The lower the income, the less accessible is clean energy – both state and federal rebates – and the less access these people generally have to technology implementers themselves. Groups like Grid Alternatives⁷ that not only install energy efficiency and renewable energy for low-income building occupants, but also train people leaving prison and who have dropped out of school are plus-plus examples of bringing the technology, economics and jobs benefits of the green energy transition to the rest of society.

Question: I'd like to hear about the Green New Deal and how progressives including Bernie and AOC will be involved in the process to carve out a new Federal energy policy.

Answer: The Biden-Sanders Unity Task Forces⁸ are one example of blending these perspectives. AOC, for example, is a co-chair, along with DK's former boss at the US State Department, John Kerry, of the climate change task force.

Question: How do we address the 'split incentives' problem for property owners and also determine how we can create subsidies for customers to purchase vehicles?

Answer: Both of these have been economic challenges for the green energy transition. Increasingly low prices for EVs, and smarter and smarter thermostats and other information technologies mean that it is now easier and easier to share credits, track energy from source to final user, and ideally, to make policies progressive for the lowest-income members of society who pay the largest percentage of their income for energy. Many options exist and one-size-fits-all solutions are unlikely to be successful. One great advance of the Obama-Clean Power Plan (cancelled by Trump) was that each state was challenged to cut emissions by 33% by 2025 not by competing against each other, but by competing against themselves. Re-introducing an updated version of this plan (which also included significant funds for worker retraining, livable pensions, etc. ...) is one way to accelerate the *just* transition.

Question: The indigenous population has been severely impacted [by racism and under-investment] - it would be good to work with sovereign nations to see how the Federal government can partner to identify win-win scenarios.

⁷ <https://gridalternatives.org>

⁸ <https://www.politico.com/news/2020/05/13/biden-sanders-unity-task-forces-leaders-aoc-254456>

Answer: So sadly true! There are no excuses or silver-linings for how racist and illegal policies have impacts Native Americans. Even the latest blights – COVID-19 are worse and under-resources on tribal land compared to even the most hard-hit cities and states. One option today, however, is to prioritize clean energy development partnerships – true partnerships – with the tribal governments and communities to build green energy infrastructure to eradicate energy poverty on tribal lands and to make clean energy exports a business of the 21st Century that will generate long-term tribal income.

There are also many ways that the federal government can partner with Native Americans to find win-win solutions to energy poverty and EJ issues. The struggles over pipelines and other fossil fuel infrastructure, however, also show how bad policies can injure Native American.

Along with investment in renewable energy on Native lands, many Indigenous nations are calling for keeping fossil fuels underground which is consistent with the science. According to a 2015 study published in *Nature* by University College London scholars in order to stabilize the climate at the 2 degree target we must leave 82% of coal underground 49% of natural gas and 33% of oil. In order to keep global temperatures below the 1.5 degree target, approximately 83% of known and economically accessible fossil fuel reserves must remain unburned and underground. Respecting Indigenous sovereignty and demands to protect their land and water from fossil fuels is an important step toward environmental justice.

Question: Besides voting, what can people like me working in the clean energy industry do? Specifically, to further clean energy access to low-income communities. Our employers are focused on financial performance, but perhaps our individual network, skill sets could be of use?

Answer: No easy place to begin on this one. Voting – from local to President Biden – is certainly critical. But so too is calling out energy and racial hypocrisy. We can't claim 100% clean energy electrons without divesting from fossil-fuel companies that refuse to evolve and set clear and meaningful green energy targets. After all, green jobs are both more plentiful and grow faster with new investment than similar investments in the fossil fuels⁹, so the transition for even the largest polluters may involve planning and innovation, but it can be a way to rebuild blue and white collar jobs and make the U. S. the world leading green energy systems exporter.

Question: I would like the transition to clean energy to be largely accomplished by 2030 — I am worried that 2050 is kicking the can too far down the road.

Answer: The Biden energy and climate plan calls for a decarbonized economy by 2050. The faster we get on with the job, and drive both experience up and costs down, the more that target can be brought forward. No administration since Jimmy Carter did as much to green the national energy system as the Obama-Biden team accomplished. The prospects of getting back on that path – from basic science to implementation programs, to making clean energy a hallmark of our foreign policy are all part of Vice President Biden's legacy. Back in the White House, his team can accelerate that agenda.

⁹ Wei, M., Patadia, S. and Kammen, D. M. (2010) "Putting renewables and energy efficiency to work: How many jobs can the clean energy industry generate in the U. S.?" *Energy Policy*, **38**, 919 – 931; and see the *American Jobs Project*: <http://americanjobsproject.us>

Question: What's the role of Community Choice Aggregation¹⁰ programs and Public Power in this just transition to NorCal's clean energy economy?

Answer: Many communities have found that they can move faster than their local utilities by pooling power purchase agreements and selecting green energy. This can both be a great way to accelerate the transition, and to educate everyone from individuals to companies to governments about the diverse benefits of sourcing clean energy.

Question / comment: I recommend the plan speak to inclusion of Black communities and other communities of color as participants in developing clean energy projects and programs, not just as “consumers” or air quality improvements. The Clean Energy needs to “do good” for wealth creation, not just avoid harm.

Answer: Absolutely!

Question: What are the most “impactful” solutions to reducing greenhouse gas emissions at speed and scale? before 2030 that we can fund and implement?

Answer: The dialog around this is of course vast. *Project Drawdown* is a wonderful play-book of solutions, from individual to collective actions. In California, arguably crushing transportation emissions (on July 1, CA just committed to 100,000 EV/Hydrogen trucks!), and making social justice job #1 are at the top of the list. Elsewhere, finding investors for clean energy projects and blocking pending fossil-fuel investments are key. What is clear is that returning to a functioning US EPA, and getting HUD, Educational and virtually every other federal agency back on mission is key. Supporting inter-agency and state-federal-private sector partnerships that advance clean energy and racial and socioeconomic justice can't wait, and can be a force in the #BLM and #BIPIC movements.

Question / comment: Thank you for quoting Frances Perkins - she's a hero! What can we learn from her?

Answer: Frances Perkins was a fighter for social justice and for social safety-nets. Her pact with President Roosevelt was a great example of courage and action in a time of crisis, and she accomplished so much. A strong clean energy platform, well-articulated and implemented with a strong eye to social justice could do much to restore the U. S. to a leadership position it had before President Trump.

Question / comment: We've seen with the current administration how quickly regulatory change can be undone. How does the campaign think about making it's changes "sticky", so they're hard to undo in the future (i.e. building a political coalition large enough to pass primary legislation, or designing regulatory structures that create inherent constituents in a broad enough span of the country that undoing them becomes politically challenging for a future administration).

¹⁰ <https://www.epa.gov/greenpower/community-choice-aggregation>

Answer: No short response to that one will do! Having a clear and inclusive plan – with benefits to all parts of the nation – those already far into the clean energy transition, and those just starting – is one important way to build broad support. Jobs and clean air do not have to be partisan issues.

If we want to make huge strides in emissions reductions by building nuclear reactors to replace our (many) large FF-fired plants, what can we do to build in “anti-racism” and better equity to this work?

One way to tackle the issue of large pipelines is frame the conversation from the perspective of grid resiliency.

Yes, second to Shawn's question. How will a Biden administration develop strong federal climate policies that withstand a future Republican administration and pass muster in the Supreme Court?

True. California uses life-cycle “grade to grave” assessment of materials and of transportation fuels (the Low Carbon Fuel Standard). It went to the USEPA, but stalled there with the 2016 election.

From Martin Herzfeld, IREC Master Trainer, Contractor to Everyone: (5:40 PM)

Is there support to extend the Federal ITC?

Question: Related to robustness of policy, will Biden support passing a carbon price via reconciliation or after eliminating the filibuster in a Democratic Senate?

Answer: That question we’ll have to leave for the campaign team to address. How we all vote -- from Joe to Senate and Congressional races -- is going to largely determine this outcome!

Question: How will a Biden administration develop strong federal climate policies and racially just policies that withstand a future Republican administration and pass muster in the Supreme Court?

Answer: One take on this is the recent article in *The Washington Examiner*: Vice President Biden plans a clean energy ‘stimulus’ to address ‘environmental injustices’ for people of color:

<https://www.washingtonexaminer.com/news/biden-plans-clean-energy-stimulus-to-address-environmental-injustices-for-people-of-color>

Question: How can we move to support minority-owned and minority-serving clean energy companies?

Answer: One participant in this webinar noted wrote a recent piece on this:

<https://pv-magazine-usa.com/2020/06/03/dcs-solar-for-all-forges-new-pathways-for-solar-in-low-income-communities/>. Grid Alternatives, mentioned, above, provides a great example of empowerment via training.

Question: In California, a great amount of emissions are from transportation - electrification of vehicular transit should be prioritized. Local air quality matters a lot. Grid emissions as a whole are important as well. What can be done?

Answer: Yes, over 50% of California's emissions are from transportation. We also have a very aggressive clean energy standard (33% in 2020 which we met early, and 60% by 2030). CA also have a target for 1 million electric vehicles this year (we are approaching 800,000 today). The more EVs, the more green energy, the higher the 'mile per gallon' equivalent can be. This is a win-win as long as we are also aggressive on environmental justice around the battery and other materials for those cars. California already has a 'take-back' tax built into cell phone and laptop purchases to push recycling and sustainable practices. This is worth exploring for electric vehicles.



Question: How can we learn more about the Center for Climate Justice at UC Merced?

Answer: <https://www.ucmerced.edu/content/tracey-osborne>

Question: How can we get the automobile industry to produce more electric and hybrid cars while reducing the prices. Can we standardize electric car chargers?

Answer: This is just what a functioning federal government can do. It happened for railroads, roads, electrical connections, and other aspects of our infrastructure. California has a target of 1 million electric cars on the road this year (we are at about 800,000 now), China is close to their goal of 5 million EVs by the end of this year, while Norway is the EV leader per capita. New policy options and targets are being introduced all the time. The *Ljft* example¹¹ cited above is one such goal (100% EV fleet by 2030, with 2+ million drivers today). One clear feature is that EV production and proactive policies need to be coordinated, and without both components, justice issues won't be at the forefront.

Question: Assuming Biden is elected but we still have a Republican majority in the Senate, what will Biden be able to do?

Answer: With or without a 'blue wave' of voting in November, let's hope for, and work to get, a science and common-sense based House and Senate. The cost benefits, job benefits, and health benefits of clean energy are overwhelming. Today clean air and climate are horrifically partisan issues, but it was not always that way.

Historically, elected officials across the spectrum have recognized that air pollution is a serious problem, that previous actions haven't been enough to solve it and that more ambitious efforts are warranted. The 1990 improvements to the Clean Air Act passed the House with 93 percent support (401–21) and the Senate 89–11. Sure, politicians jockeyed for advantage during the debate, but

¹¹ <https://www.sfchronicle.com/opinion/article/How-electric-vehicles-can-help-advance-social-15351293.php>, "How electric vehicles can help advance social justice", DM Kammen, *San Francisco Chronicle*, 6/21/2020.

ultimately, the decision was simple. After voting for the amendments, even Kentucky Sen. Mitch McConnell said, “I had to choose between cleaner air and the status quo. I chose cleaner air.”

Question: The recent 2035 report out of UC Berkeley claims that the nation can reach 90% clean energy by 2035 with the right policies¹². How would (could?) a Biden administration approach a federal clean energy standard? Would incentivizing state-level clean energy standards be more effective to deploy clean and renewable energy?

Answer: The mix of policies called for in this report are both viable, and have been tested with a number of state-level efforts. In sum, Strong Policies Are Required:

The 90% Clean case assumes strong policies drive 90% clean electricity by 2035. The No New Policy case achieves only 53% clean electricity in 2035. A companion report identifies policy changes that would facilitate the rapid transformation to a 90% clean power sector.

The 90% Clean Grid is Dependable without Coal or New Natural Gas Plants: In the 90% Clean case, all coal plants are retired by 2035, and no new fossil fuel plants are built. Wind and solar provide 70% of annual generation, hydropower and nuclear provide 20%, and natural gas plants drops to 10% (from 38% in 2019). The result is a grid system that meets U.S. electricity demand dependably in all regions, even during periods of high demand and/or low renewable energy generation.

Electricity Costs from the 90% Clean Grid are Lower than Today's Costs: Wholesale electricity costs are 13% lower in 2035 under the 90% Clean case than they are today thanks to the dramatic decline in solar PV, wind, and storage costs. Relying on already-built natural gas plants to provide the last 10% of generation avoids new investments for infrequently used capacity while avoiding major stranded-asset costs and cutting emissions.

The 90% Clean Grid Avoids \$1.2 Trillion in Health and Environmental Damages, Including 85,000 Premature Deaths, Through 2050: The 90% Clean case nearly eliminates U.S. power-sector emissions by 2035, which avoids over \$1.2 trillion in health and environmental costs, including 85,000 premature deaths, through 2050. These savings equate to roughly 2¢/kWh of wholesale electricity costs, which makes the 90% Clean case the lowest-net-cost option when environmental and health costs are considered.

Scaling-Up Renewables to Achieve 90% Clean Energy by 2035 Is Feasible: To achieve the 90% Clean case by 2035, 1,100 GW of new wind and solar generation must be built, averaging about 70 GW per year. Recent U.S. precedents for natural gas and wind/solar expansion suggest that a renewable energy buildout of this magnitude is challenging but feasible. New renewable resources can be built cost-effectively in all regions of the country.

The 90% Clean Grid Can Significantly Increase Energy-Sector Employment: The 90% Clean case supports over 500,000 more jobs each year through 2035, compared to the No New Policy case, with a big shift from plant operations jobs to construction jobs.

Question and comment: I am hoping to hear an acknowledgement of nuclear energy's huge contribution to our national clean energy footprint, and some thoughts on how we can

¹² <https://gspp.berkeley.edu/centers/cepp/projects/2035-electric-decarbonization-modeling-study>

leverage even more. Climate problem is too big to take our biggest decarbonization tool off the table. Especially, newer, smaller reactors need to be planned for, as they will be available for deployment.

Answer: As discussed above, nuclear power (and about 100 the 420 nuclear reactors on the planet are in the U. S.) could play an important role. For new reactors to be built, cost, reliability transparency, and waste and risk management must be demonstrated.

Question comment: I would really like to see Biden link energy to empowerment and inclusion by explaining on a populist level how the engine of economic growth is really about energy return on investment (EROI). If we do not make economically marginalized groups stakeholders in energy production, it's hard to engage in meaningful economic transformation on a broad scale. This is a meaningful message that needs better advocates and voices.

Answer: The tools and metrics like EROI, the life-cycle costs and benefits of energy choices are all part of a science-based government. This has been a core belief and commitment of Joe Biden. If elected, he has the experience to work these sorts of tools core to a sound energy and environmental plan, and to make justice a central feature of a #BLM inspired agenda. That is one component of an anti-racist energy and climate policy.

Question: How can we make renewable energy appealing to coal miners or those in the auto industry who are just looking to put food on the table or pay rent? It seems this is why we lost the rust belt states.

Answer: That is what the Biden plan enables. It is up to all of us to implement and test new ideas and bring the lessons to the campaign.

Question: I'm wondering if the clean energy/social justice movement can partner with BLM to plea for laws and policies that positively impact the health of people of color that are disproportionately impacted by dirty energy policies.

Answer: Absolutely! For everyone, but notably for young voters: you can create workforce pipelines into green collar jobs! Fund political arts! Give folks something to really believe in - invest in their own future by slamming the breaks on this country's emissions. Show them it's possible to be bold. A great resource is from the Biden Climate Change Task Force:

<https://www.theverge.com/2020/5/14/21258678/joe-biden-climate-change-task-force-sunrise-movement-varshini-prakash>

Question / comment: 40% of U.S. emissions come from 5 basic household activities we do every day - electricity use, home heating, transportation, food and waste. The great news is we now have affordable and accessible alternatives to all 5 of these activities that will not only lower our impact, but also save money (up to \$1,000-3,000 a year or more). Even better, these actions will also improve our health and create local jobs today.



Check out some of the options to reduce emissions at <https://werenew.net/>

Answer: Carbon and resource footprint calculators are a great way to take carbon 'self-diagnosis' and this one a great mixture of education and action. Thanks!

Comment from Everyone:



Thanks for donating to support the Biden Campaign ! I did too!

You can do so via this link: <https://www.cleanenergyforbiden.com/about>