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September 13, 2019

Indian Affairs Committee
United States Senate
Washington, D.C. 20510
Community_Leaders_Feedback@indian.senate.gov

Special Committee on the Climate Crisis
United States Senate
Washington, D.C. 20510
Community_Leaders_Feedback@indian.senate.gov

RE: Executive Summary of NTAA's Response to U.S. Senate Letter

Dear Members of the Indian Affairs Committee and Special Committee on the Climate Crisis:

The National Tribal Air Association (NTAA) is pleased to submit these comments in response to the July 10, 2019, Senate letter soliciting views on the impacts of climate change to Tribal communities and beginning a dialogue on potential solutions and adaptive responses.

The NTAA is a member-based organization with 148 principal member Tribes. The organization's mission is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of Indian Tribes. As such, the NTAA uses its resources to support the efforts of all federally recognized Tribes in protecting and improving the air quality within their respective jurisdictions. Although the organization always seeks to represent consensus perspectives on any given issue, it is important to note that the views expressed by the NTAA may not be agreed upon by all Tribes. Further, it is also important to understand interactions with the organization do not substitute for government-to-government consultation, which can only be achieved through direct communication between the federal government and Indian Tribes.

This letter summarizes the NTAA's White Paper on the Effects of Climate Change in Tribal Communities and Climate Action for Tribes, drafted in response to the U.S. Senate Letter of July 10, 2019. The White Paper is attached and can be viewed at NTAA's Policy Response Kit website.

Introduction

Climate change and air quality are interrelated: climate change threatens air quality and climate change mitigation actions improve air quality and public health. The federal government must recognize the threat posed by climate change.

- Tribal communities are not a major contributor to the greenhouse gas emissions that have caused climate change.

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- Yet climate change has had and will continue to have a disproportionate impact on Tribal communities, in part because of vulnerability and geographic constraints.
- The federal government must take its trust relationship seriously, fulfill its obligations, and act to mitigate and adapt to climate change in partnership with Tribes.
- The federal government must support Tribal sovereignty and self-determination through appropriate allocation of sustained, consistent funding over time for Tribes and Tribal air programs.

Response to Senate Request Letter Question 1 – Useful Tribal Community Policies / Strategies

By necessity, numerous Tribes have initiated actions to mitigate and respond to climate change impacts. Some of these have relied on federal policies, regulations, or programs.

- Environmental laws such as the Clean Air Act, the National Environmental Policy Act, and the Endangered Species Act, have proven important to Tribes in mitigating and responding to climate change impacts and to improving air quality.
- Legislation that allows Tribes to more fully exercise their inherent sovereign rights to self-government, such as the Indian Tribal Energy and Self-Determination Act Amendments and the Native American Housing Assistance and Self Determination Act, will enable Tribes to better respond to climate change.
- Federal programs that provide funding, technical assistance, and education have been useful and have helped Tribes reduce greenhouse gas emissions, improve air quality and public health, and develop economically.
- Other useful federal programs have provided resources for Tribes to better understand climate change impacts, increase resilience, develop customized adaptation plans, and respond to those impacts.
- Tribal communities have also been involved in useful state implemented programs that assisted in mitigation and adaptation actions.
- Tribes have also been involved in useful partnerships with private entities, sometimes supported by federal programs.

Response to Senate Letter Question 2 – Tribal Community Policies / Strategies to Scale for Federal Implementation

- Many Tribes have performed initial climate change vulnerability assessments. Specifically, air pollution effects on public health, ecosystems, cultural resources, etc. are well documented in many Tribal communities. The Bureau of Indian Affairs has supported this assessment effort through its *Tribal Resilience Program.* These efforts should be extended to all Tribes and Alaska Native Villages and continued indefinitely as observed effects, climate science, and general awareness evolve.
- Although vulnerability to the impacts of climate change have been studied and described on many Tribal reservations and Alaska Native Villages, too little attention has been given to Tribal preparedness. Some Tribes, however, such as the Fond du Lac Band of Lake Superior Chippewa, have addressed threats from climate change with comprehensive resource planning. Such initiatives provide valuable resource information and should be widely disseminated.

- Tribes have planned and launched diverse climate change mitigation measures. Multiple U.S. agencies have assisted with these initiatives. The Tribal mitigation initiatives should be well documented and compiled as a single resource catalogue/registry that is accessible to Tribes and Tribal education programs.

Response to Senate Request Question 3 – Improved Use of Existing Authorities

- The federal government must affirm its trust responsibility by assisting Tribal communities to better understand, assess, and react to their impact to climate change. This assistance must be continued and expanded to reach more Tribal communities. Many Tribes are not yet involved in federal programs responding to or preparing for climate change. Expanding the breadth, application, and distribution of existing programs will assist Tribal communities towards understanding their role in mitigating their effect on climate change from their own actions.
- Making federal programs that support sustainable Tribal communities more available to all Tribal communities should be a priority. Financially challenged communities should have access to develop programs such as e-vehicle programs and renewable-based micro-grids without the challenging requirements of matching funds prior to gaining the benefits.
- Tribes can be part of the resolution of larger-scale climate change initiatives. Tribes would also benefit from federal actions that promote and facilitate Tribes using their resources (energy, land, water, forests, etc.) to mitigate impacts from climate change from off reservation sources, while providing economic opportunities for the Tribal community. Developing renewable energy as a substitute to fossil fuels, and increased forest management and graze-land conversion to reforestation are examples of reservation projects that would benefit from federally supported Tribal partnerships with public and private entities.
- Building resilience in Tribal communities will require federal agencies to request and encourage adequate and consistent funding for all stages of assessment, planning, and implementation that is accessible to all Tribal communities.
- Federal agencies should reexamine their current policies and revise as necessary to encourage Tribal involvement in climate change initiatives at the state, regional, and national level through: (1) adequate and meaningful consultation; (2) the culturally sensitive incorporation of traditional knowledge into climate change research and adaptation planning; and (3) funding to support such Tribal participation.
- Federal agencies should also reexamine their current policies and funding programs to identify and remove barriers to Tribal-private partnerships in building resilience to climate change.

Response to Senate Request Question 4 – New Federal Policies

Congress and the Administration can aggressively pursue several new federal laws, policies and administrative actions that will substantially support Tribes and Tribal communities in responding to climate change impacts and implementing mitigation, adaptation, and resiliency measures to protect Tribal air, lands, resources, people, and the built environment. These actions can be characterized in several ways, including:

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- Amend federal regulatory laws (such as the Federal Power Act) and take administrative actions that promote Tribal self-governance, self-determination and sovereignty—comparable to state authorities under federal law—over air quality, environmental protection, clean energy production, greenhouse gas emissions, and other sources of air pollution.
- Federal programs should treat Tribes equitably with state and local governments for grants and technical assistance; Congress should expand Tribal program support, including increased funding.
- Federal policies—especially administrative actions—that promote Tribal, state, and local government cooperation, collaboration, and coordination on climate adaptation and resiliency efforts across governmental jurisdictions.
- Tax and financing programs that encourage Tribal-private sector partnerships to improve air quality, deploy low-to-no carbon energy projects, and implement climate adaptation and resiliency programs for new and existing Tribal building stock.
- Any new proposed federal laws, policies, or programs that address climate change impacts, mitigation, adaptation, or related activities should routinely include Tribal governments so that Tribes are treated equitably and consistent with state and local governments.

Conclusion

Climate change will continue to disproportionately harm Tribal communities in the future. While there are many current federal laws and programs, and substantial authority for Tribes and Tribal communities to respond to climate change impacts, there are many additional new federal policies, laws, and administrative actions that could and should be considered by the Congress and the Administration. This summary provides an insight to the ingenuity and innovation Tribal sovereignty, self-determination, and indigenous knowledge systems provide in responding and adapting to climate change on a federal level. The policy actions outlined provide a roadmap for Congress and the Administration to support Tribes and Indigenous communities in responding to climate change. The NTAA appreciates this opportunity to comment. If you have any questions or require clarification from the NTAA, please do not hesitate to contact the NTAA's Project Director Andy Bessler at 928-523-0526 or andy.bessler@nau.edu.

On Behalf of the NTAA Executive Committee,

Wilfred J. Nabahe
Chairman
National Tribal Air Association

Cc: Pat Childers, EPA Office of Air and Radiation

National Tribal Air Association
White Paper on the Effects of Climate Change in Tribal Communities and Climate Action for Tribes
Response to U.S. Senate Letter of July 10, 2019

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Introduction

Thirteen United States Senators from both the Indian Affairs Committee and Special Committee on the Climate Crisis sent a request to all American Indian, Alaska Native, and Native Hawaiian Community Leaders for input on the effects of climate change in Tribal communities and potential solutions and adaptive responses to climate change.[1] The letter provided four questions as prompts:

1. What policies, regulations, and programs have proven particularly useful in assisting your communities in mitigating and responding to climate change impacts?
2. Are there policies or strategies that your communities are using to address climate change that could scale for implementation at the federal level, including traditional knowledge?
3. What actions or policies could federal agencies take within existing authorities to improve climate change mitigation and resilience in your communities?
4. What new policies would you recommend Congress consider to improve climate change resilience in your communities, reduce emissions of heat-trapping pollution, increase the development and availability of renewable resources, or capture or off-set emissions of heat-trapping pollution?

The National Tribal Air Association (NTAA) is pleased to submit these comments in response to the July 10, 2019 Senate letter and to begin a dialogue on potential solutions and adaptive responses to climate change. NTAA appreciates the opportunity to provide recommendations for federal action that will help provide Tribal communities with tools to reduce the risks and impacts associated with climate change.

The NTAA is a member-based organization with 148 principal member Tribes. The organization's mission is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of Indian Tribes. As such, the NTAA uses its resources to support the efforts of all federally recognized Tribes in protecting and improving the air quality within their respective jurisdictions. Although the organization always seeks to represent consensus perspectives on any given issue, it is important to note that the views expressed by the NTAA may not be agreed upon by all Tribes. Further, it is also important to understand interactions with the organization do not substitute for government-to-government consultation, which can only be achieved through direct communication between the federal government and Indian Tribes.

NTAA begins by emphasizing that climate change and air quality are interrelated. Climate change threatens air quality improvements in the United States that Congress, federal and state regulators and Tribes have helped produce over the last 50 years.[2] Climate change has likely already increased ozone pollution in some regions of the United States and has the potential to

[1] See Senate Request to read a copy of the letter sent July 10, 2019.

[2] U.S. Envtl. Prot. Agency Office of Air and Radiation, The Benefits and Costs of the Clean Air Act from 1990 to 2020, Final Report – Rev. A (April 2011), https://www.epa.gov/sites/production/files/2015-07/documents/fullreport_rev_a.pdf.

exacerbate ground-level ozone pollution and fine particle concentrations as well as the many associated negative health impacts.[3] Changes in temperature and precipitation patterns will increase risks associated with aeroallergens (i.e., pollen and mold) and vector-borne diseases.[4] Climate change is projected to cause more frequent and severe wildfires, degrading air quality and resulting in additional adverse health outcomes (e.g., increased respiratory illnesses from exposure to wildfire smoke, impaired visibility, and disrupted outdoor recreational activities).[5] The negative health effects associated with climate change are especially damaging for vulnerable populations including the elderly, young children, and those individuals already in poor health.[6]

Conversely, mitigation actions that reduce greenhouse gas (GHG) emissions generally improve air quality and public health. For example, the now repealed Clean Power Plan (CPP) was projected to not only reduce emissions of carbon dioxide (CO_2), but also other harmful air pollutants, such as sulfur dioxide (SO_2), nitrogen oxides (NO_X), and directly emitted fine particulate matter ($PM_{2.5}$).[7] Actions taken to improve air quality can also reduce greenhouse gas emissions. For example, the mercury and air toxics standards rule (MATS), which focused on other hazardous air pollutants, was estimated to save 360 million in 2007 dollars of climate-related costs, such as agricultural productivity and property damage from increased flood risk, from CO_2 reductions.[8]

NTAA appreciates your recognition that it is well past time for Congress to act in partnership with Tribal communities to address the risks and impacts associated with climate change. Congress and the rest of the federal government must come together and recognize that climate change is a real threat. Federal agencies repeatedly recognize the reality of, and threat posed by, climate change,[9] yet others within the federal government still say otherwise. A lack of

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[3] Fann, N., T. Brennan, P. Dolwick, J.L. Gamble, V. Ilacqua, L. Kolb, C.G. Nolte, T.L. Spero, and L. Ziska, 2016: Ch. 3: Air Quality Impacts. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program, Washington, DC, 69-98, https://s3.amazonaws.com/climatehealth2016/low/ClimateHealth2016_03_Air_Quality_small.pdf.

[4] *Id.*

[5] *Id.*

[6] *Id.*

[7] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662, 64,679 (Oct. 23, 2015), https://www.govinfo.gov/content/pkg/FR-2015-10-23/pdf/2015-22842.pdf.

[8] National Emission Standards for Hazardous Air Pollutants From Coal and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial Institutional, and Small Industrial Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9,304, 9,424, 9,428 (Feb. 16, 2012), https://www.govinfo.gov/content/pkg/FR-2012-02-16/pdf/2012-806.pdf.

[9] *See, e.g.*, Dep't of Def. Office of the Under Sec'y of Def. for Acquisition and Sustainment, Report on Effects of a Changing Climate to the Department of Defense, at 2 (Jan. 2019) https://media.defense.gov/2019/Jan/29/2002084200/-1/-1/1/CLIMATE-CHANGE-REPORT-2019.PDF ("The effects of a changing climate are a national security issue with potential impacts to Department of Defense (DoD or the Department) missions, operational plans, and installations."); U.S. Dep't of Hous. and

political leadership and mixed messages remain a barrier to effective climate change mitigation and adaptation action. To take actions to address climate change, it must be recognized for the threat it is.

NTAA agrees with your recognition, as documented in the Fourth National Climate Assessment (NCA4), that climate change is having a disproportionate impact on Tribal communities. As the Summary Findings of the NCA4 concludes: "Climate change increasingly threatens Indigenous communities' livelihoods, economies, health, and cultural identities by disrupting interconnected social, physical, and ecological systems."[10]

Climate change will continue to disproportionately harm Tribal communities in the future. Climate change threatens delicately balanced subsistence networks by, for example, changing the patterns of seasonal timing and availability of culturally important species in traditional hunting, gathering, and fishing areas.[11] Tribal individuals across the United States pursue a mix of traditional subsistence and commercial sector activities that include agriculture, hunting and gathering, fishing, forestry, energy, recreation, and tourism enterprises.[12] Observed and projected changes of increased wildfire, diminished snowpack, pervasive drought, flooding, ocean acidification, and sea level rise threaten the viability of each of these enterprises.[13] In addition, Tribal agriculture is already being adversely affected by changing patterns of flooding, drought, dust storms, and rising temperatures, with future projections varying but indicating increased soil erosion and irrigation water demand and decreased crop quality and animal herd sizes.[14]

Infrastructure that supports Tribal economies and livelihoods is at risk from more frequent or intense heavy downpours, floods, heat waves, wildfires, and droughts, as well as higher sea

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Urban Dev., Climate Change Adaptation Plan, 5 (Oct. 2014), https://www.hud.gov/sites/documents/HUD2014CCADAPTPLAN.PDF ("The Third National Climate Assessment (released on May 6, 2014) contains an important message: climate change is not a distant threat or a scientific theory. It is already adversely affecting people in communities across the country."); Dep't of Energy, Climate Change, https://www.energy.gov/science-innovation/climate-change; Fed. Emergency Mgmt. Agency, Climate Change, https://www.fema.gov/climate-change.

[10] USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.

[11] Kathryn Norton-Smith et. al. 2016. "Climate change and Indigenous Peoples: a Synthesis of Current Impacts and Experiences". Gen. Tech. Rep. PNW-GTR-944. Portland, OR: U.S. Dep't of Agric., Forest Serv., Pac. Nw. Research Station. Pgs 1-138, https://www.fs.fed.us/pnw/pubs/pnw_gtr944.pdf; *see also* Kathy Lynn et. al, "The impacts of climate change on Tribal traditional foods," Climate Change 120:545-556, 547 (2013).

[12] *Id.*

[13] *Id.*

[14] *Id.*

levels and storm surges.[15] Tribal communities are vulnerable to infrastructure disruptions that can occur at the level of an individual household (such as housing and sanitary water supply); within larger regional, integrated systems (such as for power, transportation, and telecommunication); or within human systems that rely on such infrastructure to provide other essential services (such as emergency medical response).[16]

In general, Tribal communities have disproportionately higher rates of asthma, cardiovascular disease, Alzheimer's or dementia, diabetes, and obesity.[17] These health disparities have direct linkages to increased vulnerability to climate change. For example, diabetes rates within federally recognized Tribes are about twice that of the general U.S. population and people with diabetes are more sensitive to extreme heat and air pollution.[18] Therefore, the climate crisis will cut more deeply into Tribal lifeways and standards of living than other sectors of society.

Increased climate change vulnerability also extends to communities that are low-income, which are less able to insulate themselves from the impacts of global changes, and to populations that are geographically mandated in locations, which hinder their ability to move away from climate change impacts. Both situations are particularly indicative of Tribal populations.

Tribal land, and Tribal rights to gather, hunt, trap, and fish, are constrained by reservations or other geographically defined borders. As climate change continues to impact ecosystems, Tribal governments face institutional barriers that severely limit their adaptive capacities. Relocation under the current geographical constraints, even if necessary for survival, may not be an option without destroying Tribal communities and their cultures.

While being among the most vulnerable, Tribes are also among the least responsible for climate change—Tribal communities are not a major contributor to the greenhouse gas emissions that have caused climate change. Nevertheless, Tribes and the rest of the country can benefit greatly from Tribal actions to combat national and local climate change causes as well as local and national actions to adapt to climate change impacts.

The NTAA also agrees with your recognition of the unique political and trust relationship between Tribes and the United States. This relationship is cemented in the Constitution, treaties, statutes, federal case law, regulations, and executive orders.[19] The federal government must take

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[15] USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.

[16] *Id.*

[17] *Id.*

[18] *Id.*

[19] *See, e.g.*, Exec. Order 13,175, Consultation and Coordination With Indian Tribal Governments, 65 Fed. Reg. 67,249, § 2 (Nov. 6, 2000); *see also* United Nations Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, Annex, art. 19, U.N. Doc. A/RES/61/295 (Sept. 13, 2007) ("States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative

this relationship seriously, and fulfill its accompanying obligations, as it considers actions to mitigate and adapt to climate change. NTAA believes that the policies, regulations, and programs discussed that are or will be most effective all involve (or would need to involve) extensive Tribal input. Tribes have been important partners with federal, state, and local agencies to protect and improve ambient and indoor air quality, and mitigate climate change. Tribes possess unique environmental knowledge that makes them important partners to address pollution and climate change.

In order to fulfill this trust responsibility and create successful policies, the federal government must support Tribal sovereignty and self-determination through appropriate allocation of funding for Tribal air programs. The federal government should facilitate a Tribe's ability to effectively engage in government-to-government consultation and develop programs and plans that are responsive to each Tribe's unique conditions and priorities, including Tribal economic development. This requires political will and the provision of sustained, consistent funding over time. Developing capacity is an ongoing effort that takes sustained commitments of resources.

The NCA4 documents over 800 activities across the United States that Tribal communities and their partners have undertaken in the last decade to respond to climate change: planning and assessment, adaptation and implementation, monitoring and research, governance and capacity building, and youth engagement and cultural continuity. This letter highlights some of the actions Tribal communities have taken, but it cannot account for them all.[20] Tribal communities of the United States represent diverse cultures, histories, governments, and environments and their individual experiences with climate change will differ. There is no "one size fits all" mitigation or adaptation solution. All policies must recognize and account for Tribal diversity.

I. What policies, regulations, and programs have proven particularly useful in assisting your communities in mitigating and responding to climate change impacts?

By necessity, numerous Tribes have initiated actions to mitigate and respond to climate change impacts. Some of these have relied on federal policies, regulations, or programs. This section briefly highlights some of the beneficial actions and their foundations.

A. Legislation

Although not specifically geared towards Tribes or climate change, various environmental laws enacted by Congress have proven important to Tribes in mitigating and responding to climate change impacts and to improving air quality.

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institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them."). The United States endorsed the Declaration in 2010. Announcement of U.S. Support for the United Nations Declaration on the Rights of Indigenous Peoples, at 14, U.S. Dep't of State, https://2009-2017.state.gov/documents/organization/154782.pdf (last visited August 16, 2019).

[20] Some Tribal approaches are documented at https://biamaps.doi.gov/nca/ and http://www.ncai.org/ptg/climate-action-Tribal-approaches.

First, the Clean Air Act (CAA) has improved air quality and helped reduce greenhouse gas emissions. Further CAA regulations have or have the potential to greatly mitigate and respond to climate change. Explicit regulation of greenhouse gas emissions under the CAA is made possible and necessary by the Environmental Protection Agency's (EPA) finding in 2009 that greenhouse gases from all industries significantly endanger both the public health and public welfare of current and future generations.[21] This finding was an important step to recognizing that Tribal communities and the United States are harmed by greenhouse gas emissions.[22] Various regulations under the CAA have the potential to reduce greenhouse gas emissions including the now repealed CPP, the Corporate Average Fuel Economy (CAFE) standards, and various methane rules. As mentioned above, even if not directly responsive to climate change, the MATS rule has improved air quality and helped reduce greenhouse gas emissions. The CAA's provision that requires the consideration of the "best available science" in setting the National Ambient Air Quality Standards (NAAQS) is a similarly important provision that has required the EPA to implement regulations that increase air quality and improve public health. Finally, the CAA's provisions that allow Tribes the ability to be treated as states and redesignate their land under the prevention of significant deterioration program has enabled Tribes greater control over their air.

The National Environmental Policy Act ("NEPA") has been another useful law for Tribal communities in mitigating and responding to climate change. NEPA requires federal agencies to take a hard look at the environmental impacts for all federal projects. Although it is not outcome driven, NEPA helps Tribes participate in federal projects (even when they were not properly consulted). Courts have repeatedly held that NEPA requires the federal government to consider cumulative environmental impacts, including climate change impacts and effects in the analyses, and remanded federal actions that do not do so.[23]

The Endangered Species Act (ESA) similarly has been useful in mitigating and responding to climate change. Climate change threatens to destroy plant and animal species important to traditional culture, for example by destroying culturally important animal species' habitat or food supplies, damaging native plants from ozone that is predicted to increase due to climate change, or damaging wild rice from changing precipitation patterns. The ESA provides Tribes with a tool to limit these losses and work with the federal government to restore species.

Generally, legislation that allows Tribes to more fully exercise their inherent sovereign rights to self-government will enable Tribes to better respond to climate change. This includes

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[21] Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

[22] *See id.* at 66,534.

[23] *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41 (D.D.C. 2019); *Indigenous Envtl. Network v. U.S. Dep't of State*, 347 F. Supp. 3d 561 (D. Mont. 2018), *order amended and supplemented*, 369 F. Supp. 3d 1045 (D. Mont. 2018), and *order vacated as moot*, No. 18-36068, 2019 WL 2542756 (9th Cir. June 6, 2019); *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174 (D. Colo. 2014); *Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074 (D. Mont. 2017), *amended in part*, No. CV 15-106-M-DWM, 2017 WL 5047901 (D. Mont. Nov. 3, 2017).

legislation like the Indian Tribal Energy Development and Self-Determination Act Amendments of 2017, which gives Tribes more control over their energy development and can make it easier to develop renewable energy projects that help mitigate greenhouse gas emissions. Additionally, legislation like the Native American Housing Assistance and Self Determination Act of 1996 (NAHASDA) provides Tribes flexibility to adopt their own building codes, including green building codes.

B. Providing Resources

Tribes have found the various federal programs that provide resources to be useful both in mitigating and adapting to climate change. These resources include funding, technical assistance, and education. Integral to these programs' success is appropriate, consistent, and sustained funding over time, both to the Tribes and their partners, as well as to the federal agencies providing or implementing these programs.

1. Mitigating Climate Change

Resources obtained through the CAA have been particularly useful. The CAA provides funding sources for Tribal air programs through sections 103 and 105. Many Tribes have utilized this funding to monitor and implement air programs within their lands. This has provided Tribes with more knowledge on the air quality issues affecting them and enabled them to address the issues. Tribes have used a combination of these resources, along with funding provided by supplemental environmental projects in settlements of CAA violations, to improve air quality and reduce greenhouse gases.

The Coal-Fired Power Plant Initiative from the U.S. Department of Justice (DOJ) Environment and Natural Resources Division has also helped Tribes mitigate harmful air pollution caused by CAA violations, as well as reduce their carbon footprints. In 2014, the Division reached a settlement with Minnesota Power regarding alleged CAA violations that required the installation of additional pollution control technology at three coal-fired power plants. The settlement also included environmental mitigation projects such as $2 million to build a large-scale solar farm on Fond du Lac Band of Lake Superior Chippewa land, producing enough electricity to power more than 150 homes and cut CO_2 emissions by about 2.6 million pounds per year compared to coal-generated electricity.[24]

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[24] *Minnesota Power Settlement*, U.S. Envtl. Prot. Agency (July 16, 2014), https://www.epa.gov/enforcement/minnesota-power-settlement; John Myers, *Fond du Lac solar farm ready to make electricity*, Duluth News Tribune (Aug. 23, 2015), https://www.duluthnewstribune.com/news/4100115-fond-du-lac-solar-farm-ready-make-electricity. This project is a good example of coordinating resources across agencies and private entities, including the EPA, the U.S. Department of the Interior (DOI) Office of Indian Energy and Economic Development, the U.S. Department of Energy (DOE) Office of Indian Energy Policy and Programs, and Minnesota-based solar contractor Hunt Electric Corporation, utilizing some of the programs discussed below. *See Fond du Lac Band Poised to Double 2020 Clean Energy Goal*, U.S. Dep't of Energy Office of Indian Energy Policy and Programs (Sept. 27, 2016), https://www.energy.gov/indianenergy/articles/fond-du-lac-band-poised-double-2020-clean-energy-goal.

Older, inefficient, conventional woodstoves have harmful indoor and ambient air quality impacts. They also release greenhouse gases such as CO_2, black carbon, and methane. Many Tribal members use wood burning devices to heat their homes. Replacing older wood stoves can improve air quality and public health, and lower greenhouse gas emissions. The Navajo Nation, using CAA section 105 funding and in partnership with universities, studied indoor air quality and outreached to community members (including through videos in Navajo). The DOJ settled CAA violations with the entities that owned the Four Corners Power Plant on the Navajo Nation and, in addition to requiring the installation of new pollution controls at the plant designed to reduce harmful emissions, the settlement provided funding for a wood-burning and coal-burning stove change out program and a home weatherization program.[25] Tribes have had some successes obtaining other resources and partnerships to study indoor air quality and replace old woodstoves. That funding has come from a hodgepodge of federal, state, and private programs such as the EPA (e.g., federal Targeted Air Shed Grant program), the Department of Housing and Urban Development (HUD) (e.g., Indian Housing Block Grants), the Department of Agriculture (USDA), the Department of Energy (DOE), the Department of Health and Human Services (HHS), state funding, and utility company rebate programs.

Most recently, in May 2019, the Volkswagen Settlement's Environmental Mitigation Tribal Trust (VW) paid out allocations for the first funding cycle to twenty-five Tribes. Beneficiaries of the Trust used VW funds to purchase a variety of new vehicles and infrastructure, but six of the Tribes focused in particular on alternative-fueled vehicles and infrastructure to address climate change concerns. These Tribes used VW funds to purchase two electric school or shuttle buses and associated charging stations (one of which is solar powered), one hybrid electric shuttle bus, and nine light-duty electric vehicle charging stations (two of which are solar powered).

EPA's Tribal Diesel Emissions Reduction Act (DERA) program awards grants to federally recognized Tribes, intertribal consortium, or Alaskan Native Villages for projects that reduce emissions from diesel engines. The Tribal DERA program requires a high cost share commitment, which is a barrier for most Tribes (absent some other source of funds such as an enforcement case settlement). Tribal DERA funds have been used successfully to reduce harmful emissions with the reduction of harmful greenhouse gas emissions as a co-benefit.

The DOE Office of Renewable Energy and Energy Efficiency's Tribal Energy Program offers technical assistance, informational, and training resources along with limited funding assistance to Tribes. A grant award from the Office of Indian Energy (OIE) in 2016 enabled the Midwest Tribal Energy Resource Association (MTERA) to create a technical assistance energy network for Midwest Tribes. MTERA provides its eight member Tribes with strategic energy planning and other projects that promote its mission to empower Midwest Tribes to manage energy resources through collective action.[26] The Oneida Nation of Wisconsin used the OIE Grant

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[25] *Four Corners Power Plant Clean Air Act Settlement*, U.S. Envtl. Prot. Agency (June 24, 2015), https://www.epa.gov/enforcement/four-corners-power-plant-clean-air-act-settlement.

[26] *About Us*, Midwest Tribal Energy Resources Association https://www.mtera.org/about/, (last visited Sept. 10, 2019).

Program "Deployment of Clean Energy and Energy Efficiency Projects on Indian Lands" and a partnership with a private corporation to install 800 kilowatts of solar on six Tribal buildings.[27] With this project, the Oneida Nation will decrease its carbon footprint by nearly 700 tons per year and it will see a benefit of nearly a million dollars of savings over the life of the project.

An Indian Health Services Environmental Sustainability Initiatives Grant provided the Bad River Band of Lake Superior Chippewa Tribe funds to conduct a small solar photovoltaic demonstration project at an ambient air monitoring site. This project enabled the Tribe to monitor air quality while minimizing its footprint of greenhouse gases and other pollutants. The system is estimated to offset up to 20% of the site's electrical usage. The project was made possible by working with Great Northern Solar & Chris LaForge, Let It Shine & John Johanning, Bayfield Electric Cooperative & Larry Roecker, Bemidji Area Indian Health Services, and the EPA.

Various other federal programs can be useful in reducing a Tribe's emissions either through renewable energy or energy efficiency projects. This includes the USDA Rural Development Program and Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants.

2. Responding and Adapting to Climate Change

It has become more and more important that Tribes analyze the impacts of climate change. The Bureau of Indian Affairs' (BIA) Tribal Resilience Program provides resources to Tribes to build capacity and resilience through leadership engagement, delivery of data and tools, training and Tribal capacity building. Direct funding supports Tribes, Tribal consortia, and authorized Tribal organizations to build resilience through competitive awards for Tribally designed resilience training, adaptation planning, vulnerability assessments, supplemental monitoring, capacity building, and youth engagement. This has helped fund Tribal adaptation plans. For example, staff from Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Lake Superior Chippewa, Bois Forte Band of Chippewa, and the 1854 Treaty Authority recently finished a Climate Change Vulnerability Assessment and Adaptation Plan.[28] The three Bands and the 1854 Treaty Authority collaborated with Adaptation International and Great Lakes Integrated Sciences Assessments to come up with a living document that not only investigates climate change and how it is affecting their reservations and the 1854 ceded territory, but also has strategies on how they can address those changes. The Adaptation Plan provides detailed adaptation strategies customized to protect and sustain subsistence and commercial economic resources, such as walleye, sturgeon, moose, and wild rice, among others.

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[27] *Oneida Tribe of Indians of Wisconsin – 2015 Project*, U.S. Dept' of Energy Office of Indian Energy Policy and Programs, https://www.energy.gov/indianenergy/oneida-tribe-indians-wisconsin-2015-project, (last visited Aug. 26, 2019).

[28] *Climate Change Vulnerability Assessment and Adaptation Plan*, 1854 Ceded Territory Including the Bois Forte, Fond du Lac, and Grand Portage Reservation (2016), http://www.1854treatyauthority.org/images/ClimateAdaptationPlan_Final-July_2016-optimized(1).pdf.

The Tribal Resilience Program also helped fund the Ute Mountain Ute to conduct a Climate Change Vulnerability Assessment, then undertake adaptation planning and develop a Climate Action Plan in collaboration with Colorado State University.[29]

The Tribal Resilience Program, along with funding from other BIA programs, Indian Health Services, U.S. Geological Survey, and EPA, has helped the Alaska Native Tribal Health Consortium's Center for Climate and Health (ANTHC) to conduct comprehensive community assessments for several Alaska Native Villages, such as the Native Village of Kivalina (Kivalina).[30] These assessments focused on the impacts of climate change and related health effects. For Kivalina, ANTHC has observed a rise in dust, smoke, and allergen levels along with health-related issues such as asthma, allergies, and other respiratory problems.[31] These levels and health-related issues have become most prominent during the summer months due to an increase in the number of hot and dry summers, lightning and wildfires, and trees and shrubs.[32]

The Natural Resources Conservation Service (NRCS) Tribal Soil Climate Analysis Network has been useful in providing information important to developing adaptation and emergency response plans.[33] For example, the Bad River Band of Lake Superior Chippewa Tribe collaborated with NRCS to measure soil moisture and soil temperature and other meteorological data, which enables better agricultural decision-making and increases resilience.

EPA's Tribal Green Building Toolkit is a useful resource that helps Tribal communities develop and adopt building codes that support green building practices, including buildings that are more efficient and resilient.[34] Although NAHASDA provides Tribes the flexibility to adopt and use their own building codes in NAHASDA-funded programs, few resources have been available to assist Tribes in doing so. The building kit helps provide some of those resources, including samples or model codes and case studies. Its development was supported by EPA's Office of Solid Waste and Emergency Response Innovations Work Group and the Office of

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[29] *Climate Change*, Ute Mountain Ute Tribe Envtl. Programs Dep't, http://www.utemountainuteenvironmental.org/index.cfm/land/climate-change/, (last visited Aug. 30, 2019).

[30] *Climate Change in Kivalina, Alaska, Strategies for Community Health*, ANTHC Center for Climate and Health (Jan. 2011), https://anthc.org/wp-content/uploads/2016/01/CCH_AR_012011_Climate-Change-in-Kivalina.pdf.

[31] *Id.* at 21.

[32] *Id.*

[33] *See Tribal Soil Climate Analysis Network (Tribal SCAN) Brochure*, USDA Nat'l Water and Climate Center Nat. Res. Conservation Serv. (Aug. 22, 2018), https://www.wcc.nrcs.usda.gov/Tribalscan/Tribalscan_brochure.pdf.

[34] *Tribal Green Building Toolkit*, U.S. Envtl. Prot. Agency (July 2015), https://www.epa.gov/sites/production/files/2016-01/documents/Tribal-green-building-toolkit-mobile-2015.pdf.

Sustainable Communities. EPA's Tribal Green Building website also provides links to funding opportunities that can be used to support Tribal green building.[35]

The creation of the Northern Bering Sea Climate Resilience Area by Executive Order was a potentially useful federal policy in responding to climate change.[36] The action was taken in response to a petition from the Tribes along the coast of the Bering Sea and established an important set of policies that sought to protect the Tribal communities' subsistence way of life. It also, importantly, created a formal role for Tribes in the decision-making by creating an Intergovernmental Tribal Advisory Council to consult with and provide advice to federal agencies. Moreover, it required the consideration of indigenous knowledge in federal decision-making. With no notice or consultation, President Trump rescinded the action, preventing its positive benefits from being realized.[37]

As discussed above, climate change is already wreaking havoc in the form of more frequent extreme weather events and it is often difficult for Tribes to respond. In 2013, Congress passed the Sandy Recovery Improvement Act that included an amendment giving Tribal governments the power to request an emergency or major-disaster declaration, or to receive assistance directly from the White House, without having to go through a state. As climate change has already increased the prevalence of natural disasters, this amendment has helped Tribes seek support for recovery more quickly.

C. State and Local Government Policies

Although actions must come from the federal government to mitigate and adapt to climate change, Tribal communities have also been involved in useful programs in partnership with states.

The California Air Resources Board (CARB) has programs that have assisted Tribes in mitigating and adapting to climate change. CARB has provided funding through a Community Air Grant for the Cabazon and Twenty-Nine Palms Tribes to monitor air quality near the Salton Sea because toxic dust is rising as the water recedes.[38] CARB also operates a carbon market in which Tribes can participate. It has enabled Tribes, such as the Passamaquoddy Tribe, to offset carbon

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[35] *Green Building Tools for Tribes*, U.S. Envtl. Prot. Agency, https://www.epa.gov/green-building-tools-tribes, (last visited August 26, 2019).

[36] Exec. Order No. 13,754—Northern Bering Sea Climate Resilience (Dec. 9, 2016), https://www.govinfo.gov/content/pkg/DCPD-201600836/pdf/DCPD-201600836.pdf.

[37] Exec. Order 13,795 of April 28, 2017, Implementing an America-First Offshore Energy Strategy, 82 Fed. Reg. 20,815 (May 3, 2017), https://www.federalregister.gov/documents/2017/05/03/2017-09087/implementing-an-america-first-offshore-energy-strategy.

[38] Risa Johnson, *Cabazon, Twenty-Nine Palms Tribes Create Air Quality Monitoring Station in Indio*, Palm Springs Desert Sun (July 15, 2019), https://www.desertsun.com/story/news/2019/07/15/cabazon-and-twenty-nine-palms-tribes-start-monitoring-air-quality-coachella-valley/1706093001/.

emissions through forest land management. This helps the Tribe mitigate outside carbon emissions while promoting Tribal economic development in a sustainable manner.[39]

The Great Basin Unified Air Pollution Control District worked in concert with local Tribes in their District to facilitate a woodstove change out program for Tribal members to access EPA certified stoves in serious non-attainment areas for PM in the Owens Valley, California.

The Leech Lake Band of Ojibwe's Guaranteed Energy Savings Project, while working with Minnesota and utilizing funds from the OIE's "First Steps Toward Developing Renewable Energy and Energy Efficiency on Tribal Lands – 2016," enabled the Tribe to install solar panels and LED lighting in 22 Tribal buildings, reducing the Tribe's carbon footprint and saving money.[40]

D. Private Sector Policies

Similarly, Tribes have been involved in useful partnerships with private entities (including in conjunction with some of the projects discussed above). These partnerships have been made possible, in part, from tax incentives, such as the solar investment tax credit, which Tribes can pass through to private lessees.

II. Are there policies or strategies that your communities are using to address climate change that could scale for implementation at the federal level, including traditional knowledge?

Many Tribal communities have identified and sought to understand climate change impacts. Widespread effects are described in the introduction and detailed in resources such as the NCA4.[41] Impacts on specific lands and resources of indigenous people have been, and are being, studied and documented through such initiatives as the BIA's Tribal Resilience Program.[42] Additionally, climate impact researchers from various government initiatives, private enterprises, universities, and others have produced useful understanding and documentation of climate changes and consequences.

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[39] *Passamaquoddy Tribe Named Project Developer of the Year*, Indian Country Today (Apr. 30, 2017), https://newsmaven.io/indiancountrytoday/archive/passamaquoddy-tribe-named-project-developer-of-the-year-AVxpAihsnk-2KjzaNkfVFw/.

[40] Kayla Duoos, *Solar Panels, LED Lighting Installed as Part of the "Guaranteed Energy Savings Program"*, Leech Lake News (Sept. 11, 2018), https://www.leechlakenews.com/2018/09/11/solar-panels-led-lighting-installed-as-part-of-the-guaranteed-energy-savings-project/.

[41] USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018

[42] *Tribal Resilience Program*, U.S. Dep't of the Interior, Indian Affairs, https://www.bia.gov/bia/ots/Tribal-resilience-program, (last visited Sept. 10, 2019).

One important lesson learned from climate change impact studies, vulnerability assessments, and public/ecosystem health studies on Tribal lands and indigenous peoples is that these efforts should be expanded. While many Tribes have utilized the opportunities and resources provided by such programs as BIA's Tribal Resilience Program, other impacted communities require greater awareness and understanding of impending climate changes and consequences. Outreach efforts regarding available resources such as BIA's *Tribal Resilience Resource Guide* should be sustained and expanded to engage all Tribal communities.

A second lesson is that current understanding and awareness of climate change impacts often are incomplete. Such analyses often recognize that the best understanding of complex climate science continues to advance. Thus, key programs to sustain and affect vulnerability studies should be maintained with adequate resources.

A. Climate Change Adaptation Planning by Tribal Communities

As previously noted, preparedness planning necessarily is specific to each community and reservation. For example, concern for air quality impacts of desertification, indoor air exposures, and particulate matter from increasing forest fires vary widely among Tribes. Regionally, however, multiple Tribes have expressed some common concerns in rising temperatures and changing precipitation patterns.[43]

Many Tribal climate change planning efforts are noteworthy and merit consideration to scale for implementation at the federal level. Some Tribal preparedness initiatives are narrowly focused. Native villages in northwest Alaska, for example, have constructed seawalls and critical infrastructure security as sea levels rise.[44] Other Tribal preparedness efforts, however, are quite comprehensive and analyze impacts and threats of climate change to Tribal resources. An example of such a process is the continuously updated Integrated Resource Management Plan of the Fond du Lac Band of Lake Superior Chippewa.[45] These and other Tribal initiatives to prepare for climate change impacts are useful as resources and perhaps templates for Tribes nationally. One on-going endeavor to advance Tribal adaptation plans is the short-course *Introduction to Climate Adaptation Planning.* This education program is offered periodically by the Institute for Tribal Environmental Professionals Tribes and Climate Change Program at Northern Arizona University and includes an *Adaptation Planning Tool Kit*.[46] These valuable resources should be available to and utilized

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[43] *Comments from the National Tribal Air Association regarding EPA's Advance Notice of Proposed Rulemaking on State Guidelines for Greenhouse Gas Emissions, Docket ID No. EPA-HQ-OAR-2017-0545* (Feb. 26, 2018), https://www7.nau.edu/itep/main/ntaa/PRKPDF/CPPComment/.

[44] U.S. Gen. Accounting Office, GAO-04-142, *ALASKA NATIVE VILLAGES, Most Are Affected by Flooding and Erosion, but Few Qualify for Federal Assistance*, at 36 (Dec. 2003), https://www.gao.gov/new.items/d04142.pdf.

[45] *Integrated Resource Management Plan 2018*, Fond du Lac Res. Mgmt. Div. (Oct. 18, 2017), http://www.fdlrez.com/RM/downloads/FDL_IRMP-101817.pdf.

[46] *See Trainings & Events*, N. Ariz. Univ. ITEP Tribes and Climate Change Program, http://www7.nau.edu/itep/main/tcc/Training/Trainings, (last visited Sept. 10, 2019); *Climate Change*

by more Tribes. Additionally, applied technical support services should be developed and delivered to support Tribal adaptation planning including augmenting Tribal capacity building.

B. Climate Change Mitigation Strategies and Programs on Tribal Lands

Vulnerability assessments on the impacts of climate change, developing resilience strategies, and adaptation planning initiatives are important to Tribes for many reasons. Climate change awareness and planning for the current and anticipated consequences on Tribal communities, lands, cultures, and ecosystems are underway on many reservations and Alaska Native Villages. Sustaining this work and expanding these efforts to other Tribal communities are vital and require adequate support with federal resources.

Yet awareness of, and planning for, the many impacts of climate change must be followed by effective and appropriate actions to mitigate these effects of climate change on Tribal communities and resources. Fortunately, numerous Tribal initiatives have been implemented that focus on mitigating the consequences of climate change. A few such actions may even benefit Tribes and their economies. Additionally, these mitigation actions and experiences serve as a valuable resource that should be shared with all interested Tribes.

The DOE has provided useful resources to assist some Tribes and Tribal consortia with identifying and advancing renewable energy initiatives on Tribal lands. Examples of these initiatives by DOE's OIE and National Renewable Energy Laboratory (NREL) are shown on their respective websites. Note, for example, the zero net GHG initiative by Blue Lake Rancheria Tribe and the photovoltaic solar project at Forest County Potawatomi.[47]

A relatively new and promising initiative administered by NREL is the *Tribal Economic Diversification from Grid-Scale Renewable Energy.* The Hopi Tribe and Navajo Nation are the initial participants in this program and two additional Tribes are expected to be added in 2019. The dual potential benefits to climate change (GHG emissions abatement) and to Tribal economies are clear[48]. As with other DOE initiatives, the number of Tribes receiving support exhibiting successful projects should be expanded dramatically.

Changing climates necessitate that public health in Tribal communities focus on the "built environment" including housing. HUD is a principal participant in housing on Tribal lands. Unfortunately, this agency has been slow to develop and apply "green building codes" and "green retrofit codes." Both EPA and DOE have participatory programs that assist Tribes with energy

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Resources Adaptation Planning Tool Kit, N. Ariz. Univ. ITEP Tribes and Climate Change Program, http://www7.nau.edu/itep/main/tcc/Resources/adaptation, (last visited Sept. 10, 2019).

[47] *NREL Supports Native American Tribes in Clean Energy Transformational Leadership*, NREL News & Feature Stories (Mar. 30, 2016), https://www.nrel.gov/news/features/2016/24665.html.

[48] *Tribal Economic Diversification from Grid-Scale Renewable Energy*, National Renewable Energy Laboratory, Golden, CO, August 2019.

efficiency initiatives. Such proven practices are key opportunities for Tribal climate change mitigation actions and should be implemented far more broadly on reservations and Alaska Native Villages. Warming climates will cause reservation residents (among others) to increase time spent indoors. Contemporary building and retrofit practices can reduce energy demands and mitigate indoor respiratory exposures to harmful pollutants. The Gila River Indian Community Tribal Projects Department, for example, "committed to transforming the way buildings within the community are designed, built and operated, enabling an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life," and has undertaken several green, energy efficient building projects over the past few years.[49]

These Tribal climate change mitigation actions are just a few examples of projects and programs. Lists of Tribal initiatives are available from multiple federal agencies and organization websites but they focus on the specific interests of that agency or organization. A comprehensive and living catalogue of Tribal climate change mitigation initiatives would be a valuable resource for many including Tribal communities and federal policy makers.

III. What actions or policies could federal agencies take within existing authorities to improve climate change mitigation and resilience in your communities?

This question directs inquiry regarding existing federal capabilities to assist with mitigation of climate change (limiting the factors that cause climate change) and federal capabilities assisting the resilience of the communities affected by climate change (limiting the causal effect). These distinct inquiries are addressed separately.

A. Actions or Policies Federal Agencies Could Take Within Existing Authorities to Improve Climate Change Mitigation

There is a general recognition that Tribal communities are not a major contributor to GHG emissions or the climate change problem; however, they are among the communities that are particularly vulnerable to the effects of climate change. There is also a recognition that in the current crisis regarding climate change, the amount of contribution is no reason to dismiss concerns or avoid action. Many Tribal communities already use federal assistance in developing sustainable programs for their communities to combat local climate change causes. However, these uses could be expanded to other Tribal and indigenous communities that have little or no funding opportunities. Tribes would also benefit from federal actions that allow them to use their resources (energy, land, water, forests, etc.) to mitigate off-reservation contributions to climate change, while providing economic opportunities for the Tribal community.

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[49] CASE STUDY: Gila River Indian Community, EPA (Feb. 2017), https://www.epa.gov/sites/production/files/2017-04/documents/gric-casestudy-tribal-green_building-toolkit-2017-02.pdf.

1. Improving Understanding of the Problem at the Tribal Level

Understanding actions available to Tribal communities that can be used to mitigate climate change requires the initial step of better understanding how Tribal communities contribute to the climate crisis. Individual Tribal communities are best able to assist in alleviating the climate-damaging emissions by first understanding how they may be contributing to the problem.

The federal government provides some insight to help Tribes understand their role in its U.S. Climate Resilience Toolkit website.[50] The Toolkit was assembled as part of the congressional mandate of the U.S. Global Change Research Program (USGCRP).[51] The site, managed by National Oceanic and Atmospheric Administration's Climate Program Office, is focused on providing information and tools from U.S. federal science agencies regarding climate impacts associated with the Built Environment, Coasts, Ecosystems, Energy, Food, Health, Marine, Transportation, Tribal Nations, and Water.[52] However, the site only includes information provided by federal science agencies, stating an intention to eventually "widen our scope to also include information, tools, case studies, and reports from state, local, and tribal governments."[53]

Increasing the scope of the toolkit to allow Tribal Governments to share their information would be helpful; however, it would be even more meaningful for the USGCRP to extend its reach by actively funding information from Tribal governments. The Program has been regularly funded since its adoption in 1990. The Program creates perhaps the best starting place for channeling existing USGCRP funding (or future appropriations) into Tribal grant programs for climate assessment to both increase the database for the toolkit and assist Tribal governments in assessing, and then addressing, their local climate impacts.

The BIA's Tribal Resilience Program is designed to provide direct funding to support Tribes, Tribal consortia, and authorized Tribal organizations to build resilience through competitive awards for Tribally designed resilience training, adaptation planning, vulnerability assessments, supplemental monitoring, capacity building, and youth engagement. This information assists in the National Climate Assessment reports. Expanding the reach of this program will assist more Tribal communities to understand their impacts and obtain assistance in providing strategies to limit the impact of their actions.

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[50] *Meet the Challenges of a Changing Climate*, U.S. Climate Resilience Toolkit, https://toolkit.climate.gov/, (last visited Sept. 10, 2019).

[51] "The [USGCRP] is Federal program mandated by Congress to coordinate Federal research and investments in understanding the forces shaping the global environment, both human and natural, and their impacts on society. *About USGCRP, Who We Are*, U.S. Global Change Research Program, https://www.globalchange.gov/about/mission-vision-strategic-plan, (last visited Sept. 10 2019). "USGCRP facilitates collaboration and cooperation across its 13 Federal member agencies to advance understanding of the changing Earth system and maximize efficiencies in Federal global change research." *Id.*

[52] *Meet the Challenges of a Changing Climate*, U.S. Climate Resilience Toolkit, https://toolkit.climate.gov/, (last visited Sept. 10, 2019).

[53] *Frequently Asked Questions*, U.S. Climate Resilience Toolkit https://toolkit.climate.gov/about/faq, (last visited Sept. 10, 2019).

The Tribal Resilience Federal Funding database provided by the BIA[54] is helpful for finding information regarding community responses to climate changes; however, it could provide improved information regarding sources of funding to assess Tribal community impacts. Likewise, the USDA Climate Hubs resource[55] provides a searchable resource of 140 programs to assist Tribes with adaptation and mitigation of climate change. While the program provides financial assistance, technical assistance, loans, insurance, or services to help Tribes adapt to climate change, it does not allow for determining resources for assessment or mitigation of impacts caused by a Tribe. Improving this resource would include expanding the search terms and reports to assist in Tribal information exchange and realizing funding capabilities.

The U.S. Forest Service (USFS) Research & Development program assists in connecting Tribes to scholarly work regarding climate change research;[56] however, the utility of those resources is limited without assistance in implementing some of the actions cited to in those reports. These tools need to not just be offered, but implemented with Tribal governments. The USFS's Tribal Relations Strategic Plan guides how the Service can work with and assist Tribes;[57] however, the most recent version of that plan does not even mention climate change. The Strategic Plan needs to be updated regularly and incorporate climate change mitigation and adaptation. Additionally, the Intertribal Timber Council (ITC), in partnership with the USDA Forest Service Southern Research Station, provided research scholarships for Native American scholars who conducted Tribally relevant research on a natural resource issue from 2015 to 2018. This scholarship supported Native American scholars with varying research topics in climate change, wildlife, water restoration, precipitation variability, and forestry.[58] The Forest Service should continue this partnership in providing funding opportunities to support Tribal research needs by those who are most suited to address them—the Tribal communities themselves—and expand funding to implement actionable research.

Intertribal partnerships that share information and resources should be encouraged, proliferated, and funded by the federal government, particularly where they help assess individual energy use, and then provided a means to address energy conversion from fossil fuels to zero-

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[54] *Funding Resources*, BIA Tribal Resilience Resource Guide, https://biamaps.doi.gov/Tribalresilience/resourceguide/funding/index.html, (last visited Sept. 10, 2018).

[55] *USDA Programs and Resources to Assist with Adaptation to Climate Change*, USDA Climate Hubs, https://www.climatehubs.oce.usda.gov/Tribal-resources, (last visited Sept. 10, 2019).

[56] *Tools for Tribes*, U.S. Forest Serv. Research & Dev., https://www.fs.fed.us/research/tribal-engagement/tools.php, (last visited Sept. 10, 2019).

[57] *USDA Forest Service Tribal Relations Strategic Plan Fiscal Years 2019–2022*, U.S. Dept. of Agric. Forest Serv. FS-1119 (Dec. 2018), https://www.fs.fed.us/spf/tribalrelations/documents/plan/USDA-FS-TribalRelationsStrategicPlanFY2019-2022.pdf.

[58] Patty Matteson, *Intertribal Timber Council Scholarships Connect Students with Forest Service Scientists*, USDA S. Research Station CompassLive (July 22, 2015), https://www.srs.fs.usda.gov/compass/2015/07/22/intertribal-timber-council-scholarships-connect-students-with-forest-service-scientists/.

carbon resources. As mentioned in Section I, the OIE and the BIA Tribal Resilience Program provided funding to MTERA. MTERA empowers Midwest Tribes to audit and manage energy resources through collective action, and continues to provide a gateway for OIE funding opportunities and intertribal information sharing. While the assistance is helpful for the already established MTERA, the OIE and BIA should increase their funding opportunities to expand the scope of existing programs to help Tribes in other regions create these types of associations to proliferate their effectiveness.

A meaningful action that could be taken with existing authorities is to acknowledge that climate change impacts are occurring in all sectors of society and help facilitate strategies for Tribal communities to be part of the solution. In May 2016, the Environment, Climate Change, and Natural Resources Subgroup of the White House Council on Native American Affairs hosted a meeting for Tribal leaders and Administration leadership to discuss the impacts of climate change on Tribal communities.[59] Reinstating and expanding this forum with a focus on climate change impacts on Tribal communities would allow Tribes to share knowledge, data, and awareness with the assistance and support of the current Administration. With Administration support and proximity, the Tribal leadership would be able to clearly communicate funding and program needs to address climate change.

2. Improving How Tribes Can Mitigate the Impact From Their Activities That Worsen Climate Change and Use Their Resources to Mitigate Impacts Arising Off of Tribal Lands

Once understood, Tribes need support to assist in mitigating their impacts. Federal policies and actions also have the opportunity to provide Tribal communities assistance to allow them to use their resources to develop larger-scale projects that work to mitigate the regional climate change impacts, while creating economic development opportunities for Tribal communities. These actions could focus on development of industrial scale renewable energy programs, valuing and promoting carbon sequestration, improving forest and rangeland management, reforesting activities, and supporting sustainable industries. Unfortunately, many of the programs that provided assistance to Tribes to remove their reliance on and assist in reducing GHG-generating energy sources have been suspended or terminated by the current administration. As noted below, these programs should be reinstituted to provide Tribes the tools to properly address climate change.

Primary sources of GHGs nationally in 2017 include transportation (29%), electricity generation (28%), industry (22%), residential/commercial uses (12%), and agriculture (9%).[60] While these divisions do not translate directly to Indian Country, each of these elements can be addressed to improve federal programs for Tribal communities.

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[59] Press Release, The White House Office of the Press Secretary, Fact Sheet: The 8th Annual White House Tribal Nations Conference (Sept. 26, 2018), https://obamawhitehouse.archives.gov/the-press-office/2016/09/26/fact-sheet-8th-annual-white-house-Tribal-nations-conference.

[60] *Sources of Greenhouse Gas Emissions*, U.S. Envtl. Prot. Agency, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions, (last visited Sept. 10, 2019).

Transportation. Many Tribes have industrial equipment that is used in agriculture, mining, commerce, education, healthcare, and infrastructure that relies on diesel engines. Given the historic state of funding for Tribes, much of this equipment and vehicles are older and high polluting. EPA's Office of Transportation and Air Quality recently solicited applications for 2019 Tribal DERA projects that could achieve significant reductions in diesel emissions and diesel emissions exposure, particularly from fleets located in areas designated as having poor air quality.[61] Eligible diesel vehicles, engines, and equipment may include school buses, Class 5 – Class 8 heavy-duty highway vehicles, locomotive engines, marine engines and non-road engines, equipment or vehicles used in construction, handling of cargo (including at ports or airports), agriculture, and mining or energy production (including stationary generators and pumps).[62] Since 2010, only 28 Tribal grants have been provided to support this purpose, with an average grant of $310,000.[63] It is likely that nearly every Tribe nationwide could benefit from this program at some scale. The current program states that EPA anticipates up to $4 million in grant funds will be awarded to Tribes, which appears to be a significant increase in funding.[64] However, the low utilization of the program by Tribes in the past may create a false perception of an increase in future funding. The EPA should assist Tribal governments to become eligible for these grants and more significantly and actively encourage Tribes to participate in these opportunities, and then continue to increase funding as more Tribes seek the grants.

Improving transportation efficiency and transit on reservation lands is also a challenge. For example, Tribal community use of electric vehicles (EVs) is limited in large part by the lack of infrastructure. Many Tribes are remotely located, and the EV charging infrastructure needed to support expanded use of EVs is not available. In addition, the unfamiliarity of EV charging stations and concerns regarding the potential limited range of EVs can cause range anxiety among Tribal users. As a result, many communities are hesitant to establish EV infrastructure with charging locations. However, the use of EVs will reduce GHG emissions and will reduce the costs of transportation, especially when coupled with renewable energy sources.

In California, the Blue Lake Rancheria recently teamed up with GRID Alternatives and the Native American Environmental Protection Coalition to conduct direct outreach to Tribal communities to provide information on incentives and funding to make EVs more affordable for low-income drivers.[65] The program arose from the California's Clean Energy and Pollution

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[61] *Clean Diesel Tribal Grants*, U.S. Envtl. Prot. Agency, https://www.epa.gov/cleandiesel/clean-diesel-tribal-grants, (last visited Sept. 10, 2019).

[62] *Id.*

[63] *Tribal Awarded Grants*, U.S. Envtl. Prot. Agency, https://www.epa.gov/cleandiesel/Tribal-awarded-grants, (last visited Sept. 10, 2019).

[64] *Clean Diesel Tribal Grants*, U.S. Envtl. Prot. Agency, https://www.epa.gov/cleandiesel/clean-diesel-tribal-grants, (last visited Sept. 10, 2019).

[65] *New Program Gives Remote Native American Tribes Greater Access to Affordable Electric Vehicles*, Indian Country Today (Aug. 20, 2019), https://newsmaven.io/indiancountrytoday/the-press-

Reduction Act which is designed to increase low-income residents' awareness of clean transportation options by expanding education and outreach, and it is part of a broader statewide effort to help transition California's vehicle fleet away from fossil fuels to low emission options.[66] Expanding the use of this type of program on the federal level would help Tribal communities breach the concern of taking the leap to EVs.

Many Tribal communities are remote and are financially challenged, and it is therefore appropriate for the EPA, consistent with its federal trust obligations to Tribes, to use its existing programs to provide preferential direction of projects and funds to assist Tribes to resolve their GHG emissions. Revision of fleet vehicles to electrical or low emission can also be generated through public-private partnerships that are facilitated through regulatory programs. Supplemental environmental projects (SEPs) and voluntary emission reduction agreements (VERAs) are tools available to the EPA and state governments to channel private permitting and enforcement funds into environmentally beneficial projects in disadvantaged communities such as Tribal communities. Allowing regional Tribal governments to develop a menu of projects, including vehicle and engine conversions, would help the EPA provide preferential distribution of SEP funds to help reduce Tribal GHG emissions. Likewise, the use of VERAs allow private industry or governments to agree to fund or develop projects as an offset to their new project that would otherwise cause a net increase in emissions. Focusing the projects arising from VERAs to projects in Tribal communities that assist in the reduction of Tribal GHG and other pollutants through fleet and engine conversion would provide private funding to supplement federal grants to reach GHG reduction goals.

Electricity Generation. Many Tribal communities are isolated from electrical grid systems and/or are situated in a defined community area. Such communities are well situated to benefit from a community-scale micro grid system and other energy generation systems. The benefits of micro grid systems for Tribal communities are well known—Blue Lake Rancheria reduced energy costs (and emissions) by $200,000 in a single year after installing a micro grid system.[67] However, attaining the ability to create a Tribal micro grid can be a challenge for many Tribal communities.[68]

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pool/new-program-gives-remote-native-american-tribes-greater-access-to-affordable-electric-vehicles-K9QtOauU5UyMcUPE9N6DyA/.

[66] Clean Energy and Pollution Reduction Act - SB 350, Cal. Energy Comm'n, https://www.energy.ca.gov/rules-and-regulations/energy-suppliers-reporting/clean-energy-and-pollution-reduction-act-sb-350, (last visited Sept. 10, 2019).

[67] Microgrid System Saves Tribe $200,000 a Year, Yale Climate Connections (March 22, 2019), https://www.yaleclimateconnections.org/2019/03/microgrid-system-saves-tribe-200000-a-year/.

[68] An excellent webinar discussing the development of Tribal microsystems was hosted by the OIE and the Western Area Power Alliance in 2018 and remains publicly available https://www.energy.gov/indianenergy/downloads/2018-Tribal-energy-november-webinar-Tribal-microgrid-case-studies.

Recently the DOE announced more than $16 million in funding for fourteen Tribal energy infrastructure projects through DOE's OIE.[69] The funding opportunity was conceived to support Tribes' ability to harness their on-site energy resources while reducing energy costs.[70] Such grants are beneficial to Tribal communities that can provide the cost share necessary to obtain the funds—Tribal cost share commitments can range from over $5 million to over $23 million—but fail to provide similar benefits to Tribes that are not able to accumulate the cost share amounts necessary to obtain the grants. The DOE should create a graduated system that allows for more financially challenged Tribes to enjoy the benefits of these DOE OIE programs.

Beyond the development of micro grids, Tribal lands also can provide answers for reducing GHGs from projects off reservations. Tribal land comprises about 2% of U.S. land but contains an estimated 5% of all renewable energy resources.[71] Resources are available for Tribes to learn about the virtues of renewable energy on Tribal lands;[72] however, converting this knowledge to projects is more of a challenge.

The EPA can also encourage Tribal energy projects to pursue Emission Reduction Credit (ERC) bank agreements and programs, which provide financial incentives to reduce emissions, as well as attract economic development to Tribal lands.[73] The overall purpose of an ERC bank is to apply market-based strategies to encourage reductions in emissions for an area, which may help meet shared air quality goals. ERCs can be generated by permanently shutting down and removing equipment; upgrading or retrofitting to more stringent emissions controls; or changing the processes, methods, or operating guidelines that reduce emissions. The ability to bank emissions credits through these voluntary methods provides a resource that can be sold on the market to other Tribal or non-Tribal businesses in their air basin. Specifically, Tribes that seek to implement an energy conversion project (e.g., coal to solar) should be allowed to develop an ERC bank prior to conversion and use the market credits to assist in the cost and job retraining arising from the conversion. The EPA can expand the awareness and implementation of these types of programs to facilitate economic development by providing a market for compensating emissions reductions and offsets.

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[69] *DOE Announces $16 Million for 14 Tribal Energy Infrastructure Deployment Projects*, U.S. Dep't of Energy (July 23, 2019), https://www.energy.gov/articles/doe-announces-16-million-14-Tribal-energy-infrastructure-deployment-projects.

[70] *Id.*

[71] *Developing Clean Energy Projects on Tribal Lands Data and Resources for Tribes*, U.S. Dep't of Energy Office of Indian Energy DOE/IE-0015, at 3 (April 2013), https://www.nrel.gov/docs/fy13osti/57748.pdf.

[72] *See id.*

[73] *See* Federal Implementation Plan To Establish a Bank for Ozone Precursor Emission Reduction Credits From Existing Sources on Indian Country Lands Within the Uinta Basin Ozone Nonattainment Area, 84 Fed. Reg. 24,064 (proposed May 24, 2019), https://www.govinfo.gov/content/pkg/FR-2019-05-24/pdf/2019-10798.pdf.

Residential/commercial. In 2015, the EPA created a helpful "Tribal Green Building Toolkit"[74] which provides guidance to help Tribal officials, community members, planners, developers, and architects develop and adopt building codes to support green building practices. The toolkit helps Tribal communities set goals and standards to create sustainable communities, and has a link to grant sources that can fund the conversion to a sustainable community.[75] However, most of the links lead to generic funding sites or sites that state that no funding is currently available. This represents an excellent opportunity to update and improve the site, by providing information regarding grants and other resources that are specific for Tribal sustainability issues. It could also include links to other programs that are resources for both Tribal governments and individual Tribal citizens. The Toolkit could be improved by setting goals for the federal government as well as Tribes to show a mutual commitment to provide the resources to develop all new buildings on reservations to a net-zero energy standard.

Agriculture. A significant source of particulate and ozone emissions arise from wildland fires, which contribute to climate change. Healthy forest systems and trees assist in countering the effects of climate change. Improved forestry management plans to maintain forest health and limit the impact of wildfires should be encouraged and funded. The impact of a well-managed forest system was displayed recently when a significant California forest fire raged through federal, non-Tribal lands that were not actively managed, encompassing over 36,000 acres adjacent to the Tule River Reservation. Once the fire encountered the forest-managed Tribal lands, "fire behavior was dramatically reduced, effectively stopping its forward progress. These treatments were very effective in halting the spread of the fire."[76] The management of the forest was credited with allowing the fire to be controlled.

Using existing data from wildfires and the effectiveness of forest management, the EPA and USFS should develop an index that reflects the benefits of emissions saved by proper forest management, and then allow Tribes to monetize that benefit through VERA projects or ERC systems. By developing an incentive system for excellent forest management, Tribal communities can both protect their valuable resources and receive economic benefits that fund such programs.

Tribal reforestation project incentives should include conversion of graze-lands to forest. This would help mitigate climate change, but is also complicated by climate change.[77] The USFS and other departments should work with Tribes to develop technical assistance to ensure that

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[74] *Tribal Green Building Toolkit*, U.S. Envtl. Prot. Agency (July 2015), https://www.epa.gov/sites/production/files/2016-01/documents/Tribal-green-building-toolkit-mobile-2015.pdf.

[75] *Funding Opportunities for Tribal Green Building*, U.S. Envtl. Prot. Agency, https://www.epa.gov/green-building-tools-tribes/funding-opportunities-Tribal-green-building, (last visited Sept. 10, 2019).

[76] *2017 Pier Fire, Tule River Indian Reservation, California: A Report on the Effectiveness of Fuels Treatment*, R. Johnson, Fire Ecologist, Pacific & Western Regions, BIA.

[77] See impact of climate change on reforestation seed selection. Holly R. Prendeville, *Weather, Climate and Adapting to Changes*, USDA Nw. Climate Hub, at 18 https://westernforestry.org/wp-content/uploads/2018/08/2018INC_7-26_Prendeville.pdf, (last visited Sept. 10, 2019).

reforestation and graze-land conversions are optimized for success in a changing environment. In addition, Tribes should receive appropriate carbon and/or emission credits for reforestation, which they can monetize.

B. Actions or Policies Federal Agencies Could Take Within Existing Authorities to Improve Resilience in Tribal Communities

In order to build and improve resilience to climate change in Tribal communities, federal agencies must take action to: (1) improve Tribal access to resources; (2) facilitate and encourage Tribal involvement in climate change assessment, planning, and implementation at the federal, state, and local level; and (3) facilitate the ability of Tribal communities to collaborate with governmental agencies and the private sector by facilitating access to climate change data (e.g., supporting a clearinghouse to share data, resources, and lessons learned).[78] These actions must be consistent and maintained over a long period to ensure the resilience built and improved within Tribal communities is sustained.

1. Building Resilience—Resources for Tribes

The most direct method to build resilience to climate change in Tribal communities is to provide Tribal communities the required resources, including improving access to funding to conduct assessments and to develop and implement adaptation strategies and capacity building. Despite the fact that impacts of climate change disproportionately affect Tribal communities, funding for Tribal communities continues to receive inequitable funding (e.g., BIA compared to other entities within the DOI). Federal agencies should increase funding for: (1) Tribal environmental programs and environmental grants to assist Tribal communities in adapting to climate change and (2) capacity building trainings and resources.

a. Address Barriers to Funding

i. Consistent Funding

Building resilience to climate change in Tribal communities requires consistent funding for all stages of assessment, planning, and implementation. Funding in one fiscal cycle that supports assessments and planning without reliable funding to support consistent implementation undermines the effectiveness of any assessment and planning completed. It is not uncommon for Tribal communities to see tangible benefits from funding sources to support building programs or starting air quality and climate change initiatives only to have those funding sources reduced or eliminated in following years. For example, the BIA Tribal Resilience Program (previously the Tribal Climate Resilience Partnership and Technical Assistance Program) decreased funding by

[78] *See* Bierbaum, R., A. Lee, J. Smith, M. Blair, L. M. Carter, F.S. Chapin, III, P. Fleming, S. Ruffo, S. McNeeley, M. Stults, L. Verduzco, and E. Seyller, 2014: Ch. 28: *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 670-706, https://nca2014.globalchange.gov/report/response-strategies/adaptation.

about half in 2018/2019 compared to the 2017/2018 fiscal year[79] and the Trump Administration proposed to completely eliminate funding to the Tribal Resilience Program for Fiscal Year 2020.[80] In 2017/2018, the BIA Tribal Resilience Program provided critical capacity building, planning, information sharing, and other adaptation and resilience-building activities in 138 Tribal communities. However, in Fiscal Year 2019, only 50 awards are anticipated to be awarded. Federal agencies should also continue to encourage and seek additional and/or more flexible funding sources such as supplemental environmental projects in CAA settlements and allocate funding specifically to Tribal air quality programs, rather than establishing competitive grant funding requirements for Tribal communities.

ii. Consolidate Funding Sources

The tools needed to build resilience to climate change cut across industries, programs, and offices within federal agencies. Despite efforts to consolidate funding and provide flexibility with respect to such funding (e.g., EPA's Multipurpose Grant program, Performance Partnership Agreement, etc.), funding for Tribal environmental departments and programs is still very topic specific. Often Tribal environmental programs are forced to juggle dozens of grants from several federal agencies to meet their needs. Each of these programs often has its own applications, reporting cycles, and requirements. This forces Tribal environmental departments to spend significant amounts of time and resources on grant applications and compliance, which takes away from critical programs and initiatives. Therefore, the consolidation of multiple grants into a single funding source to address building resilience to climate change should be a focus of federal agencies.

iii. Access to Funding

Another barrier to funding that needs to be addressed is access. Many funding opportunities are available only to states or Tribes with treatment-as-a-state (TAS) authority and/or there is a high non-federal match requirement. For example, EPA's Multipurpose Grant program is only eligible to Tribes with TAS authority, and DERA funding has significant Tribal match requirements. These requirements leave out many Tribal communities that could greatly benefit from access to funding and should be reconsidered. Federal agencies should also consider removing the match requirement or including a hardship waiver for grant matching requirements to enable more Tribal communities to be eligible for such funding.

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[79] *Compare 2017 / 2018 Resilience Funding Awards Summary*, U.S. Dep't of Interior, Bureau of Indian Affairs, Office of Trust Services, Tribal Resilience Program, at 2 (Feb. 27, 2019), https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/tcrp/2017_18_TRPAwardSummary.pdf, *with Tribal Resilience Grants and Ocean and Coastal Management and Planning Grants- Federally Recognized Tribes*, U.S. Dep't of the Interior, Bureau of Indian Affairs, BIA-TR_2019-0001 (April 10, 2019), https://www.grants.gov/web/grants/view-opportunity.html?oppId=314754.

[80] General Memorandum 19-008, FY 2020 Indian Affairs Request, Hobbs Straus Dean & Walker, at 4 (April 16, 2019), https://www.hobbsstraus.com/sites/default/files/generalmemo/GM_19-008_FY_2020_IA_Request.pdf.

b. Specific Programs

Building resilience in Tribal communities will require funding programs that are as diverse as the impacts of climate change. There are several programs and initiatives to support in building resilience in Tribal communities; however, this response focuses on specific funding opportunities that could also lead to immediate improvements in air quality and/or building resilience to impacts of poor air quality that are exacerbated by climate change. Such specific funding opportunities include indoor air quality programs (discussed above), emergency response planning, housing improvements, healthcare programs, and funding to enable Tribal communities to actively participate in climate change initiatives.

i. Emergency Response Planning

With more severe and extreme weather events resulting from climate change, emergency response and preparedness are critical to building resilience in Tribal communities. A comprehensive federal program should, therefore, be developed to address the unique needs of Tribal communities in responding to climate change.

The Tribal Homeland Security Grant Program and capacity building through Ready Indian Country have played an important role in enabling Tribes to prepare for emergency events resulting from climate change. In addition, and as described above, the ability of Tribal governments to request a Presidential emergency or major disaster declaration independent of a state has been instrumental in providing Tribal government funding to address emergencies in Tribal communities. These programs should continue to be funded and supported and should be increased to reflect the rising costs of responding to emergencies.

In addition, FEMA and other agencies providing similar services and funding need to re-evaluate their funding programs with respect to Tribal communities to ensure funding programs and policies address impacts unique to Tribal communities. For example, FEMA funding to provide individual disaster assistance, specifically relocation, does not take into account community-wide relocation. Individual relocation does not take into account the importance of maintaining community and cultural continuity.[81]

Similarly, funding to train, prepare, and provide the necessary resources during emergencies is critical. One critical air quality emergency response need is for the increased wildfires risk due to climate change. Like many other ecosystems, climate change is projected to have a devastating impact on forests. The changes in temperature and precipitation and periods of

[81] Jantarasami, L.C., R. Novak, R. Delgado, E. Marino, S. McNeeley, C. Narducci, J. Raymond-Yakoubian, L. Singletary, and K. Powys Whyte, 2018: Tribes and Indigenous Peoples. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W., Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 572-603, 585-586. Doi: 10.7930/NCA4.2018.CH15, available at https://nca2018.globalchange.gov/chapter/tribes.

prolonged drought make forests vulnerable to parasites, invasive species, and wildfires.[82] Wildfires have a significant negative impact on local and regional air quality. With approximately 18 million acres of forest lands held in trust status for Tribal communities, building resilience to climate change in Tribal communities must include increased funding for forest management programs and air quality programs to address air quality impacts of wildfires. As discussed in more detail in Section 2.2 of NTAA's Status of Tribal Air Report, May 2019, costs to prepare for, defend against, and respond to catastrophic wildfires are putting a strain on Tribal budgets.[83] Funding should, therefore, be identified to assist Tribal communities in responding to wildfires to protect public health by adequately monitoring air quality during wildfires and disseminating critical air quality information to their communities.

ii. Housing

The federal government currently provides funding to support Tribal housing developments and improvements. For example, the Indian Community Development Block Grant Program, Indian Housing Block Grant Program, and Housing Improvement Program have all been critical in the development of housing and improvements in Tribal communities. However, for Tribal communities to properly plan for and build resilience to the effects of climate change, HUD should ensure funding opportunities and requirements take into account impacts from climate change and the need to build resilience in Tribal housing (and other infrastructure) to impacts such as more frequent and extreme weather events, sea-level rise, and increasingly severe wildfires. To that end, HUD should update its Climate Change Adaptation Plan,[84] in consultation with Tribal communities, and implement it accordingly.

In addition to any initiatives or program changes identified in HUD's Climate Change Adaptation Plan, and concerning air quality, federal agencies should focus on increasing funding to enable Tribal communities to build housing and other infrastructure with building materials that will withstand severe weather events and make readily available region-specific building code recommendations that take into account current and future climate change impacts. As outdoor air quality continues to degrade in many areas, indoor air quality will become increasingly important. Federal agencies should therefore, continue to support legislation that funds and increases funding for programs that: (1) facilitate the replacement of wood stoves (e.g., the Wood Heaters Emissions Reduction Act); (2) remove and prevent mold in homes; and (3) install filtration systems.

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[82] Vose, J.M., D.L. Peterson, G.M. Domke, C.J. Fettig, L.A. Joyce, R.E. Keane, C.H. Luce, J.P. Prestemon, L.E. Band, J.S. Clark, N.E. Cooley, A. D'Amato, and J.E. Halofsky, 2018: Forests. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 232–267. doi: 10.7930/NCA4.2018.CH6, available at https://nca2018.globalchange.gov/chapter/6/.

[83] *Status of Tribal Air Report*, Nat'l Tribal Air Ass'n, at 25-30 (May 2019), https://www7.nau.edu/itep/main/ntaa/ResourcesPDF/STAR19.

[84] *Climate Change Adaptation Plan*, U.S. Dep't of Housing and Urban Dev. (Oct. 2014), https://www.hud.gov/sites/documents/HUD2014CCADAPTPLAN.PDF.

iii. Healthcare & Preventative Programs

As noted above, climate change is projected to result in additional adverse health outcomes, including risks associated with pollen and mold, vector-borne diseases, cardiovascular diseases, and respiratory illnesses. In addition, poor outdoor air quality will also result in less outdoor activity, which could increase health risks such as diabetes and cardiovascular diseases. Tribal communities are already experiencing higher rates of asthma, heart disease, and diabetes compared to the national average. Therefore, funding to build resilience to climate change must include health care funding as well as funding to support preventative health programs. Preventative programs that are responsive to poor air quality can include funding to support indoor physical activities. Indoor recreation centers, for example, would enable Tribal communities to continue to get the benefits of physical activity without being exposed to poor outdoor air quality during such conditions.

iv. Tribal Communities Active Participation in Climate Change Initiatives

Because Tribal budgets are already under significant strain, the ability of many Tribal communities to participate in climate change initiatives at a regional and national level are significantly limited by funding. Participation in such regional and national climate change initiatives often requires staff time, travel for Tribal leadership and staff to interact with the various stakeholders and decision makers, and engaging professional consultants to build the data, capacity, and skills necessary to participate in such climate change initiatives. Therefore, funding opportunities to address climate change in Tribal communities must also include funding to support Tribal participation at the regional and national level.

C. Administrative Policies—Encourage Tribal Involvement

Climate change impacts all aspects of Tribal communities, including the same impacts many other communities face (e.g., drought, increase risk to wildfire, sea level rise, more frequent extreme weather events, etc.). However, Tribal communities also face unique and/or aggravated impacts. This is because Tribal communities are part of an interconnected environment—Tribal cultures, religions, economies, and health are tied to the place and resources they have inhabited for hundreds of generations. A disruption in that interconnected environment, especially one as destructive as climate change, affects every aspect of Tribal communities. For example, the loss of plant and animal species that Tribal communities rely on for subsistence and important cultural and religious practices will be exacerbated as a result of climate change. In addition, because Tribal communities are so significantly connected to their physical environments, Tribal communities possess both traditional ecological knowledge and contemporary climate science data that should be incorporated into the larger discourse surrounding climate change and the assessment, planning, and implementation of climate change initiatives in Tribal communities. Tribal involvement in climate change assessment, planning, and implementation is not only necessary for the long-term

viability of climate change initiatives, it is required by trust responsibility the federal government owes to Tribes and by long-standing federal law and executive orders.[85]

1. Consultation

Ongoing and sustained consultation with Tribal communities is the only way to ensure the impacts of climate change on Tribal communities are properly understood and addressed in a culturally relevant manner. As stated above, there are several laws requiring consultation with Tribal communities. However, despite these laws, existing Executive Orders, and federal agency policy, the federal government as a whole continues to fall short on its obligation to consult with Tribal communities. When the federal government is considering actions that will affect the causes and effects of, and responses to, climate change, federal agencies must consult with Tribal communities early in the decision-making process. Consultation must occur early enough in the process so that Tribal communities have the time necessary to consider any proposed changes and enable each to provide meaningful comments and considerations.

Any decision by federal agencies to reduce mitigation of climate change and reduce resilience to climate change should not be undertaken until meaningful Tribal consultation has occurred. Despite this, Tribal communities were not consulted by the DOI before it issued its decision to make significant changes to the Endangered Species Act, or by the EPA before its decision to repeal the CPP, or before issuing proposed rules that would amend the Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources.

2. Traditional Knowledge

Another mechanism to encourage Tribal involvement in climate change initiatives is for federal agencies to develop a policy to facilitate the inclusion of traditional knowledge into climate change research and adaptation planning. Traditional knowledge is a constantly evolving and adapting, cumulative body of knowledge, practice, and beliefs handed down through generations.[86] Traditional knowledge with respect to the natural environment as well as traditional knowledge with respect to the impacts of climate change is necessary to meaningfully include Tribal communities in climate change initiatives.

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[85] *See* the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, Archaeological Resources Protection Act, the American Indian Religious Freedom Act, the National Environmental Policy Act, Executive Order 13,175 Consultation and Coordination with Indian Tribal Governments (2000), Executive Order 13,007 Indian Sacred Sites (1996), and Executive Order 13,647 Establishing the White House Council on Native American Affairs (2013).

[86] *See generally* Bennett, T. M. B., N. G. Maynard, P. Cochran, R. Gough, K. Lynn, J. Maldonado, G. Voggesser, S. Wotkyns, and K. Cozzetto, 2014: Ch. 12: Indigenous Peoples, Lands, and Resources. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 297-317, 301. doi:10.7930/J09G5JR1, https://nca2014.globalchange.gov/report/sectors/indigenous-peoples.

D. Promoting Tribal-Private Partnerships

Climate change will require participation at all levels and any policies developed to build resilience to climate change in Tribal communities will need to enable Tribal-private partnerships. Tribal-private partnerships can be encouraged through funding research and facilitating information sharing. The non-governmental and private sector play important roles in building resilience to climate change and are important sources of research and climate change initiatives.[87] However, there is no comprehensive assessment on how federal agencies can encourage Tribal-private partnerships in responding to climate change. Such partnerships can address two barriers to adaptation to climate change identified by the Third National Climate Assessment: (1) the disconnect between climate change information, and (2) decision-making and the fragmentation of decision-making.[88] Federal agencies should, therefore, evaluate their current programs and policies to remove barriers to Tribal-private partnerships in building resilience to climate change.

IV. What new policies would you recommend Congress consider to improve climate change resilience in your communities, reduce emissions of heat-trapping pollution, increase the development and availability of renewable resources, or capture or off-set emissions of heat-trapping pollution?

While there are many current federal laws and programs, and substantial authority for Tribes and Tribal communities to respond to climate change impacts, there are many additional new federal policies, laws, and administrative actions that could and should be considered by the Congress and the Administration. These additional new laws, policies, and administrative actions can be characterized in the following ways:

- Federal regulatory laws that promote Tribal self-governance, self-determination, and sovereignty—comparable to state authorities under federal law—over air quality, environmental protection, clean energy production, greenhouse gas emissions and other sources of air pollution;
- Federal program laws that treat Tribes equitably with state and local governments for grants, technical assistance, and increased Tribal program support;
- Federal policies—especially administrative actions—that promote Tribal, state, and local government cooperation, collaboration, and coordination on climate adaptation and resiliency efforts across governmental jurisdictions;
- Tax and financing programs that encourage Tribal-private sector partnerships to improve air quality, deploy low-to-no carbon energy projects, and implement climate adaptation and resiliency programs for new and existing Tribal building stock.

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[87] Bierbaum, R., A. Lee, J. Smith, M. Blair, L. M. Carter, F. S. Chapin, III, P. Fleming, S. Ruffo, S. McNeeley, M. Stults, L. Verduzco, and E. Seyller, 2014: Ch. 28: Adaptation. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 670-706, 679. doi:10.7930/J07H1GGT, http://nca2014.globalchange.gov/report/response-strategies/adaptation.

[88] *Id.* at 683.

A. Identify and Amend Current Federal Regulatory Laws

The following regulatory laws should be amended to support Tribal governments in the exercise of Tribal sovereignty to protect Tribal lands, air, environment, and public health. Improvements would support treating Tribes as states under federal regulatory laws, creating opportunities for Tribes to more fully participate in the clean energy economy, give Tribes more control and authority to deploy energy-related climate adaptation and resiliency efforts, and ensure Tribal authorities to manage natural resources for climate change impacts.

Clean Air Act. Because the CAA is the foundational environmental regulatory law that can be leveraged by Tribes to protect their air quality and take local action to mitigate greenhouse gas emissions, there are opportunities to improve how the CAA can work for Tribes. Such amendments include:

- Update the NAAQS criteria air pollutants to include CO_2. 42 U.S.C. § 7409.
- Allow Tribes to create federally enforceable air quality standards without requiring the Tribe to receive TAS status.
- Allow greater participation by Tribes in the Cross-State Air Pollution Rule.
- Create mandatory consultation requirement with Tribes for SIP development. 42 U.S.C. §§ 7410, 7411(c). Also allow Tribes to bring actions against states that fail to comply with SIP requirements.
- Authorize states and Tribes to form a joint SIP/TIP for air pollutants and emission sources that can affect both state and Tribal lands.
- Create EV and EV infrastructure investment incentives on Tribal lands.

National Environmental Policy Act. Because some CAA permits will be issued by the EPA under a FIP or on Tribal lands, NEPA will likely be applicable to the EPA's determination to issue the permit and the standards that must be met for the emission source. Furthermore, continued efforts to develop energy resources on federal lands always invoke NEPA. Lastly, future efforts to design and deploy more clean energy infrastructure and other federal efforts (such as new transportation funding programs) to adapt and respond to climate change impacts will necessarily require NEPA. Thus, to support Tribal environmental interests in the NEPA process, NEPA could be amended to:

- Create a mandatory requirement for federal agencies (as lead or co-lead agencies), state and local governments (as cooperating agencies), and any other lead, co-lead or cooperating agency to consult with Tribes.
- Clarify that NEPA requires a cumulative analysis of direct and indirect GHG emissions and must include alternative proposals that require mitigation of GHG emissions.[89]

[89] *See* NTAA's August 26, 2019 comments on the White House Council on Environmental Quality's Draft NEPA Guidance on Consideration of GHG emissions, https://www7.nau.edu/itep/main/ntaa/PRKPDF/CEQCommentLetter.

Tribal Agricultural and Forest Management Acts. Tribes have begun to actively explore carbon sequestration project opportunities, such as projects for the California cap and trade market or other blossoming voluntary carbon offset markets. These Tribal projects have primarily been Tribal forest-based projects. However, there are also opportunities for Tribal agriculture products and practices to be the carbon sequestration project. To ensure Tribes can participate in these carbon offset market opportunities, the National Indian Forest Management Act and the American Indian Agricultural Management Act should be amended to:

- Explicitly include carbon sequestration as permitted use of Tribal forest lands, 25 U.S.C. § 3104(b), and Tribal agricultural lands, 25 U.S.C. § 3711(a).
- Allow for climate mitigation and adaption policies in management plans and forest assessments. 25 U.S.C. §§ 3111, 3714.

Federal Land Policy and Management Act (FLPMA). Many Tribes, especially those with forest lands or treaty resources dependent on forest and range lands, border federal forests and lands. These Tribes are impacted by how the federal government manages its own lands. Protecting treaty resources (such as fish) or responding to wildfires can be critical issues for these Tribes. A potential amendment that could support collaborative efforts between Tribes and the federal government would, upon request of the bordering Tribe, require the federal land agency to enter into co-management agreements with Tribes on forest or range lands for wildfire or treaty resource mitigation purposes.

Federal Power Act (FPA) and Public Utility Regulatory Policies Act (PURPA). Several laws have been adopted or amended that support Tribal energy development, and especially Tribal clean energy development. However, certain signature federal laws—the FPA and PURPA—do not acknowledge Tribes' inherent authorities over energy providers, energy generation, independent power producers, utilities, and transmission line owners on Tribal lands. These two laws do not even mention Tribes in relation to the allocation of jurisdiction and authorities between the federal government and state governments over utilities and other energy providers. Nor do these two laws treat Tribes similar to states for purposes of federal jurisdiction over Tribal-owned utilities or Tribal-owned energy providers.

Clean energy development, and especially distributed energy resource development (such as community solar, rooftop solar, distributed wind, and micro grids), will be critical to climate mitigation, adaptation, and resiliency strategies for Tribal communities. To promote more utility-scale renewable energy and distributed energy deployment on Tribal lands, the FPA and PURPA could be amended to:

- Treat Tribes as states for retail electricity and natural gas distribution regulatory authority. *See, e.g.*, 16 U.S.C. § 796 (defining "state," "state commission," and "state regulatory authority," but no mention of Tribes).
- Treat Tribes as states for exemption from FERC regulation. 16 U.S.C. § 824(f).
- Require utilities to purchase Tribal renewable energy under Section 201, 210 of PURPA.
- Specifically include GHG emissions reductions, climate adaption, and resiliency in PURPA federal standards requirements. 16 U.S.C. § 2621(d).

B. Federal Program Laws

There are several federal laws that create federal programs for, and provide federal financial and technical support to, states, local governments, and Tribes for climate impact-related activities. However, there are also opportunities to both update Tribal-specific programs and general programs to ensure that Tribes are treated equitably and have sufficient resources to be able to implement adaptation and resiliency projects.

Indian Tribal Energy Self-Determination Act. Title V of the Energy Policy Act of 2005 was a great start for kick-starting Tribal clean energy deployment and expanding programs and services to Tribes to promote clean energy projects. While the Act was recently amended, there are additional provisions that should be amended, or added, to emphasize climate adaptation and resiliency efforts:

- Provide more funding for DOI and DOE programs, including increasing program authorization to any amount necessary.
- Add climate mitigation, adaptation, and resiliency in program goals for DOE OIE.
- Require the Power Marketing Authorities to buy Tribal renewable energy.
- Create specific funding program for terra carbon sequestration research and project development.
- Clarify that Tribes are not subject to DOE cost match for deployment projects.

Native American Housing and Self-Determination Act. Climate impacts on the built environment, and especially Tribal housing, will be very challenging for Tribes. This is because Tribal housing and building stock is generally older, and can have severe environmental challenges, such as indoor air quality issues, mold, and energy efficiency. NAHASDA, which has not been reauthorized, should be further amended to:

- Create and fund a building resiliency program to support Tribal building code development, resiliency and adaptation retrofits, and incentives to build to adaptation and resiliency requirements.
- Support indoor air quality and energy efficiency improvements in Tribal homes through a specific retrofit program.

Apart from NAHASDA, Tribes should be treated equitably with states, local governments, and other public housing authorities in particular programs developed to support climate adaptation, disaster mitigation, and recovery efforts. For example, HUD should:

- Create set-aside for Tribes in HUD disaster mitigation funding programs and other related grant programs.
- Create Tribal/vulnerable community equity screen for all related HUD programs that works to ensure equitable federal funds allocation.

Stafford Act. Tribes have recently been authorized to declare disaster emergencies on par with states, and to receive funding directly from FEMA. These funds are critical to Tribal communities to recover from unexpected and devastating disasters. As with other federal

programs, Tribes should also be treated equitably in other FEMA programs. FEMA programs should be reconsidered to:

- Allow post-disaster funds to be used to rebuild to upgrade to adaptation and resiliency standards (and not just to prior condition).
- Create set aside for Tribes in Hazard Mitigation Grant and Assistance program.
- Create Tribal/vulnerable community equity screen for all grant programs.

C. Support Tribal-State-Local Government Coordination, Collaboration, and Action

Because climate impacts know no jurisdictional boundaries, and because climate mitigation, adaptation, and resiliency efforts will require multi-jurisdictional solutions, federal laws and programs that create state or local government climate programs should always specifically include Tribes. The federal government continues to provide substantial funding to state and local governments—especially in environmental programs, energy conservation programs, and agricultural programs—that is leveraged by these governments for climate-related efforts. Furthermore, many state and local governments continue to develop and implement climate adaptation planning, without the full participation of Tribes. Any future federal legislation related to climate mitigation, adaptation, or resiliency should, as a matter of practice, include Tribes when creating new programs or funding for states and local governments. Such inclusion should also:

- Incentivize regional action, and require the inclusion of Tribes.
- Require Tribal consultation for all state and local governments that use federal funds for climate mitigation, adaptation, and resiliency projects.

D. Support Tribal-Private Sector Partnerships

The private sector is a requisite participant in any and all efforts to combat climate change and respond to its impacts. While many Tribes can, and should, develop plans and projects to support their climate response effort, sometimes the private sector will be necessary to deploy certain projects (such as utility-scale renewable energy projects, large-scale retrofitting of building stock, and implementing certain pollution control technologies). Many states and local governments are exploring public-private partnerships to fund and implement their climate adaptation and resiliency efforts. Tribes have some distinct disadvantages to forming similar partnerships. To create a more level field for Tribal-private partnerships, the Internal Revenue Code should be amended to:

- Allow Tribes to issue private activity bonds for renewable energy, energy efficiency, green infrastructure, and resiliency retrofit projects.
- Create Tribal enterprise refundable tax credits for renewable energy, energy efficiency, green infrastructure, and resiliency retrofit projects.
- Create a tax credit for tax payments to Tribes on certain projects / property.

Lastly, Congress should strongly consider legislation that prevents states and local governments from taxing climate mitigation, adaptation, and resiliency projects, properties, and participating non-Tribal entities on Tribal lands.

Conclusion

NTAA appreciates this opportunity to comment on the impacts of climate change to Tribal communities and potential solutions and adaptive responses. NTAA stresses the urgency to take action to address the already occurring impacts and reduce future harmful impacts. NTAA also emphasizes, and appreciates the Senators' recognition, that this urgent action must be developed and implemented in partnership with Tribes. This response serves as a basis for further dialogue and NTAA looks forward to future discussions on this important issue. If you have any questions or require clarification from the NTAA, please do not hesitate to contact the NTAA's Project Director Andy Bessler at 928-523-0526 or andy.bessler@nau.edu.