



# Tribal Review of the 2020 Congressional Action Plan on the Climate Crisis

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**Project Partners**



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## EXECUTIVE SUMMARY

This document (hereafter, [Tribal Review](#)) provides a Tribal perspective on [Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America](#).<sup>1</sup> The Congressional Action Plan (CAP), released in June, 2020, was developed by the [House Select Committee on the Climate Crisis](#). The CAP aims to fulfill a set of integrated goals: reach net-zero emissions by 2050; reduce pollution in environmental justice communities; and reach net-negative emissions in the second half of the 20th century. Twelve pillars of climate action promote these overarching goals. The purpose of the [Tribal Review](#) is to provide Tribal Nations, inter-tribal organizations, and other interested parties with a framework of the CAP that will: (i) provide **information** to Tribal leaders regarding impacts and opportunities, gaps, concerns, and Tribal priorities identified in a critical review of the CAP; (ii) assist Tribal leaders in **strategizing** to address the priorities and gaps of the CAP; (iii) provide draft **language** that Tribal leaders may deploy in communications with Congresspeople and others to advance fulfillment of objectives, including Tribal resolutions. This report uses the term “Indigenous Peoples” broadly to encompass Tribal Nations and Indigenous communities ([Appendix 1](#)).

Authors of the [Tribal Review](#) identified six overarching themes that relate to the fulfillment of the CAP goals: (1) increase social-economic resilience to the impacts of an economic transition toward a carbon-neutral economy; (2) uphold the Federal Trust Responsibility, Treaties, and commitment to formal Government-to-Government relations and Tribal Consultation, as well as all rights recognized in the United Nations Declaration on the Rights of Indigenous Peoples (U.N. Declaration); (3) restore ecological resilience, thereby strengthening the federal government’s capacity to ensure Tribal access to cultural resources (e.g., First Foods) on Tribal lands, and ceded and ancestral territories; (4) assign value to Indigenous and Traditional Knowledges (ITK) in climate change science, planning, and action, while respecting the requirement for the Free, Prior and Informed Consent of Indigenous Peoples; (5) promote environmental and climate justice while upholding Tribal sovereignty; and (6) uphold and expand institutions relevant to climate governance and science. These themes span the CAP’s twelve Pillars of climate action across a range of governance and management scales, including local, regional, national, and international.

### **(1) Increase social-economic resilience to the impacts of an economic transition toward a carbon-neutral economy.**

An increase in high-paying jobs, including viable career pathways for youth, is critically needed in virtually all Tribal Nations and Indigenous communities. Many Tribal Nations and Indigenous communities will be affected by an energy transition. This theme pertains to three needs: (i) tools to facilitate negotiation of the economic transitions that are underway in many Indigenous

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<sup>1</sup> House Select Committee on the Climate Crisis, 2020. *Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America*. 116th Congress; Washington D.C., pp. 538.

communities to promote net-zero emissions (e.g., transition from fossil fuel-based economy to a renewable energy economy); (ii) a reduction of barriers to access technical and financial resources that are designed to enable farmers and ranchers to participate as partners in solving the climate stewardship crisis; and (iii) enablement of communities to cope with climate change impacts (e.g., on agricultural enterprises).

The CAP proposes several actions that would enable economic transition; however, to be effective, these innovations need to be tailored to the conditions that many Indigenous communities confront. Pillar 5 recommends establishing a National Economic Transition Office that would specifically engage Tribal Nations. Pillar 2 proposes changes in federal funding policies and structure to accelerate clean, decarbonizing technologies through the four stages of technological innovation (research, development, demonstration, and deployment). However, when Tribal Nations have garnered resources it is often through a one-time grant. Short-term capital injection, while prospectively beneficial, lacks long-term support. Long-term resource allocation, particularly for deployment, is comparatively more effective in assisting communities to make their green energy transition.

The design of agricultural programs and the delivery of technical and financial resources also need to be improved to be effective. The current model of supporting Tribal agriculture through grant funding is piecemeal, and thus insufficient for the 574 Federally-Recognized Tribal Nations. Technical staff often have insufficient familiarity with the culture, history, and socio-economic systems of Indigenous Peoples to address actual needs.

Finally, the U.S. Census data resources to assess the economic status, trends, and needs of Indigenous Peoples are ill-suited to fulfilling their purpose. Pillar 5 does not refer to economic data such as statistics on employment, income, and poverty, which are essential for understanding current and future economic conditions. American Community Survey sample sizes in small geographic areas do not produce statistically meaningful data on such critical indicators as unemployment, income, and poverty.<sup>2</sup> Nonetheless, the Bureau of Indian Affairs Labor Force Report has relied on this data. Tribal Nation governments and Indigenous communities generally do not have the resources to conduct their own population and economic surveys.

Priorities also include:

- Ensure that apprenticeships, internships, training, and childhood education for the low-carbon economy are available in Indigenous communities, including those in remote areas, with assistance from Tribal colleges and universities.
- In addition to addressing the needs of coal miners and their communities, resolve legacy issues such as compensation to uranium workers and their families, and be

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<sup>2</sup> DeWeaver, N. 2013. American Community Survey data: On the American Indian / Alaska Native population: A look behind the numbers, National Congress of American Indians.

forward-thinking to address the needs of Tribal Nations and Indigenous communities as they transition away from oil and gas development.

- Expand the definition of the clean economy to other low-carbon sectors such as health care, caregiving, domestic work, education, low-impact services, and the arts.

**(2) Uphold The Federal Trust Responsibility, Treaties, and the commitments to formal Government-to-Government relations and Tribal Consultation; as well as all rights recognized in the United Nations Declaration on the Rights of Indigenous Peoples (U.N. Declaration).**

The Federal Trust Responsibility is “a legally enforceable fiduciary obligation on the part of the United States to protect Tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native Tribal Nations and Villages”<sup>3</sup> as well as to non-federally recognized Indigenous Peoples. Climate change poses a direct threat to the lands, waters, assets, resources, and entire ecosystems of American Indian and Alaska Native Tribes and villages, and to non-federally recognized Indigenous Peoples. Climate change affects the resources of Indigenous Peoples in many ways: (i) the abundance and persistence of Tribal First Foods, due to alterations to species ranges – an effect of change in the life history events (phenologies) of species, often compounded by environmental alterations that were introduced during the 19th and 20th century (habitat loss, dam construction, pollution, invasive species introduction); (ii) the availability of water resources – a particular concern for communities that inhabit arid environments; (iii) increased exposure to wildfire risk; and (iv) other effects.

Providing a resilient water system with capacity that allows a Tribe to fulfill its citizens’ water needs during extended periods of drought or wildfire seasons is critical. In addition, water infrastructure needs to be sufficient to enable Tribal Nations to irrigate agricultural crops, especially during prolonged drought periods. Tribal Nations had unlimited access to water before colonization and should have senior water rights that supersede those of any other entity for consumption or to support culturally important species. This is a Trust Responsibility as established by a recent case in the United States Court of Appeals for the Federal Circuit [immemorial priority date for Klamath Tribes’ water rights].<sup>4</sup> Resilience planning can help Indigenous Peoples anticipate and prepare for future change, and thus falls under the Trust Responsibility of the federal government for federally-recognized Tribes.

Non-federally recognized Indigenous Peoples also need expanded legal protection and financial support. The current absence of legal protection for their rights to cultural and traditional resources can decrease community resilience over time. The federal government also needs to account for social, cultural, and environmental concerns. This responsibility includes recognizing

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<sup>3</sup> BIA (2020). Frequently Asked Questions | Indian Affairs [online]. Available at: <https://www.bia.gov/frequently-asked-questions> [accessed Sept. 24, 2020].

<sup>4</sup> Baley v. United States, 942 F. 3d 1312 (Fed. Cir. 2019), cert. den. 2020 WL 3405869 (June 22, 2020).

the right to self-determination in federal programming and policy development, in addition to providing and expanding support for federally-recognized Tribes.

**(3) Restore ecological resilience, thereby strengthening the federal government’s capacity to ensure Tribal access to culturally-valued resources (e.g., First Foods) on Tribal lands, and ceded and ancestral territories.**

Ecological resilience refers to the amount of disturbance that an ecosystem can withstand without changing fundamental processes (e.g., ecological productivity) and structures.<sup>5</sup> Pillar 10 of the CAP asserts the importance of actions that promote ecological resilience. For Indigenous Peoples, resilient ecosystems are particularly important in that they harbor First Foods. It is essential that these resources be maintained in that many of these resources are protected by treaty rights and / or the Trust Responsibility for which the federal government bears responsibility to maintain.<sup>6</sup> Moreover, First Foods—and the harvesting, gathering, preparation, and ceremonial practices therein —, are a cornerstone of livelihoods, culture, language, health, and community well-being.

On public lands where First Foods occur, it is not sufficient for land management agencies to focus on resource restoration alone, however. Agencies must engage Tribes in a co-management model of decision-making. Effective co-management will require a concerted effort by agencies to overcome ingrained social-ecological traps that currently constrain shared decision-making.<sup>7</sup>

A concern raised by the CAP is the incentivization for hydropower, with the caveat that hydropower projects should “*comply with all relevant environmental statutes, including the Endangered Species Act, and should operate in a way that does not harm fisheries or threaten recreational, Tribal, and commercial fishing*” (p. 44). Hydropower dams pose significant barriers to the survival and abundance of salmon species, despite providing carbon neutral energy. Other concerns: the CAP supports research and development of “next generation” nuclear technologies, and it does not ban new fossil fuel infrastructure. These paths are destructive to the lands, waters, and oceans, both from catastrophic failures and from long-term cumulative pollution. Finally, the funding level of Tribal climate change programs such as the BIA Tribal Resilience Program is inadequate to fully meet the need, despite increases of the past few years. Project-based funding alone, while important to Tribal Nations in responding to the effects of climate change, is not a sustainable approach to building capacity.

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<sup>5</sup> Holling, C.S., 1973. Resilience and stability of ecological systems. *Annual review of ecology and systematics*, 4(1), pp.1-23.

<sup>6</sup> Goschke, L., 2016. Tribes, treaties, and the trust responsibility: a call for co-management of huckleberries in the Northwest. *Colo. Nat. Resour. Energy Evtl. L. Rev.* 27 (2), 315–360.

<sup>7</sup> Long, J.W. and Lake, F.K., 2018. Escaping social-ecological traps through tribal stewardship on national forest lands in the Pacific Northwest, United States of America. *Ecology and Society*, 23(2).

**(4) Assign value to Indigenous and Traditional Knowledges in climate change science, planning, and action, while respecting the requirement for the Free, Prior and Informed Consent of Indigenous Peoples.**

The CAP proposal to “*restore and protect America’s lands, waters, ocean, and wildlife*” (Pillar 10) raises the role of Indigenous and Traditional Knowledges (ITK, Convention on Biological Diversity, Traditional Knowledge Innovations and Practices).<sup>8,9</sup> Indigenous Peoples have accrued, stewarded, and deployed ITK to manage terrestrial and aquatic systems since time immemorial.<sup>10,11</sup> ITK will likely play a key role in adaptation planning for Indigenous communities. For instance, there is an opportunity to incorporate Indigenous understanding of watershed processes, whereby entire stream networks are considered, and sustainable forestry practices. Land managers of many agencies currently seek ITK to expand understanding of practices to restore ecological resilience to wildfire and other disturbances.<sup>12,13</sup> However, it is critical that agencies uphold the requirement for Free, Prior, and Informed Consent. ITK may include sensitive information about cultural sites, including traditional hunting, fishing, and gathering sites, burial grounds, or spiritual locations. It may also include knowledge of economically valuable pharmaceutical compounds found within traditional medicines or other intellectual property rights that could confer financial benefits. It is essential that federal programs do not require disclosure of sensitive Indigenous knowledge as part of grant or program requirements and that Indigenous People maintain intellectual property rights over traditional resources (Pillar 11).<sup>14</sup>

**(5) Promote environmental and climate justice while upholding Tribal sovereignty.**

An “environmental justice community” is “*a community with significant representation of communities of color, low-income communities, or Tribal Nation/Indigenous communities, that experiences, or is at risk of experiencing higher or more adverse human health or environmental effects*” (Pillar 6). This policy theme pertains to correcting structural inequities, manifested in disparities in (i) economic conditions; and (ii) public health - both mental health and physical

<sup>8</sup> Rýser, R.C., 2012. Indigenous and traditional knowledge. *Berkshire Encyclopedia of Sustainability*, 5.

<sup>9</sup> Nalau, J., Becken, S., Schliephack, J., Parsons, M., Brown, C. and Mackey, B., 2018. The role of indigenous and traditional knowledge in ecosystem-based adaptation: A review of the literature and case studies from the Pacific Islands. *Weather, Climate, and Society*, 10(4), pp.851-865.

<sup>10</sup> Berkes, F.; Folke, C.; Gadgil, M. 1995. Traditional ecological knowledge, biodiversity, resilience and sustainability. In: Perrings, C.A.; Mäler, K.G.; Folke, C.; Holling, C.S.; Jansson B.-O., eds. *Biodiversity conservation*. Dordrecht, Netherlands: Springer Science+Business Media: 281–299.

<sup>11</sup> Parrotta, J.A.; Trostler, R.L., eds. 2012. *Traditional forest-related knowledge: Sustaining communities, ecosystems and biocultural diversity*. Dordrecht, Netherlands: Springer Science+Business Media. 648 p.

<sup>12</sup> Steen-Adams, M.M.; Charnley, S.; McLain, R.J.; Adams, M.D.; Wendel, K.L. (2019). Traditional knowledge of fire use by the Confederated Tribes of Warm Springs in the eastside Cascades of Oregon. *Forest Ecology and Management*. 450:117405.

<sup>13</sup> Lake, F.K., Wright, V., Morgan, P., McFadden, M., McWethy, D. and Stevens-Rumann, C., 2017. Returning fire to the land: celebrating traditional knowledge and fire. *Journal of Forestry*, 115(5), pp.343-353.

<sup>14</sup> Climate and Traditional Knowledges Workgroup (CTKW). (2014). *Guidelines for Considering Traditional Knowledges in Climate Change Initiatives*. <https://climatetkw.wordpress.com>.

health (Pillar 7). Climate change poses additional mental health challenges to people and cultures with historical connections to place and environment. In addition, this theme is relevant to the need for relocation (Pillar 9) that many communities, particularly in Alaska, as well as the coastal and Great Lakes regions, are confronting. The social science literature documents that adaptation and resilience responses are most effective when community-led and tailored to community needs and priorities.<sup>15,16</sup> Tribes currently confront a significant unmet need for infrastructure related to relocation or protect-in-place.<sup>17,18</sup> This is particularly true for the implementation phase (as compared with the planning phase). The decision-making outcome regarding the response to the effects of severe erosion, coastal inundation, or hydrological alterations due to wildfire must lie with that of the community. However, a deficiency in the CAP is its silence, or scant development, regarding some key areas of environmental justice for Tribal Nations and Indigenous Peoples facing the climate crisis. Tribal consultation, for example, is about procedural justice (a cornerstone of environmental justice), and is an exercise of the government-to-government relationship between federally-recognized Tribal Nations and the United States. In instances of large landscape disturbances, such as wildfire and severe flooding (Pillar 10), that span Tribal and federal and/ or state lands, co-management is one prospective model.

**(6) Uphold and expand institutions relevant to climate governance and science.**

Climate action Pillars 11 and 12 affirm the importance of institutions –both in the realms of climate governance and science—in achieving net-zero emissions and related CAP goals. The CAP recognizes that effective action to manage climate change requires such institutions to be in effect at national and international scales, given the global nature of climate change processes. Institutions regarding international leadership (Pillar 11) impact Indigenous Peoples in many ways, and in many countries. In this country and others, for instance, black carbon degrades Arctic snow and ice, causing destruction to Indigenous lifeways. Thus, upholding agreements that address black carbon and improving Arctic diplomacy and engagement is essential to the well-being of Arctic region Indigenous Peoples. Likewise, national security institutions are also impactful. Tribes near military installations can be adversely affected by actions taken there if they do not have the opportunity to coordinate hazard planning with adequate funding and technical assistance. Food security has proven to be an important national security issue, especially during the Covid- 19 pandemic.

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<sup>15</sup> Lowlander Center, 2015. Resettlement as a Resilience Strategy and the Case of Isle de Jean Charles. Prospectus for the National Disaster Resilience Competition.

<sup>16</sup> Marino, E., 2012. The long history of environmental migration: Assessing vulnerability construction and obstacles to successful relocation in Shishmaref, Alaska. *Global environmental change*, 22(2), pp.374-381. [https://www.doa.la.gov/OCDDRU/NDRC/IDJC\\_Prospectus\\_final\\_27Oct15\\_updated\\_logos.pdf](https://www.doa.la.gov/OCDDRU/NDRC/IDJC_Prospectus_final_27Oct15_updated_logos.pdf)

<sup>17</sup> GAO, 2009. Alaska native villages: limited progress has been made on relocating villages threatened by flooding and erosion. Government Accountability Office Report (GAO-09-551)

<sup>18</sup> ATNI, 2020. (Internal report - contribution to the document:) American Indian Communities in the Contiguous United States: Unmet infrastructure needs and the recommended pathway to address a fundamental threat to lives, livelihoods, and cultures.

From a Tribal perspective, the proposals regarding institutions have critical deficiencies, despite making a step in the right direction. The framework is too narrow regarding necessary ingredients for the U.S. to restore its international leadership position. U.S. delegations to international climate change negotiations and other related delegations must include Tribal representatives. Also, Tribes should participate fully in cross-border negotiations affecting Tribes in the U.S. (e.g. the Columbia River Treaty negotiations). Pillar 11 is overly focused on military matters, and ignores national defense issues important to Tribes such as food security (including traditional food sources from marine and freshwater to land-based animals and plants), energy security, Tribal sovereignty, and the treatment of Indigenous people attempting to migrate to the U.S. at its southern border. Priorities include:

- Ensure that all climate actions in the U.S. and internationally comply with the rights of Indigenous Peoples that are recognized in the 2007 UN Declaration, including the right to self-determination, to lands, territories and resources, and free, prior, and informed consent.
- Rejoin the Paris Accord - without doing so, the U.S. cannot regain its international leadership role.

Overall, climate governance and science institutions must include and prioritize the findings in the Tribal Climate Change Principles: Responding to Federal Policies and Actions to Address Climate Change, which were developed by an expert task force in September, 2015, and endorsed by the National Congress of American Indians (NCAI) through Resolution #SD-15-024. Too often, climate science is viewed as consisting only of western science. Traditional Knowledge must be recognized as an essential element of climate science, and should inform climate policy, always with the free, prior, and informed consent of the Indigenous Peoples involved. Also, non-Indigenous personnel must have access to training to enhance recognition of appropriate ways of working with Indigenous Peoples, their knowledge systems, and their worldviews.

## **Actions**

The Tribal priorities of the twelve CAP Pillars point to four actions:

1. Position Tribes for economic leadership in policies fostering the transition to carbon neutrality.
2. Solidify Tribe's sovereign status as a cornerstone of programs, policies, and institutions focused on climate governance, science, and justice.
3. Ensure protections for Indigenous cultures that face climate risks.
4. Adopt the U.N. Declaration on the Rights of Indigenous Peoples as U.S. policy.

## I. INTRODUCTION

The U.S. House Select Committee on the Climate Crisis released its Congressional Action Plan (CAP) in June 2020.<sup>19</sup> The CAP lays out a roadmap for climate action by Congressional and Administrative Leadership and is structured to promote a set of integrated goals: reach net-zero emissions by 2050; reduce pollution in environmental justice communities; and reach net-negative emissions in the second half of the 20th century.

This Tribal Review provides a Tribal perspective of the CAP. Specifically, the Review identifies **Tribal impacts and opportunities; gaps; Tribal concerns; and overarching priorities**. **Tribal impacts and opportunities** focus on ways that proposed policies and actions may affect Tribal governments and Indigenous communities; and opportunities to maximize climate resilience and associated benefits for their communities. **Gaps** pertain to deficiencies in proposed policies and actions in relation to Tribes. For instance, this Tribal Review highlights ways that proposed policies overlook fundamental elements of Tribal economies and cultures. **Tribal concerns** refer to ways that the proposed policies and/ or actions may impose adverse impacts on Tribes. **Overarching priorities** pertain to climate policies and actions that are key at a regional, national, and/or international levels.

The Tribal Review uses the term “Indigenous Peoples” broadly to encompass Tribal Nations and Indigenous communities. This document includes multiple and some interchangeable terms such as Tribal Nations, Indigenous Nations, Tribes, or Alaska Native Villages, all which are governments and sovereign nations (Appendix 1). “Indigenous communities” is also used in this report. Tribal Nations have Indigenous communities within. For some Tribal Nations with smaller populations, the community and the Nation can be one in the same, but for larger Tribal Nations there may be many Indigenous communities. Indigenous communities also include non-federally recognized Tribes/Indigenous communities, and urban Indigenous communities where multiple Tribal Nations and Indigenous cultures are represented within a community. “Indian Country” is also used by Tribal organizations in the U.S. to denote Indigenous spaces. Indian Country is not exclusive to Tribal trust lands or reservations, rather it is inclusive of these lands as well as greater Tribal homelands and waters of Indigenous communities and spaces, rural or urban.

This Tribal Review was developed over a 6-week period in August and September, 2020 in response to the recognized need for Tribal perspectives on the CAP by organizations including the National Congress of American Indians and the Affiliated Tribes of Northwest Indians. A decentralized, expert-driven framework was adopted to review the CAP, with coordination by a Core Team. The co-authors coalesced into workgroups, based on interest and expertise. One workgroup was formed for each of the twelve Pillars of Climate Action. In addition, the Core Team hosted a workshop at the virtual 2020 National Tribal and Indigenous Climate Conference (NTICC), which was organized by the Institute for Tribal Environmental Professionals. During that

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<sup>19</sup> House Select Committee on the Climate Crisis (2020) Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America (June 2020). 116th Congress; Washington D.C., pp. 538.

workshop, 106 participants representing 97 different organizations, agencies and Tribes from around the nation came together to discuss Tribal impacts, opportunities, concerns and priorities for each of the CAP's twelve pillars. The participant ideas generated during the NTICC workshop were incorporated into the narratives of each pillar.

This report provides a basis for inter-tribal organizations, Tribal Nations, and Indigenous communities to explore responses to federal proposed policies on climate change, based on expert reviews of each climate action pillar. Individual workgroups for each pillar developed their own set of priorities for each pillar, but given the short, 6-week development period, it was not possible to coalesce a unified set of recommendations that underwent review by all contributing authors.

### **Survey responses regarding tribal priorities**

This [Tribal Review](#) was the main focus of [Session 1 of the ATNI Climate Summit](#) (October, 13, 2020). A [post-event survey](#) sought responses from participants regarding tribal priorities. Participants were asked to report on the “relevance” of the twelve CAP Pillars of climate action to their communities (response categories: “very relevant”; “somewhat relevant”; “not relevant”). Eighteen people responded to the survey over a 1-week period (October 13 to October 20, 2020), spending about 48 minutes, on average, on the survey. Tribal affiliations of respondents were as follows: Aroostook Band of Micmacs; Cheyenne River Sioux Tribe; Chinik Eskimo Community; Coeur d'Alene Tribe; Hopi/Tewa; Mashantucket Pequot Tribal Nation; Mashpee Wampanoag; Nakoda; Native Hawaiian; Native Village of Naknek; Navajo; Qawalangin Tribe of Unalaska; Red Lake Band of Chippewa; Sitka Tribe of Alaska (non-member); Tlingit Nation; Village of Solomon.

All twelve CAP Pillars were found to be “very relevant” by 7 or more of the 18 participants (>39%). The Pillars that were most relevant, based on a weighted average, among respondents were: Environmental justice (Pillar 6); Community resilience (Pillar 9); and Lands, waters, oceans, and wildlife (Pillar 10). The Pillars that fell into the second level of perceived community relevance were: Fairer economy (Pillar 5); Public health (Pillar 7); and Institutions - climate science and democracy (Pillar 12). Pillars pertaining to clean energy generally fell into the next relevance level (Pillars 1, 2, and 4). The Pillars with the lowest perceived relevance (by weighted average) were clean energy manufacturing (Pillar 3), Agriculture (Pillar 8), and International leadership (Pillar 11). However, it is important to highlight variability in these averages; for all Pillars, there were some respondents who perceived a “very relevant” status to the community.

In the future, an in-depth analysis of these survey data and/ or expanded survey and interview outreach would provide valuable insights regarding tribal priorities in climate policy and action. One theme suggested by an initial review of the survey data is geographical variability: climate action priorities appear to vary around the country, with Tribes in various regions having differing perceptions of climate priorities.

## II. TRIBAL REVIEW OF CLIMATE ACTION PILLARS

### Pillar 1: Invest in Infrastructure to Build a Just, Equitable, and Resilient Clean Energy Economy

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**Overview:** In this pillar, *Invest in Infrastructure to Build a Just, Equitable, and Resilient Clean Energy Economy*, the Congressional Action Plan (CAP) states that “*Infrastructure policy is climate policy.*” In its introduction, the CAP recognizes that the long usable life of infrastructure and the role that it plays in everyday life, means that infrastructure decisions made today will either mitigate or amplify the hazards posed by climate change. The CAP identifies the need for the government to make different infrastructure choices on a large scale in order to limit the degree of warming. It also recognizes that the existing infrastructure was put into place during a time that “*often reflected and perpetuated societal racism.*” Hence the rebuilding of America’s infrastructure offers an opportunity to address past mistakes. Given that all infrastructure has a life expectancy and needs to be rebuilt over time, the government has the opportunity “*to prioritize clean energy; invest in communities that need it the most with the input of those communities; and create many high-quality, good paying jobs with strong worker protections.*” This pillar outlines legislative climate policy recommendations for U.S. infrastructure, including: electricity, transportation, buildings, water, telecommunications, oil, and gas.

#### **Goal: Build a Cleaner and More Resilient Electricity Sector**

Land and zoning changes such as those to electricity infrastructure must consider the importance of sustainable hunting lands, medicinal plants, endangered species, and historical and /or cultural lands. Geographic hazards must be considered when conducting land surveys. Opportunities include the fact that Tribal Nations have the authority to develop renewable energy resources on Tribal lands. Lower utility bills for every Tribal citizen would strengthen supply chain resilience and promote dependable electricity resources for Tribal communities. In addition, technical assistance is needed to create a long-term strategy for clean energy technologies, including wind, solar photovoltaic, concentrating solar power, geothermal hydrothermal, hydropower and biopower. The current lack of local Tribal expertise in this sector is a concern which must be addressed through local training and education programs.

Priorities for Tribal Nations regarding this goal include making electricity accessible, reasonably-priced, and efficient. This would ensure that Tribal Nations have access to the primary energy source to ensure adequate living standards. To meet this priority goal several opportunities exist:

- Use the Department of Energy Indian Energy, Strategic Technical Assistance Response Team (START) program for technical assistance with community wide energy planning.

- Explore all renewable energy options (e.g., wind, solar photovoltaic, concentrating solar power (CSP), geothermal hydrothermal, hydropower, and biopower).
- Providing funding at an appropriate level. Housing and Urban Development, Community Development Block Grant (HUD- CDBG) funding may be useful here.

### **Goal: Build a Cleaner and More Resilient Transportation Sector**

According to this section of the report, the transportation system is the largest source of energy-related carbon dioxide emissions in the U.S. While there are many aspects of a resilient transportation system that are very important for everyone, Tribal Nations rely upon these systems for being resilient to disturbances. Road systems are the foundation of any hazard mitigation plan or emergency response effort. Protecting the existing road systems is a Tribal priority, but upgrading our roads to withstand future climate conditions will be important. A reliable, well designed road network is critical for all aspects of climate resilience. Installation of electric vehicle charging infrastructure will be important for future growth opportunities and to avoid obsolescence in the next decade. It is also very important to ensure that transportation systems are resilient to future flooding and wildfire hazards. Today's infrastructure was not built for today's climate, thus today's design standards are not adequate to ensure the long-term reliability of these systems. In addition, many coastal Tribes are impacted by the maritime and shipping industries. The CAP highlights the detrimental environmental impacts of these infrastructural elements, particularly on Tribal Nations. The utilization of better environmentally friendly practices in maritime and shipping industries should be an additional priority.

### **Build and Upgrade Homes and Businesses to Maximize Energy Efficiency and Eliminate Emissions**

Tribal Nations and citizens would benefit from upgrading Tribal homes and businesses to maximize energy efficiency and eliminate emissions. These investments would generate a positive return by reducing energy bills. The initial investment could be cost prohibitive, however. Nevertheless, the opportunity is potent, in that Tribal Governments have authority to formally adopt resolutions to implement long-term strategies for Energy Efficiency in new and existing public buildings they own, operate, and maintain. Many Tribal citizens may not be able to afford the initial investment, such as for residential homes on Tribal lands. Thus, funding may be needed to reimburse energy efficiency upgrades. In some circumstances, Tribal Nations may require technical assistance to develop relevant Tribal governmental resolutions.

Energy efficiency priorities for this goal would include developing technical assistance to assist Tribal Nations to meet goals of energy use reduction, reducing emissions, and maintaining operational energy efficiency in new and existing public buildings. An opportunity to accomplish this goal is through formal Tribal Resolution adoption of Building Codes to support energy efficiency.<sup>20</sup> Providing ample funding throughout Indian Country would support this goal. Existing

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<sup>20</sup> Codes and standards that could be adopted by Tribal resolution include: ANSI/ASHRAE/IES Standard 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings (commercial buildings); International Energy Conservation Code (commercial and residential buildings); ASHRAE Standard 90.2 Energy Efficient Design of Low-Rise Residential Buildings; NFPA 900 Building Energy Code; NFPA 5000 Building Construction and Safety Code; ANSI/ASHRAE/IES/USGBC Standard 189.1 Standard for the Design of High-Performance Green Buildings

funds that could be bolstered include the Federal Emergency Management Agency's (FEMA) Building Resilient Infrastructure and Communities (BRIC) program to enhance building code implementation, maintenance, and enforcement in Indian Country. In addition, the Housing and Urban Development (HUD) Community Development Block Grant (CDBG) could be an avenue to provide additional funding.

### **Invest in Water Infrastructure to Provide Clean Water and Prevent Catastrophic Flooding**

Investment in infrastructure to prevent catastrophic flooding under extreme weather conditions is needed. Unfortunately, gaining trust from Tribal Nations may require overcoming a series of issues. Deficient water infrastructure projects have resulted in the loss of lands, homes, schools, sacred places, cultural resources, and community. For example, the Pick-Sloan Plan created dams along the Missouri River and forced 1,000 Native American families to relocate. This construction caused the relinquishment of the best lands and resources, homes, ranches, and disrupted a successful way of life.<sup>21</sup> The construction of the Kinzua dam on the Allegheny River flooded nine communities of the Seneca Indian Nation and Tribal lands promised by the Treaty of Canandaigua, which was signed under George Washington.<sup>22</sup> These are but two of many examples of water infrastructure projects that have negatively impacted Tribal communities, lands, and resources. Historically, Tribal Nations have had little or no authority over the U.S. Army Corps of Engineers (USACE) flood control projects. The USACE builds multi-million dollar flood control structures, yet leaves maintenance and operation to the local or Tribal jurisdiction. Often, these jurisdictions do not have the expertise or financial capacity to oversee multi-million dollar flood control systems. Maintenance requirements often fail to be met, causing a loss of certification and a consequent sanction under the National Flood Insurance Program. For residents, this sanction often results in the loss of flood insurance and eventually mortgages and homes.

There is ample opportunity to address USACE's lack of active support for green infrastructure projects. This agency tends to install traditional concrete structures that do not engage the long-term, holistic benefits of green infrastructure. A gap of Pillar 1 pertains to large flood control projects built by the USACE. It is important that Congress pass legislation requiring that the USACE maintain certification on all levees and flood control projects, to prevent Tribal Nations from experiencing catastrophic losses due to infrastructure failure. Priorities should include: assessing the feasibility of implementing green water control infrastructure projects; and building or upgrading flood and erosion protection infrastructure that is resilient to future floods.

### **Invest in Water Systems to Best Serve Community Needs in the Face of Climate Impacts**

The water infrastructure of Tribal Nations is often not maintained due to a shortage of Tribal funds for maintenance and monitoring. Funding for these types of operations and maintenance needs is often not available. It would be beneficial to address several questions related to this

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<sup>21</sup> Lawson, M. L. (2009). *Dammed Indians revisited: The continuing history of the Pick-Sloan plan and the Missouri River Sioux*. South Dakota State Historical Society Press.

<sup>22</sup> Today's Allegany Territory Overlaid by 1960's pre-Kinzua Dam Aerial Imagery/ Seneca Nation of Indians GIS Story Map of the Kinzua Dam <https://gisportal.sni.org/portal/apps/StorytellingSwipe/index.html?appid=5c80e70dbf814bdbb3f60f54d1041e50> (verified 9/30/20).

topic: 1) What is the age of existing water infrastructure for both drinking water and wastewater needs for all Tribal Nations?; 2) What is the remaining life expectancy?; and 3) What are the annual costs of operation, maintenance, and replacement?

Providing water infrastructure is a Trust Responsibility of the federal government to Tribal Nations. Providing a resilient water system with capacity that allows a Tribal Nation to provide water for its citizens during extended periods of drought or during extended wildfire seasons is critical. In addition, water infrastructure needs to be sufficient to enable Tribal Nations to irrigate agricultural crops, especially during prolonged drought periods.

Tribal Nations had unlimited access to water before colonization and should have senior water rights that supersede those of any other entity for consumption or to support culturally important species. This is a Trust Responsibility as recognized by a recent case in the United States Court of Appeals for the Federal Circuit [Klamath Tribe water rights case for instream water rights].<sup>23</sup> Tribal Consultation must be adhered to by the relevant agencies in any decision-making about all issues related to water and water infrastructure that affects Tribes.

A general concern is that water security is an issue of Trust Responsibility and Tribal sovereignty. This is a major climate change priority for Tribal Nations. Reliable water infrastructure for drinking and wastewater helps Tribal Nations and areas with Indigenous Peoples be more climate resilient.

### **Prepare the Nation's Telecommunications Network for Climate Impacts**

Telecommunications is critical for emergency response, public safety, and basic information exchange. Broadband internet, whether served via phone, fiber, wire, wireless, or satellite has become an essential communications infrastructure and an important economic opportunity for entrepreneurs. To date, many Tribal Nations do not have access to broadband internet and those that do often have unreliable service. In other cases, the service or the infrastructure can be cost prohibitive or deemed to be unprofitable by providers. Thus, it is important to prioritize developing the telecommunications infrastructure to deliver broadband and to ensure that it is developed in a manner that is reliable.

### **Plug Leaks and Cut Pollution from America's Oil and Gas Infrastructure**

Tribal Governments do not have authority over all oil and gas infrastructure, however Tribal Nations can develop mutually beneficial relationships with oil and gas infrastructure owners, operators, suppliers, and/or key stakeholders. Prospectively needed would be the skills of a Tribal liaison to repair the weak or troubled relationship between Tribal Government and Oil and Gas Infrastructure partners. However, some Tribal Nations may take issue with the oil and gas industry as it generates hazardous materials that have polluted water and air on or near Tribal lands.

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<sup>23</sup> Baley v. United States, 942 F. 3d 1312 (Fed. Cir. 2019), cert. den. 2020 WL 3405869 (June 22, 2020).

Tribal priorities for this pillar subsection include developing a mechanism for Tribal Governments that wish to work with suppliers to reduce risks from methane, natural gas, LPG, associated hazardous waste and pipeline leaks and spills. In doing so, they could 1) develop relationships with producers, distributors of methane, natural gas, and LPG; 2) develop mutually beneficial agreements with producers of methane, natural gas, and LPG to strengthen the supply chain to Federally Recognized Tribal Nations; focus on initiating a supply chain resiliency for fuel to maintain energy needs for Tribal communities; and initiate mutual aid agreements with local Hazardous Materials Response Teams to work together to initiate planning, training, testing and exercises for hazardous chemicals and material spills.

There should also be federal or industry funding available for Hazardous Materials Emergency Preparedness (HMEP), Assistance for Local Emergency Response Training (ALERT), Hazardous Materials Instructor Training (HMIT), Supplemental Public Sector Training (HMIT), and / or Community Safety (CS).

Pillar 1 Tribal Priorities:

- Protecting the existing road systems is a Tribal priority, as well as upgrading roads to withstand future climate conditions.
- Applying environmentally-appropriate practices in maritime and shipping industries.
- Asserting the sovereignty of Tribal Nations by establishing their own standards for energy efficiency and environmental requirements for their Tribal lands.
- Developing technical assistance for Tribal Nations attempting to meet their goals for energy consumption, efficiency, and emissions.
- Investing in water infrastructure to provide clean water and prevent catastrophic and nuisance flooding.
- Implementing green water control infrastructure projects when building or upgrading flood and erosion protection structures.
- Developing a reliable and resilient telecommunications network for Tribal Nations.
- Plugging leaks and cutting pollution from America's oil and gas infrastructure.

## **Pillar 2: Drive Innovation and Deployment of Clean Energy and Deep Decarbonization Technologies**

**Authors:** Sam Schimmel

**Reviewers:** Casey Thornbrugh

**Overview:** The Drive Innovation and Deployment of Clean Energy and Deep Decarbonizing Technologies Pillar builds on three central themes to develop recommendations for federal clean energy and green technology programs, priorities, and policies. These three themes are as follows: supporting technological innovation and drive decarbonization, enabling and accelerating funding for climate change mitigation or resilient infrastructure, and the exposure of climate related risk to capital markets.

Creating new green technologies to support existing energy needs must be prioritized. In many communities there exists interest in the integration and deployment of low carbon and zero carbon energy solutions- solutions that both decrease a community's carbon footprint and long-term energy costs. The federal government should provide resources and technical assistance to support local leadership and initiatives in these transitions. Currently, key scientific and technical discoveries are being made in the clean power and green technology sectors. The Federal Government should work to create and expand programs that both spur this innovation and integrate it into existing systems.

The CAP details several of the major hurdles clean and green technologies face throughout research, development, demonstration, and deployment. The plan highlights, in particular, capital gaps in the developmental phase of production and systemic market failures in valuing these new technologies resulting in private sector resource gaps throughout the entire process. To mitigate these setbacks, the plan proposes to reorganize and maximize the Department of Energy's research, development, demonstration, and deployment (RDD&D) funding programs as well as that of The Advanced Research Projects Agency – Energy (ARPA-E) program.

The CAP also calls for increased DOE engagement with minority populations and in environmental justice communities. It specifically identifies the priority of establishing a DOE Energy Justice and Democracy program oriented towards supporting community-led planning and integration efforts, assessing local vulnerabilities, and cooperating with the Weatherization Assistance Program and Low-Income Home Energy Assistance Program to create multi-agency support systems. The long-term goal of this program is the construction of infrastructure that is resilient to climate change and mitigates greenhouse gas emissions in rural, Tribal, and environmental justice communities, as well as the greater U.S. The establishment of a national bank, as well as a host of loan programs that finance emission-reducing and climate-resilient technologies, would promote this program goal.

The section concludes with a proposal regarding the exposure of capital markets to climate-related risk. A series of new Security and Exchange Commission (SEC) regulations would require expanded risk disclosures. In addition to new SEC regulations, this section

proposes that the Federal Reserve issue reports identifying and proposing management strategies for larger climate change-related financial risks.

The CAP acknowledges the immediate and long term need to develop and deploy clean and green technology, engage Tribal communities in building climate resilient and emission reducing infrastructure and restructuring capital markets to account for long term climate related risks.

Opportunities for Tribal governments and several long-term concerns also are present in the plan. The following sub-section highlights some needs and concerns of Indigenous Peoples in regards to the CAP and makes recommendations to promote Indigenous leadership in building resilience to the impacts of climate change.

### **Tribal Impacts**

This pillar mainly focuses on accelerating and supporting clean and decarbonizing technologies through the four stages of technological innovation. It does this through changes in federal funding policies and structure. At present Tribal communities around the country lack access to cheap and reliable power, and encounter higher energy costs than any minority group. Energy costs on Reservations and in Alaska Native Villages are far above the national average. Places on the Navajo Reservation in the U.S. Southwest as well as villages in Alaska are home to families who lack access to any electricity. With the increasing importance of online connectivity and the inherent complications that come with a lack of power, electrification is a high priority for Tribal Nations.

At present, many federal programs focus on the research, development, and demonstration phases of creating new technology. This has historically resulted in a shortage of resources when the time comes to deploy these green innovations. Moreover, when Tribal Nations have been able to put to use deployment programs, it is often through a one-time grant. Short term capital injection, although good, lacks long-term support systems. If the federal government is to truly assist rural communities in their green energy transition, commensurate resources must also be oriented towards deployment. Additionally, Tribal communities are often forced to bear the social, cultural, financial, and emotional costs of climate change. Also, they are often the last to benefit from new technologies. If large, sweeping federal programs are to prioritize the RDD&D of new technologies, social justice considerations require they be offered to Tribal communities.

Tribal communities are being grossly negatively impacted by the effects of climate change: villages are being relocated, traditional food supplies of plants and animal stocks are declining, and landscapes are being irreparably changed. There is no question that Tribal Nations and Indigenous Peoples are being harmed by the changing climate. New opportunities are emerging at the same time. Tribes are becoming involved in and capitalizing on business opportunities, as the clean and green technology transition occurs.

### **Gaps**

This CAP section affirms the priority of Tribal participation in DOE Research, Development, Demonstration, & Deployment grants and projects. However, the report fails to acknowledge

Tribal communities in its environmental justice building block. Tribal Nations and Alaska Native Villages are often at the front lines of climate change, bearing the social, emotional, economic, and cultural costs of a global problem that they had little role in creating. It is the opinion of the reviewers of this document that Tribal Nations, Alaska Native Villages, and all Indigenous communities must be included under the environmental justice section of this plan.

The implementation of aggressive decarbonization and green technologies will result in systemic unemployment for workers in carbon-intensive industries. Many Tribal Nations and Alaska Native Corporations generate revenue through extractive industry; such revenues are likely to shrink. To ensure that Indigenous Peoples are prepared to enter into the economy of tomorrow, education programs centering around Science, Technology, Engineering, and Mathematics must be prioritized. The reviewers of this document believe that ensuring diverse participation in DOE RDD&D projects starts not at the laboratory but in the classroom. As such, we assert that there is a need for an additional DOE grant program that brings STEM education into schools that serve Tribal youth.

### **Tribal Concerns**

As the result of chronic underfunding and the competitive nature of DOE grants, many Tribal communities are unable to provide capital to implement new, clean and decarbonizing technologies. Regarding the proposed establishment of a National Climate Bank (CAP, pp. 226), the Tribal reviewers of this document raise the concern that federal funds that have been allocated historically for DOE Tribal grants would end up in the general pool. This being said, if a concession were to be made for Tribal Nations and Alaska Native Corporations such a bank would not pose a threat to Indigenous Peoples. Also, several of the reviewers are concerned that the low-interest loans granted by this proposed bank would reduce the number of companies willing to work with Tribal entities. A preferable policy in the establishment of a National Climate Bank would be similar to the SBA 8(a) loan type, which gives preference to Tribally owned businesses on federal contracts.

In addition, Indian Country is one of the geographies where families still struggle to gain access to running water and cheap and reliable electricity. One concern raised by the heightened attention on new technology is the risk that implementation of much-needed existing technology will be left to the wayside. Such an attention shift could result in the delay of much-needed utilities. The Tribal Reviewers believe that it is important to take a duplicative approach to this issue. In short, provide clean and reliable drinking water and electricity in the fastest way possible to communities that currently lack access. Once a community has access to essential utilities, then it is critical to explore the opportunities to minimize the carbon footprint and environmental impact. This being said, due to the lack of infrastructure in many communities, Tribal Nations are uniquely positioned to take advantage of new, stand alone, technologies. In exploring and implementing these new technologies the federal government has a role, however. Use Tribal land and Tribal communities merely as testing areas must be avoided. Innovation efforts must be community-driven.

### **Tribal Priorities**

*Long-term Grant Programs*

Tribal communities often rely on short term DOE grants to update or convert existing infrastructure. When the project at hand is replacing fiberglass insulation with foam or single pane windows with double-paned, short term capital injections suffice. However, when dealing with projects such as clean power generation, which carry sizable operational costs, Tribal Nations, along with the businesses operating such facilities, need long-term assurance. As such, the expansion of the multi-year program must be included within the Regional Energy Innovation Partnerships to Help New Technologies Achieve Commercial Deployment building blocks.

### *Education*

Although one of the areas largely left out of this section of the document, education in Indian Country is the key to facilitating the transition to a clean and green future. If Tribal communities have members who are skilled in these emerging technologies, it is all the more likely that such technologies will be adopted. Moreover, STEM education in Indigenous communities increases the likelihood that Tribal Nations and Indigenous communities will be able to capitalize on the new and emerging market. For these reasons, the Tribal Reviewers assert that DOE should issue educational engagement guidelines for any company receiving a National Climate Bank low-interest loan for work in rural, Tribal, or environmental justice communities. This practice would be consistent with the guidelines to ensure diverse participation in RDD&D building block. Similar to a public consultation session mandated by the NEPA process, such guidelines could incentivize or require companies to offer educational resources pertaining to their area of focus as a component of their loan application.

### *Tiered Grant System*

A significant barrier to funding exists for smaller and or under-resourced Tribal Nations, in that the competitive and bureaucratic nature of many DOE grant programs places these small communities at a significant disadvantage in relation to larger and fully staffed Tribal governments. Being unable to compete for resources at the same level, it is the opinion of the reviewers of this document that Tribal governments in partnership with DOE should determine a tier system for classifying communities. Such a system would maintain a certain level of competition, yet ensure that all sizes of Tribal communities receive federal dollars.

## **Pillar 3: Transform U.S. Industry and Expand Domestic Manufacturing of Clean Energy and Zero-emission Technologies**

**Authors:** Chas Jones

**Reviewers:** Kim Gottschalk, Stefan Tangen

**Overview:** This pillar identifies greenhouse gas reducing opportunities in the manufacturing of clean energy, clean vehicles, and zero emission technologies. The proposed policies and building blocks focus on developing manufacturing technology and development to promote American industrial innovation. This CAP section suggests: 1) American workers should be the ones manufacturing these American ideas; 2) When crafting federal climate policy, Congress needs to incentivize high-road domestic manufacturing of American innovations and ensure taxpayer-supported research, development, demonstration, and deployment (RDD&D) that grows the middle class as a public benefit; and 3) Strategic planning and sustained, proactive investment in domestic clean technology manufacturing and supply chains can ensure that working people and their communities are not left behind in America's net-zero future.

Investing in innovation, research, development, and deployment of clean energy technologies would benefit society as a whole; yet, there needs to be a conscientious plan to benefit Tribal Nations specifically. It is within the federal government's trust responsibilities to work with Tribes to ensure that they have access to clean, renewable electrical supplies. Using financial or legal incentives to deploy these types of technology on Tribal lands or to benefit Tribal businesses or Tribally-owned businesses needs to be written into the policy action.

This pillar identifies a number of potential policies, actions, and investments that could benefit Indigenous Peoples with particular strategies for implementation, but wouldn't necessarily benefit Indigenous Peoples without using an intentional approach for doing so. Several of the proposed actions may be of interest to Tribes. In particular, we highlight those that relate to reducing greenhouse gas emissions, capturing carbon, reducing waste, increasing energy efficiency, promoting alternative clean energy technologies, promoting circular economies and manufacturing processes, and incentivizing related projects through tax and project credits.

In general, many Indigenous Peoples have an appreciation for nature's cycles. The seasons, the movements of the sun, moon, and planets, life cycles of significant cultural plants and animals, the cycle of hunting and gathering materials for foods, household goods or ceremonial purposes (sometimes called, "the seasonal round"), and many other examples occur in cycles and provide a foundational worldview. When functioning well, economic cycles and manufacturing processes function as a closed cycle, which generates little to no waste. The ideal of a circular economy within the manufacturing cycles aligns strongly with Indigenous ideologies. By their nature, circular manufacturing processes could be adapted to become carbon neutral or even to absorb excess carbon from the atmosphere or oceans.

### **Impacts**

The proposed actions and building blocks are designed to stimulate the economy, while also benefiting the environment by reducing CO2 emissions, pollution, and promoting clean energy. These policies, practices, and projects potentially impact Tribes, in that they could be designed to benefit Tribes, including the development of Tribal workforces or providing training. These benefits would help Indigenous Peoples to adapt and be more resilient to climate impacts by helping them to address many of the systematic intergenerational challenges that have been imposed upon them in the past and persist into the present. Overall, the intentional implementation of Tribally-adapted policies Tribes could create climatic, environmental, economic, social, cultural, and political benefits to Tribes and the U.S. overall. The positive outcomes that could result from implementing these projects for the benefit of Indigenous Peoples could allow Tribes to advance along the path towards socio-economic prosperity.

### **Gaps**

There are several potential opportunities that are not addressed in this pillar. They include a lack of proposed projects that intentionally engage Tribal Nations to develop proposed outcomes that would benefit Indigenous Peoples. There is a missed opportunity by not intentionally targeting incentives and investments in manufacturing and industrial RDD&D on Tribal lands or to benefit Indigenous Peoples, more generally. There is also substantial opportunity to utilize ecological processes and plants as an existing “technology” for carbon extraction from the atmosphere. The government could incentivize wide-spread application of these points that may be identified in other pillars.

1. Trees and plants (terrestrial and aquatic) remove carbon from the atmosphere, while also providing economic and social benefits. Agricultural processes and practices that maintain topsoil tend to capture the carbon that is held beneath the soil surface. Deep-rooted agricultural species capture greater amounts of carbon, while using less water. Most agricultural practices harvest the above ground biomass, while leaving the roots to decompose in the soil, which is the primary natural mechanism to convert atmospheric CO2 to soil carbon. There are opportunities to incentivize specific greenhouse gas-reducing agricultural practices or widespread reforestation projects in rural or remote areas, as well as in urban landscapes.
2. Composting poses another opportunity for capturing atmospheric carbon and converting it to biomass that can be stored above or below ground. The addition of compost to agricultural fields, forests, lawns, or other naturally fertile landscapes generates secondary benefits other than carbon storage. Water holding capacity is increased, nutrient and organic energy cycles are maintained, waste streams are reduced, and the circular economy is realized. In addition, we suggest that CAP contributors explore the question, “What opportunities exist for industrializing compost from waste biological materials from other industries?”
3. Utilizing fast growing plant species in industry is another opportunity that is not specifically mentioned. The use of kelp or bamboo in the manufacture of bio-plastics could be an opportunity that Tribal Nations could utilize as an economic investment opportunity.

4. Utilizing waste biomass (waste paper, waste wood pulp, etc.) as a fuel source that is used to recycle waste plastics into hydrocarbon fuel sources would also provide multiple benefits for Indigenous Peoples, while closing the circular manufacturing loop on plastics and biomass waste.

### **Concerns**

It is concerning that there are few specific proposed incentives to encourage investment in, or development of, economic opportunities that would provide direct benefit to Tribal Nations. Tribal Nations should be consulted on this topic so that they are more likely to benefit from these opportunities, which would provide numerous benefits beyond economics.

### **Priorities**

In examining Pillar 3 to identify possible priority actions for Tribes, a number of possible avenues were deemed to be potentially relevant. Below, we identify a list of specific actions that could expand applicability to Tribes by consulting with Tribal Nations on any further policy development. Key practices that enhance the adaptiveness of federal policy proposals to Tribes: engage Tribes early in the process; and build into the policy development process adequate time for Tribal leadership to properly review, discuss, and respond to the requested action. This is an important point, because Tribal agencies, including leaders and staff, are likely to be dealing with a shortfall in the administrative capacity and resources, relative to agency needs. Agency staff and leaders may not have the luxury of immediately prioritizing engagement in consultation with federal policymakers without adequate planning. Given sufficient attention, the efforts identified below could benefit Tribal Nations if a conscientious effort were made and adaptive policy practices were applied.

1. Carbon capture, utilization, and storage to reduce greenhouse gas emissions;
2. Progress towards a circular economy / closed cycle framework to reduce waste and pollution;
3. Increase investment and coordination in research, development, demonstration, and deployment of technologies to reduce industrial emissions;
4. Develop a circular economy roadmap for the U.S.;
5. Invest in the workforce for a decarbonized industrial sector;
6. Establish standards to increase materials recirculation and efficiency to move towards a circular economy;
7. Invest in Manufacturing of Clean Energy, Clean Vehicle, and Zero-Emission Technologies;
8. Develop, Manufacture, and Deploy Cutting-Edge Carbon Removal Technology.

## Pillar 4: Break Down Barriers for Clean Energy Technologies

**Authors:** Mark Petrie, Mark Healy, Shannon Sousa, Chas Jones

**Reviewers:** Michelle Steen-Adams

**Overview:** Clean energy technology faces several structural barriers to rapid and widespread deployment. The U.S. tax code currently benefits oil, coal, and other conventional energy technologies as compared with new technologies. Consequently, energy prices in our economic system fail to account for the cost of carbon pollution. These structural biases have been embedded in the tax code for decades and entrenched in the U.S. economy for even longer.<sup>24</sup> As a result, the majority staff for the Select Committee has recommended new tax incentives for specific clean energy technologies throughout the CAP. These technologies will be essential to decarbonize the economy at the scale and pace needed to limit global climatic warming to 1.5°C.

In an ideal world, energy-related tax incentives would be technology-neutral and based on outcomes to maximize opportunity for innovation. Congress and tax policy experts should continue to examine the best mix of tax incentives and other policy instruments to maximize the development and deployment of technologies that the Nation needs to meet the net-zero emissions goal set by the CAP. Meanwhile, Congress can act to remove specific tax deductions and credits that subsidize oil and gas production in the United States and affix a price on carbon to generate an energy pricing system that more accurately reflects the costs imposed by climate change effects.

### Impacts & Opportunities

Tribal Nations would welcome the reduction of regulatory, financial, political, and societal barriers to clean-energy projects. Over time, the transition to clean energy should result in cost effective energy technologies on Tribal lands. The primary, mainstream approach perpetuates the perspective that hydrocarbon-based and other non-clean energy sources are the only reliable energy source, despite some innovative research. Furthermore, sovereign Tribal Nations are not treated as sovereign governments in regards to funding. A revolving low-interest loan program could be effective in addressing this shortcoming. For instance, although California has adopted a model program that offers revolving loans at favorable rates (0%, 1%), Tribal Nations are unable to access those funds.

#### *Tax barriers*

There are numerous tax-related barriers that could be overcome with sufficient focus, including:

- Immediate extension of the Investment Tax Credit and return to full 30% of project cost while additional or alternate tax incentive mechanisms are considered.

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<sup>24</sup> Roberts, T.M., 2016. Picking winners and losers: A structural examination of tax subsidies to the energy industry. *Colum. J. Envtl. L.*, 41, p.63.

- Create mechanisms for Tribal and non-profit entities to sell tax credit at derated cost (as was done for Oregon's state energy tax credits at 85%).<sup>25</sup>
- Provide tax incentives to shift towards renewable fuels (green hydrogen, methane from hydrogen, offshore drilling technology shift to offshore wind energy, etc.)
- Provide retraining and incentives to those workers in the gas and oil industry to use their skills in the renewable energy field.
- Emphasize biofuel research

### *Societal costs of carbon*

Climate change impacts have increased the frequency and severity of climate related catastrophic events (including hurricanes, tornados, floods, storm surges and mega-wildfires). Isolated communities, without access to energy supply lines, generally struggle to recover from such events. The losses of life, property and livelihood due to climate change-altered disturbances are measurable, as are the costs of publicly-funded immediate and long-term response and recovery assistance.

In addition to tax incentives, Tribal Nations need direct access to funding. Several opportunities exist including:

- Fund development of Hazard Mitigation Plans for every federally-recognized Tribe.
- Provide valuation for, and reimburse the costs for the construction of carbon-neutral, resilient infrastructure for Tribes. Local utility characteristics include energy loads through renewable energy, microgrids, and resilient storage systems.
- Incentivize community energy planning, Tribal energy cooperatives for microgrids.
- Assist in localized microgrid or other energy security design and budgeting and project construction.

On a larger scale, these same catastrophic events can and do result in electricity outages on a regional level due reliance on a centralized generation that is transmitted to a large geographical region. As a matter of homeland security, our regional electricity grids should be viewed holistically to promote a diversity in electricity generation sites and types, thereby expanding flexibility to meet our basic community needs during extreme climate events.

Finally, Tribal Nations tend to value healthy ecosystems and recognize the detrimental impacts that past hydroelectric "clean energy" projects have imposed on salmonid species and other aquatic life. In the Pacific Northwest, salmon species have been woven into Tribal culture and livelihoods as intrinsic elements since time immemorial. Federally subsidized, hydroelectric projects undermine the value of alternate methods of clean electricity generation. As such, Congress should call for research that quantifies the net economic and societal impacts of

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<sup>25</sup> Industrial Economics (2011) Financial and Economic Impact of the Oregon Business Energy Tax Credit: An analysis of representative projects certified during the period of 2002 to 2009, [www.ncsl.org/Portals/1/Documents/fiscal/evaluation\\_database/Econ\\_Impact\\_of\\_OR\\_Business\\_Energy\\_TaxCredit.pdf](http://www.ncsl.org/Portals/1/Documents/fiscal/evaluation_database/Econ_Impact_of_OR_Business_Energy_TaxCredit.pdf)

existing and proposed generation systems. These studies should assess effects on native fisheries and other subsistence ecosystems within which Tribal Nations reside and create livelihoods.

In addition to direct fiscal barriers to clean energy technologies, there are other barriers that hold up clean energy projects that are otherwise economically feasible and “shovel ready”.

Opportunities to overcome these barriers include:

- Revise the Public Utility Regulatory Policies Act (PURPA): The integrated portfolio and non-wires solution procurement processes within Investor Owned Utility (IOU) districts are neither reflective of the free and open markets these monopolies are compelled to foster, nor supportive of efficient, cost effective installations of clean energy projects.
- Review and revise shortcomings including:
  - study interconnections and queue policies that do not promote efficient, cost effective, reasonable proceedings, and/or requirements for competitive project development;
  - the stated limits of 80 MW / project;
  - capacity valuations that are based on dirty energy generation and not reflective of societal costs of carbon, grid resilience, or locational values of clean energy generation;
  - remove barriers to clean energy generation in investor/Tribally owned utility districts by providing funds for Public Utility Commission (PUC) staffing and PUC controlled intervenor funds to support comprehensive and inclusive overviews of IOU practices.
- Expand the adaptiveness of the regulatory environment: Project siting policies must adapt to reflect updated priorities, in response to the unprecedented rates of change of technologies, societies and climate conditions . Federal energy siting processes must be reformed for increased stakeholder input at the project onset. Also, these policies must fully fund transparent, accessible locational data regarding energy resources, site conditions and anticipated ecosystem interactions.

### **Gaps**

- There should be an emphasis on including science, technology, engineering, arts, and math (STEAM) curriculum in elementary, middle, and high schools education.
- Similarly, Tribal educational and workforce training opportunities should apply a traditional cultural perspective.
- There is need to expand the opportunities for Tribal youth and emerging professionals to be involved in the clean energy industry.
- There should be more opportunities to learn about clean energy.

### **Tribal concerns**

Polarization of many topics, due to differing political ideologies, poses barriers to the deployment and maintenance of clean energy projects.

### **Priorities**

1. Removing regulatory barriers.
2. Funding and support for project development.
3. Funding for implementation.
4. Incentivize clean energy projects.
5. De-incentivize non-clean energy projects.

## Pillar 5: Invest in America’s Workers and Build a Fairer Economy

**Authors:** Sharon Hausam, Ph.D., AICP

**Reviewers:** Kim Gottschalk

**Overview:** Pillar 5, *“Invest in America’s workers and build a fairer economy,”* focuses on promoting good-paying and high-quality jobs and accessible career pathways, and gives special consideration to workers and communities affected by the shift away from fossil fuel-based jobs and outdoor workers affected by heat exposure from climate change. It includes five distinct groupings, each with *“building blocks.”*

1. The first grouping addresses individual workers’ needs for fair labor standards, with “building blocks” for rights to organize unions that can negotiate higher wages; stipulations for federally-funded projects such as wage standards, community benefits agreements to ensure equitable hiring, and project labor agreements to ensure fair employment terms for federally-funded projects; and requirements for strong labor standards in order to qualify for federal tax incentives.
2. The second grouping emphasizes community-level needs, with building blocks for supporting health, community services, and capacity-building in communities affected by the shift away from coal; infrastructure investment in communities affected by the shift away from fossil fuel industries and those with environmental justice issues; and apprenticeships and worker training for new skills in clean energy fields, with regional partners such as community and technical colleges.
3. The third grouping is focused specifically on the health care needs of coal miners, with building blocks to add funding to the Black Lung Disability Trust Fund, and to improve coal miners’ access to benefits.
4. The fourth grouping includes natural resource, environmental, and other resilience work in the definition of the clean energy economy. Building blocks include support for work in forest restoration and planting, regenerative agriculture, ecosystem restoration, and other projects that support community adaptation and post-disaster resilience, through agencies such as a re-established Civilian Conservation Corps and new Climate Resilience Service Corps; improved funding structures for cleanup of abandoned coal mines; and ways to address oil and gas well pollution with a new reclamation fund for remediation and reclamation of orphaned wells, and additional funding for the Bureau of Land Management’s inspection and enforcement program.
5. The fifth and final grouping addresses the needs of individual farm and construction workers for protection from extreme heat due to climate change, with one building block

to develop standards such as limits for heat exposure, and adaptive measures such as hydration, paid rest breaks, training, and emergency medical response planning.

### **Tribal Impacts and Opportunities**

This pillar could support an increase in high-paying jobs that is critically needed in virtually all Indigenous communities. Its focus on providing support – health care, community services, capacity-building, worker training, and apprenticeships – in communities with environmental justice issues could also directly benefit Indigenous communities, which frequently have disproportionate environmental pollution on their lands. Apprenticeships, if available, may be particularly valued in Indigenous communities where experiential learning is a traditionally meaningful form of education.

Support for workers and communities affected by the shift away from fossil fuels may also provide direct benefits to specific Indigenous communities who have borne the burden of producing many of the country’s fossil fuel resources. The pillar recommends establishing a National Economic Transition Office that would explicitly include Tribes as stakeholders. Assistance in meeting the health care needs of coal miners may benefit specific Indigenous individuals who have worked in these jobs.

The support for work in natural resource conservation and restoration, as well as environmental remediation and reclamation, can directly benefit the many Indigenous communities facing legacy and current needs. Enhanced funding for cleanup of abandoned mine lands and restoration of orphaned oil and gas wells on Tribal lands could be made available to Tribes through proposed legislation. Oil and gas remediation and inspection and enforcement on federal lands will also protect Tribal and Indigenous lands in the “checkerboard.”

Assurance of protections for farm and construction workers can benefit Indigenous workers, who may be disproportionately represented in outdoor work.

### **Gaps**

Pillar 5, and the document as a whole, emphasizes the transition to clean energy jobs. However, the shift in the economy cannot be limited to the energy sector or even to the natural resources and agricultural sectors. It must include other categories of low-carbon employment such as the health care sector, caregiving, domestic work, education, low-impact services, and the arts. In Indigenous communities, these sectors align with traditional values of kinship, relationships, and culture. Support for them could place monetary value on work often performed without compensation, typically by women, who are often traditional leaders in many Indigenous communities. They could also help to address desperate shortages of health-care professionals in many Indigenous communities, which exacerbate problems for those disproportionately affected from climate change due to existing health conditions and disabilities, income, and location, such as Indigenous community lands. Fair labor standards and community-level programs, including training, must ensure that other low-carbon sectors are included.

Pillar 5 only minimally addresses the issues of racial inequity that are a significant component of the current national dialogue and which are referenced elsewhere in the document. The second grouping refers to the need for “communities of color” to have “access to new opportunities,” and to the proposed Blue to Green Collar Jobs Development Act’s goals for “ethnic minorities” but not explicitly to Black, Indigenous, and People of Color. The grouping prioritizes investment in environmental justice communities, but environmental justice is often used only to refer to current pollution issues rather than legacy racial inequities such as stolen land and labor.<sup>26, 27</sup> These issues are relevant to Indigenous communities whose homelands were stolen from them; to Indigenous migrants to the United States, especially those fleeing unlivable conditions associated with climate change; and to Black, Indigenous, and People of Color in solidarity.

Pillar 5 does not refer to economic data such as statistics on employment, income, and poverty, essential for understanding current and future economic conditions. Although data from the U.S. Census Bureau, including the U.S. Census and American Community Survey, are typically recognized as the only acceptable sources of data for federal programs, such data sources may not accurately represent residents of Tribal lands or American Indian, Alaska Native, and Native Hawaiian (in Census terminology) populations. Residents of American Indian Area/ Alaska Native Area/ Hawaiian Home Land (in Census terminology, AIA/ANA/HHL) are frequently undercounted, and as of September 2020 have completed the decennial census in record-low numbers. The Census Bureau’s Population Estimates Program does not project intercensal populations on Tribal lands. County-level data does not reflect unique characteristics of the resident populations of AIA/ANA/HHL lands. American Community Survey sample sizes in small geographic areas, such as many AIA/ANA/HHL, do not produce statistically meaningful data on such critical indicators as unemployment, income, and poverty.<sup>28</sup> Nonetheless, the Bureau of Indian Affairs Labor Force Report has relied on this data. Indigenous governments generally do not have the resources to conduct their own population and economic surveys.

### **Tribal Concerns**

The first grouping of Pillar 5 places a strong emphasis on labor policies. Some policies may not be applicable in Tribal jurisdictions and requirements to apply them could detrimentally affect Tribal sovereignty. Tribes have held that the National Labor Relations Act and the Family Medical Leave Act are not applicable on Tribal lands and have worked for the passage of the Tribal Labor Sovereignty Act. On the other hand, laws such as the Indian Self Determination and Education Assistance Act allow for Tribal hiring preferences, with the formation of Tribal Employment Rights Offices to enforce Tribal laws and support hiring. New laws and regulations to support equity and

<sup>26</sup> Creation Justice Ministries, n.d., Environmental Justice with Indigenous Peoples, <http://www.creationjustice.org/uploads/2/5/4/6/25465131/indigenous.pdf?key=96960437> (verified 10/1/20).

<sup>27</sup> Mitchell, F.M., Billiot, S. and Lechuga-Peña, S., 2020. Utilizing Photovoice to Support Indigenous Accounts of Environmental Change and Injustice. *Genealogy*, 4(2), p.51.

<sup>28</sup> DeWeaver, N. (2013) American Community Survey Data: On the American Indian / Alaska Native population: A look behind the numbers. A report by the National Congress of American Indians. For concerns raised by Tribes, see NCAI Policy Research Center (2018). The State of Tribal Data Capacity in Indian Country: Key Findings from the Survey of Tribal Data Practices. Washington, DC: National Congress of American Indians.

fairness for workers must also recognize and support Tribal sovereignty, and must be developed with free, prior, and informed consent.

The first grouping of Pillar 5 also refers to community benefits agreements and project labor agreements. It is essential that Indigenous communities are participants in these agreements through free, prior, and informed consent, and that agreements are not limited to non-Tribal jurisdictions, where Indigenous communities will be affected as workers or by proximity to the project.

The first grouping of Pillar 5 also refers to requirements for strong labor standards to qualify for federal tax incentives. It should be noted that federal tax incentives are generally not applicable to Tribal corporations, which do not pay federal taxes. Policies should consider additional incentives for Tribal corporations to support strong labor standards.

The second grouping of Pillar 5 emphasizes the needs of communities and refers to health, community services, capacity building, and infrastructure. It does not explicitly refer to K-12 education or to housing. Learning about the clean economy should begin at an early age, and housing is essential for worker well-being. However, education and housing are inadequate in many Indigenous communities. Policies should support improvements to foundational K-12 education and housing in Indigenous communities.

The second grouping of Pillar 5, in the building block to “*coordinate clean energy training programs,*” refers to grants to community colleges and to consultation with community and technical colleges and institutions of higher education. Funding and consultation should explicitly include Tribal colleges and universities.

The second grouping of Pillar 5 calls for apprenticeships and worker training opportunities. Many Indigenous communities are in remote rural areas, with job opportunities in urban areas far from Tribal housing and traditional and family responsibilities. Apprenticeships must be made available in areas that are accessible to Indigenous communities, or additional resources must be provided to allow Indigenous community members to access them elsewhere.

The second grouping of Pillar 5 refers to apprenticeships and worker training for new skills in clean energy fields. As noted above (under “gaps”), a low-carbon economy must include a broader diversity of sectors. Apprenticeships, internships, and training must also support health care, caregiving, domestic work, education, low-impact services, and the arts, recognizing their value in Indigenous and other communities.

The second and third groupings of Pillar 5 emphasize the needs of communities affected by the shift away from coal. They do not acknowledge the long-standing burdens on workers and communities who have supported other energy development, often with severe health,

environmental, and economic impacts, notably from uranium mining on Indigenous lands.<sup>29</sup> In many cases these legacies have yet to be addressed. Furthermore, these groupings do not address the current impacts from oil and gas development now burdening many Indigenous communities, such as air pollution, truck traffic, and decreased safety of women. As a matter of equity, this pillar should resolve legacy issues such as compensation to uranium workers and their families and be forward-thinking to address the needs of Indigenous communities as they transition away from oil and gas development, especially hydraulic fracturing (fracking).

The fourth grouping of Pillar 5 incorporates natural resource, environmental, and other resilience work. The stewardship contracts proposed by Tribes to improve lands managed by the U.S. Forest Service and Bureau of Land Management under the Tribal Forest Protection Act may be useful models for new conservation, restoration, remediation, and reclamation programs, improving lands significant to Indigenous Peoples and improving their economies.<sup>30</sup>

### Priorities

- Expand the definition of the clean economy to other low-carbon sectors such as health care, caregiving, domestic work, education, low-impact services, and the arts.
- Improve demographic and economic data for Indigenous communities by providing resources for them to conduct population surveys.
- Recognize Tribal sovereignty in new legislation and regulations to support equity and fairness for workers.
- Ensure inclusion of free, prior, and informed consent of Indigenous communities in community benefits agreements and project labor agreements.
- Ensure that apprenticeships, internships, training, and childhood education for the low-carbon economy are available in Indigenous communities, including those in remote areas, with assistance from Tribal colleges and universities.
- In addition to addressing the needs of coal miners and their communities, resolve legacy issues such as compensation to uranium workers and their families and be forward-thinking to address the needs of Indigenous communities as they transition away from oil and gas development.

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<sup>29</sup> Hoover, E., Cook, K., Plain, R., Sanchez, K., Waghiyi, V., Miller, P., Dufault, R., Sislin, C. and Carpenter, D.O., 2012. Indigenous peoples of North America: environmental exposures and reproductive justice. *Environmental Health Perspectives*, 120(12), pp.1645-1649.

<sup>30</sup> Tribal Forest Protection Act of 2004, Public Law 108-278. See also, USDA Forest Service, Tribal Forest Protection Act in Brief (verified 9/30/20).

## **Pillar 6: Invest in Disproportionately Exposed Communities to Cut Pollution and Advance Environmental Justice**

**Authors:** Kyle Whyte; Samantha Chisholm Hatfield; Julie Maldonado; Shanondora Billiot

**Reviewers:** Casey Thornbrugh

**Overview:** This Pillar, *Invest in Disproportionately Exposed Communities to Cut Pollution and Advance Environmental Justice*, emphasizes U.S. environmental justice policy as it applies to climate change. The pillar establishes an approach to how addressing climate change must be coordinated with addressing the inequalities in how diverse communities are exposed to environmental hazards and face less opportunities to apply sustainable solutions to reducing carbon footprint. The stated goal in this pillar is to “[*integrate*] equity and environmental justice into the Climate Crisis Action Plan and its recommendations for building a cleaner and more resilient economy.” The pillar references the 2019 Equitable and Just National Climate Platform, the Jemez Principles for Democratic Organizing, and the 2019 Environmental Justice for All Act. The pillar uses the following definition from the act: an “environmental justice community” is “a community with significant representation of communities of color, low-income communities, or Tribal and Indigenous communities, that experiences, or is at risk of experiencing higher or more adverse human health or environmental effects”.

### **Tribal Impacts and Opportunities**

#### *Impacts*

The pillar will impact Tribes in several key ways. Pillar 6 implicitly separates environmental justice policy from Tribal sovereignty and government-to-government affairs. It provides further awareness that Tribes are included among environmental justice communities (as defined).

#### *Opportunities*

There are opportunities embedded in Pillar 6. This Pillar recommends the authorization of funds that would be accessible to some Indigenous persons, peoples, and communities.

### **Gaps**

The pillar is silent or provides little detail on some key areas of environmental justice for Tribes and Indigenous Peoples facing the climate crisis. Tribal consultation, for example, is about procedural justice (a cornerstone of environmental justice), and is an exercise of the government-to-government relationship between federally-recognized Tribes and the United States. Tribal consultation ensures that Tribal governments participate in decision-making processes for actions that will affect their constituencies. Consultation can also be considered more expansively to include Indigenous Peoples that the U.S. does not recognize as sovereigns. The purpose of consultative activities should be considered in relation to Native Hawaiians, unrecognized Tribes, and state- recognized Tribes. While not federally recognized, all Indigenous Peoples exercise the right to cultural, economic, and political self-determination as collective societies.

The pillar would benefit from alignment with international human rights. United Nations programs and human rights instruments, including the U.N. Declaration on the Rights of Indigenous Peoples (U.N. Declaration), furnish human rights standards for United States' policies and laws affecting Tribes and Indigenous Peoples.<sup>31</sup> The right to free, prior, and informed consent, and the right of Indigenous Peoples to exercise self-determination over their own development, are important assessments of U.S. climate change policies, laws, and programs. For Indigenous Peoples beyond federally-recognized Tribes, the U.N. Declaration and other human rights instruments are often invoked as standards for how they expect to be respected in decision-making processes for environmental actions that affect them.

Tribes and Indigenous Peoples have consistently stressed the importance of Indigenous youth leadership and the empowerment of young persons. Tribal colleges and universities are important educational and research institutions for advancing knowledge and training on climate change. Tribal colleges and universities often play an important role in supporting Tribes and Indigenous Peoples in their own preparation for climate change.

Climatic risks are related to health in diverse ways. Cultural impacts are important to consider. Climate change impacts can affect disproportionately the cultural integrity of Tribes and Indigenous Peoples. Stresses on cultural integrity can, in turn, affect individual health and community cohesion. Federally-funded climate change reports have discussed and made recommendations pertaining to the cultural dimensions of climate risk.

Funding gaps continue to be a concern, including in this draft policy. For example, under some grant programs, being the owner/operator limits the ability to apply for cleanup funds.

### **Concerns**

The pillar largely excludes Tribal self-government in environmental justice policies, procedures and guidance, which creates a lack of coordination for environmental justice where government-to-government protocols are required. There are potentially exploitative practices in identifying environmental justice communities in this pillar, which do not consider how Tribes and Indigenous Peoples exercise self-determination.

Renewable energy projects pose environmental justice issues and environmental risks to Tribes and Indigenous Peoples, and should be considered in terms of their health, cultural, economic, and environmental risks.

If cultural impacts are ignored in the pillar, then Tribal and Indigenous voices which raise cultural issues may not be interpreted as raising environmental justice concerns.

Unrecognized and state recognized Tribes fall through the cracks of this pillar, which disadvantages diverse Indigenous Peoples from being treated in ways that are sensitive to their

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<sup>31</sup>United Nations (2007) United Nations Declaration of the Rights for Indigenous Peoples. Available at: <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>

particular cultural, economic, and political concerns. Tribal colleges and universities are not perceived as central partners in environmental justice research and education, which may lead to these important institutions being left out of federal funding programs and other opportunities.

The grant cycle must be timed for emergency situations. There may also be insufficient data and mismatched funding targets for Tribes.

Requirements to increase enforcement in environmental justice communities should be reviewed carefully. It is important to consider that Tribes are also owner/operators of various facilities related to environmental justice concerns.

### **Priorities**

There should be greater effort to coordinate the domains of environmental justice and government-to-government consultation. Moreover, there needs to be an integration of relevant U.N. policies and instruments. Major efforts are needed to develop policies for unrecognized and state recognized Tribes. Environmental justice policies must improve knowledge of Tribally-specific issues tied to culture, data, infrastructure, and policy - especially given the importance to climate change. Attention needs to be paid to creating special approaches for Tribes who are owner/operators. Indigenous Knowledge should be given equal significance and credibility ("weight") as Western Knowledge in government procedures and policies related to environmental justice.

## **Pillar 7: Improve Public Health and Manage Climate Risks to Health Infrastructure**

**Authors:** Shanondora Billiot, Jamie Donatuto, Frank Ettawageshik, Preston Hardison, Erin Shew, & Gerald Wagner

**Reviewers:** Karen Cozzetto

**Overview:** The *Improve Public Health and Manage Climate Risks to Health Infrastructure* pillar attempts to highlight the importance of public health and the health sector in a comprehensive climate change policy. It tackles this through the assumption that “*climate policy solutions must also confront disproportionate public health and safety risks to vulnerable populations, particularly of color*”. It presents climate policy recommendations that will prepare the nation for the public health impacts of crises caused by global environmental changes with an emphasis on disasters and climate change. Policy solutions presented include national planning on climate threats to public health, addressing health care infrastructure, with specific emphasis on Indigenous Peoples, veterans, students, and youth, and broad reference to vulnerable populations. While not explicitly stated, it utilizes a Western medical model approach to public health, surveillance, risk factor identification, intervention evaluation, and implementation (CDC, 2018). Many suggested policy solutions are within bills currently in the U.S. House of Representatives. It also relied on the U.S. Global Environmental Change report and highlighted ongoing programs and projects.

### **Tribal Impacts and Opportunities**

#### *Impacts*

This subsection includes both prospective and reactive policies. However, many of the policy recommendations focus on reactive policies. By contrast, policies that proactively promote health could strengthen Tribal communities.

#### *Opportunities*

Highlight mental health throughout similar to the statement (Clayton Whitmore-Williams et al., 2017): “*Scientists have documented the effect of disasters on individuals’ acute and chronic mental health challenges, including increases in post-traumatic stress disorder, anxiety, depression, suicidality, and substance use. For individuals who already have experienced multiple traumas or stressors, like many veterans, disasters may exacerbate underlying mental health issues.*”

#### **Gaps**

Support should include not only planning and assessment, but also project/ program implementation for increasing public health resilience/ adaptive capacity.

Several Pillars discuss the coordination of a standardized national public health collection of data. Tribal governments need to have access to and control over such data. This authority over data resources is important because of the need for expanded capacity to formulate policies and

actions that improve the health of their citizens. Currently, Tribal governments have difficulty accessing public health information collected by federal agencies such as the Indian Health Service due to confidentiality concerns. Confidentiality agreements between Tribally-run health centers and federal and state agencies could be one way to provide Tribal governments with public health information. Extreme care should be taken to protect the confidentiality/privacy of information collected for individual people while allowing more generalized data to be used to benefit Tribal members.

The section does not discuss methods to generate funding or support for implementation of new activities, particularly as it relates to building Tribal adaptive capacity. Some ideas generated between the working group and the conference breakout group were to establish Climate Change centers, provide additional funding for the National Institute of Health (NIH) to support research and implementation by and with Tribes that specifically incorporates Indigenous Knowledges into health and mental health treatments and intervention activities (see <https://grants.nih.gov/grants/guide/pa-files/PA-17-496.html>), programs that establish codified funding lines for increasing mitigation and adaptation activities and technical assistance, and upholding Executive Order 13592: Improving American Indian and Alaska Native Educational Opportunities and Strengthening Tribal Colleges and Universities, including the re-establishment of the Interagency Working Group on American Indian / Alaska Native Education and Tribal Colleges and Universities.

While the Plan discusses increasing preparedness and resilience of hospital and care center structures, there is no mention of mental health facilities, or other public health centers. Such facilities include integrated mental health and health care facilities, substance abuse treatment centers, domestic violence shelters, and halfway houses. These additional facilities should be explicitly mentioned in the hospital building block, and throughout the public health section. In addition, tribal facilities and facilities in rural areas require additional resources, because they are most at -risk for disruption during extreme climate events. Increasing telemedicine options in these areas is not mentioned, but would be an excellent addition to rapidly improving access to healthcare. If telemedicine is to be operational, broadband access must also be increased. In 2018, only 69.3% of rural areas and 64.6% of Tribal areas had access to broadband (<https://www.ruralhealthinfo.org/toolkits/telehealth/1/barriers>).

There is a greater need now more than ever to recruit and train Indigenous People in the fields of mental health, behavioral health, and physical health through existing programs such as the Substance Abuse and Mental Health Services Administration (SAMHSA) Minority Fellowship Program (MFP). This expanded capacity is important because of the need to increase culturally-relevant and mental health treatments.

Finally, strengthening the public health and health care sectors for Tribes can only occur with mutual trust and coordination between Tribes, federal agencies, and state agencies. For example, the section could include the development of an interagency working group to consult and work with Tribal leaders to align health priorities surrounding climate change, and eliminate

silos across agencies around Tribal issues. Honoring government to government consultation with Tribes at the outset is essential to collaboratively develop such programs.

### **Concerns**

Global environmental changes are projected to exacerbate existing social, and economic conditions among marginalized populations such as Indigenous Peoples (Moran, 2010). These impacts affect human, social, cultural, psychological, and emotional health (Adger, 2006; WHO, 2014). In addition, Indigenous Peoples experience remnants of institutional discrimination and historically-traumatic events, such as forced relocations and structural inequality, causing major disruptions to their community social and cultural organization, and negatively affecting their physical, mental, and spiritual health (Gracey and King, 2009; King, Smith and Gracey, 2009; Lama, 2012). These experiences contribute to the higher prevalence of non-communicable diseases such as diabetes and obesity associated with sedentary lifestyles, poverty, and marginalization (Gracey and King, 2009; King, Smith and Gracey, 2009; McLean, 2010; Lama, 2012).

Likewise, mental health outcomes include distress produced by environmental change impacting on people while they are directly connected to their home environment (“solastalgia”), maladaptive behaviors like enhanced drug and alcohol usage, and suicidal ideation, as well as anxiety, depression, and post traumatic stress disorder (Albrecht et al., 2007; Cunsolo Willox et al., 2012; Cunsolo Willox et al., 2013). Most alarming is the rising number of Indigenous youth developing chronic diseases due in part to historical events, disrupted connection to the land, and decreased access to clean water (Ford et al., 2014; WHO, 2014). From 2002-2012, the annual increase of type 2 diabetes was 4.8% among youth 0-19 in the United States, but U.S. Indigenous youth in the same sample increased by 8.9% (Mayer-Davis et al., 2017). This is a problem for advancing health because global environmental change poses the latest threat for Indigenous Peoples’ health and social and economic well-being (Wildcat, 2009). Yet the classical social determinants of health do not sufficiently explain the high rate of poor health outcomes in U.S. Indigenous communities, which has led scholars to include an environmental component to examine the disrupted connection to land due to environmental changes as predictors of these disparities (Brave Heart et al., 2011).

Efforts to protect Indigenous Peoples’ health and wellbeing from further negative impacts of climate change should include a more holistic approach to health that includes access to social support and community networks, and the ability to pursue traditional activities and cultural expressions. More Tribal citizens reside outside of reservations than within their boundaries and therefore access to urban Indian health care centers is essential. In addition, a central concern is that there are unique mental health challenges facing Indigenous groups due to the close cultural, spiritual, and emotional connection to place and the environment and its integration with physical health.

Another concern for Indigenous Peoples’ health is access to traditional foods and medicines that are threatened by climate change, and other forms of environmental changes caused by

anthropogenic activities (Whyte, 2014; Billiot, Kwon and Burnette, 2019). Health programs that incorporate traditional foods and activities have demonstrated positive physical and mental health outcomes (DeBruyn et al., 2020). Climate extremes pose a hazard to human health in that traditional activities promote physical and mental health. Additionally, many states and local governments have laws and regulations which hinder access to traditional foods and associated activities. Climate change is compounding access challenges by shifting the range and availability of traditional resources (Jantarasami et al., 2018).

Finally, scholars and legislators (H.R. bill 2020, Anti-Racism in Public 5 Health Act of 2020) call on CDC to recognize racism as a public health crisis (Devakumar, 2020). Indigenous Peoples face institutional racism through differential access to medical care, treatment while under medical care, and a disproportionate impact of preventable deaths from environmental quality, exposure to superfund sites, pollution, etc.

### **Priorities**

As mentioned at the beginning of this section, mental health should be explicitly addressed in each of the building blocks. Climate change poses additional mental health challenges to people and cultures with historical connections to place and environment. The definition of health should expand beyond the physiological and mental to integrally embed social, environmental, and cultural factors. All of these factors work together to support the health resiliencies of all Americans. Health is a cross-cutting priority.

Tribal health programs must focus on program implementation of pre-disaster preparedness, not just assessments. Tribes must be involved at the onset of any program development in order to streamline the design and delivery of appropriate public and community health initiatives across agencies.

Funding streams including and specific to Tribal health should be developed and/or codified; for example, codifying the CDC's collaboration with the National Indian Health Board on the Tribal Climate Ready Program. New programs specific to Tribes could be administered via the 12 Tribal epidemiology centers across the U.S.

Focus on youth and elders. Elders are not specifically mentioned but should be, as they are the wisdom keepers. Aside from ensuring preparedness of care centers, ensure that programs are developed and implemented that contact and assist elders during climate-related disasters. The Action Plan speaks briefly about youth. Youth will bear the burden of climate change. School-related programs should specifically identify Tribal schools as eligible for inclusion in addition to state schools and nonprofits.

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## Pillar 8: Invest in American Agriculture For Climate Solutions

**Authors:** Stefan Tangen

**Reviewers:** Holly Prendeville

**Overview:** Many Tribal Nations have been managing their lands for thousands of years, utilizing practices that have clear benefits in a rapidly changing climate. Regenerative agriculture, no till, and silvopasture are common practices across Native lands. The fact that Indigenous Peoples are the original stewards of the lands is recognized through treaties with the U.S. federal government. The current model of supporting Tribal agriculture through grant funding is piecemeal and thus insufficient for the 574 Federally-Recognized Tribes. It is also insufficient in recognition of the Trust Responsibility the United States has with the 574 Tribal Nations. Adequate resources must be made available to live up to this Trust Responsibility, both financially and programmatically. Below are just a few recommendations for how to do that.

### 1. Increase agriculture carbon sequestration and resilience through climate stewardship practices

The management of leased lands is one of the most pressing issues across Tribal lands in the United States. Due to past federal policies of land theft, division, and seizure, the management of Tribal lands is convoluted, confusing and administratively challenging. Leasing of agricultural lands is an important contributor to the economies of many Tribal Nations, however, enforcement and oversight of land practices is often missing or severely lacking. Addressing the underlying issue of land policy in Indian Country should be a priority since it negatively impacts the effectiveness of programs like USDA's 2501 program, Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Ranchers Program. This program does not overcome land tenure and institutional governance issues, which makes it nearly useless for the people it purports to serve.<sup>32</sup>

In addition to addressing land policy, USDA programs should provide incentives for lessees to utilize the best practices for soil health and climate stewardship. Such environmental considerations are often the lowest priority for lessees since incentives are not available. In addition, stewardship practices may negatively impact net revenue ("bottom line"). Resources to manage regulatory burdens are critical for Tribal landowners and for Tribal Nations. Incentives for all parties involved must be established through policy.

#### *1. m. Provide lending, credit, and land valuation incentives for improving and maintaining soil health and carbon sequestration*

Lending, credit and land valuation are very relevant issues for Tribal Nations. The current accessibility and prevalence of credit is insufficient for native producers. Certified Native

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<sup>32</sup> Johnson, M.K., Lien, A.M., Sherman, N.R. and López-Hoffman, L. 2018. Barriers to PES programs in Indigenous communities: A lesson in land tenure insecurity from the Hopi Indian reservation. *Ecosystem Services*. 32. 62-69. DOI: 10.1016/j.ecoser.2018.05.009.

Community Development Financial Institutions (CDFI) are the best mechanism for providing that credit, and the federal government must increase the funding allocation to ensure Native producers have access to the financial resources needed to engage in soil health and carbon sequestration. This should be a priority area since access to credit is often cited as one of the main barriers for native producers and young producers.<sup>33</sup>

## 2. Reduce agricultural emissions

### 2. e. Expand investments in rural broadband to support precision agriculture

Access to the internet is an underlying problem for most Tribal Nations in the United States. Tribal lands are often the least connected places in the country and this deficiency exacerbates the existing challenges in agriculture. Without internet access native producers have close to no access to the plethora of resources that exist for managing agriculture and ranching lands in the 21st century. Today, most processes, systems, and resources are available online and the expectation is that individuals utilize these virtually. Without reliable internet access, Native producers are being left behind.

## 3. Increase federal capacity to provide technical assistance to farmers

### 3. a. Increase NRCS and FSA staff and USDA Service Centers to provide on-the-ground support and technical assistance to farmers and ranchers

Inadequate numbers of outreach staff and administrative staff poses huge barriers to access to funding and programs within Tribal Nations. An increase in NRCS and FSA staff is essential to connect Native producers to programs like EQIP. Currently, timelines for receiving funding through EQIP can take a year and half due to administrative backlog; this situation essentially prevents producers from utilizing the program. In addition to increasing staffing levels at NRCS and FSA, these staffers need familiarity with the Tribal context in which they work. To be effective in their role they need cultural training to develop the soft skills necessary to operate in these communities. Any federal staff interfacing with Tribal Nations should be required to take the training “Working Effectively with American Indians.” Tribal Nations in that region should be eligible to win this training contract. These contracts provide jobs in the community and provide the best local context for training, which is critical since every Tribal Nation is unique.

### 3. b. Increase support and resources to conservation districts, extension services, land-grant colleges, and other relevant partners

Conservation districts and specifically Tribal conservation districts, extension services, and experts like the Intertribal Agriculture Council (IAC) are critical entities for brokering information. These entities require an increase in funding and resources to provide the necessary support and information required on the ground. Without these organizations, the role of information

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<sup>33</sup> Native Nations Institute. 2016. Access to Capital and Credit in Native Communities. Tucson: Native Nations Institute. [http://nni.arizona.edu/application/files/6514/8642/4513/Accessing\\_Capital\\_and\\_Credit\\_in\\_Native\\_Communities\\_A\\_Data\\_Review.pdf](http://nni.arizona.edu/application/files/6514/8642/4513/Accessing_Capital_and_Credit_in_Native_Communities_A_Data_Review.pdf)

broker gets filled by private companies that have a different agenda, and are not interested in climate-friendly land practices or sustainable agriculture management. Extension services, conservation districts, and technical staff at IAC are often boundary spanners able to connect the technical information to the farmers and ranchers in need of that information, and who often lack the education or training to fully utilize the information without an information broker.

3. g. Develop seeds, crop varieties, and animal breeds adapted to regional climate change

The Plant Materials Centers under the USDA-NRCS are important for providing seeds and varieties for Tribal Nations throughout the country. Currently, there are 25 centers across the nation. Supporting their efforts to provide the right seeds for the right climate is beneficial for Native producers, and takes that role away from private companies that may have an alternative agenda.

5. Support the next generation of farmers to create a fair and equitable food system

5. a. Provide support for beginning, young, and socially-disadvantaged farmers, and incorporate climate-smart agriculture into new farmers programs

Funding of scholarship and access programs, as established by the Indian Agriculture Management Act of 1993, should be a priority to support the next generation of Native producers. This program has never received the level of funding required, although it has the potential to dramatically increase the representation of young, Native farmers in the field.

The cost of land and access to credit are often the main barriers to young farmers. While access to credit should be addressed through Native Community Development Financial Institutions (CDFIs), the cost of land could be addressed through better zoning policy, and incentivizing local governments to maintain and protect lands for agriculture, in addition to conservation. These issues must be addressed to replace the aging farmers of today with the next generation.

5. b. Coordinate with Tribal Nations and ensure they receive full financial and technical assistance to implement climate stewardship practices

Coordinating with Tribal Nations and ensuring that they receive full financial and technical assistance to implement climate stewardship practices is a critical aspect of supporting native producers. Such resources are especially critical for producers with low or no credit since access to financing is often the biggest barrier. The Rural Development Loan is one mechanism for financing, and yet due to the red tape and administrative burden it puts on applicants, it has become generally unviable. One way to improve this program would be to build in more flexibility and to lengthen the loan period to better suit the needs of applicants. Another program is the Value Added Producer Grant. This program has its strengths. However, increased flexibility to suit individual needs would also be beneficial. It should enable the applicant to buy whatever supplies are needed, rather than the current constraints of current program stipulations.

The requirement of up front cost share for the EQIP program is a barrier for many native producers. This cost share should be reduced or eliminated in order to increase the amount of Native producers in the program. Out of 58,475 participants in the EQIP contracts, only 771 are with Indian-operated farms.<sup>34</sup>

As above, technical assistance by culturally-informed staff is greatly needed through the Natural Resources Conservation Service (NRCS), the Farm Services Administration (FSA), extension services at Universities, Tribal conservation districts, and the Intertribal Agriculture Council. Funding and support for these positions is critical for sustainable management on agricultural lands.

*5. c. Engage with and support environmental justice communities on climate stewardship practices, programs, and policies to create a fair and equitable food system*

One program that has been successful in Wisconsin is the Tribal Conservation Advisory Council, which provides a mechanism for 11 Tribal Nations in Wisconsin to dialog with USDA-NRCS and to provide feedback and input on policies, programs, and projects both at the state level and the national level. The success of this program should be modelled in other states to ensure that the appropriate level of communication is occurring with USDA-NRCS. Creating and encouraging a communication mechanism at the state level would reduce and alleviate many of the challenges that arise related to environmental justice, climate stewardship, and developing an equitable food system.

*7. Reduce food waste and transportation*

*7. b. Build local and regional food systems by expanding market opportunities*

For some Native producers, food is grown for subsistence use, cultural use and community purposes. As a result, they are barred from loans and programs specified to those for growing food for sale. Such producers also must have access to loan programs and be encouraged to grow food and manage their land even if their portfolio of uses doesn't fit the capitalist model of food production.

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<sup>34</sup> Johnson, M.K., Lien, A.M., Sherman, N.R. and López-Hoffman, L. 2018. Barriers to PES programs in Indigenous communities: A lesson in land tenure insecurity from the Hopi Indian reservation. *Ecosystem Services*. 32. 62-69. DOI: 10.1016/j.ecoser.2018.05.009.

## **Pillar 9: Make U.S. Communities More Resilient to the Impacts of Climate Change**

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**Reviewers:** Casey Thornbrugh

**Overview:** The Community Resilience pillar builds on nine central themes to develop recommendations for federal programs and priorities addressing community resilience and adaptive capacity to respond to the impacts of climate change, including the increasing severity and occurrence of natural disasters.

Climate resilience is a local response to a global phenomenon. Adaptation and resilience responses are most effective when community-led and tailored to community needs and priorities. The federal government needs to provide funding and technical assistance to support local leadership and initiatives. Downscaled climate risk data is vital to the development of actionable climate change mitigation and resilience planning. The federal government should play a key role in providing scientific, economic, and social data to assess the impacts of climate change on local communities, and to communicate risk effectively.

The federal government can also play a key role in natural disaster preparedness and recovery. The costs of natural disasters have increased significantly over time, a result of increased development in at-risk areas, unsustainable policy and management practices, and increasing exposure to natural disasters. Pre-disaster mitigation and investment can significantly reduce the cost of natural disasters, both in dollars spent and human suffering. Historically, however, funding is most readily available only after a disaster has occurred, with most assistance going to more affluent property owners. Mechanisms need to be put in place to ensure communities have what they need to prepare for, respond to, and build back better after disasters.

The plan identifies flood and wildfire as two types of natural disasters where federal programming needs to be improved to provide effective pre- and post-disaster planning, support, and recovery. The federal government acts as an insurer of last resort in the event of floods, given the economic challenges of offering flood insurance on the private market. Nonetheless, flood insurance remains a costly expense for many households. Steps need to be taken to ensure the National Flood Insurance Program (NFIP) can provide affordable insurance to households and small businesses in flood-prone areas and find equitable solutions in the cases where individual properties, neighborhoods, or entire communities are under constant threat from environmental factors. Massive, uncontained wildfires are becoming an increasing threat to life, traditional activities and economic livelihoods. Tribes are dependent both on Tribal and off-reservation lands for their needs, and wildfires, as well as floods, affect both. The wildland-urban interface (WUI) is at particular risk. Community resilience to other climate- and non-climate stressors can be highly affected by wildfires. Mitigation measures and effective communication about risks are

essential to preserving life and property, including support for the revitalization to Tribal fire management.

Finally, the plan advocates that the federal government provide leadership in the resilience field by incorporating resilience planning into all aspects of federal programming, and using resilience-based building codes and standards to protect life and property.

The CAP acknowledges that Indigenous Peoples are on the frontlines of climate change. This includes both federally-recognized Tribes and Indigenous Peoples who are not currently federally recognized but maintain strong cultural and traditional ties to the land and environment. Such communities often have unique connections to the place where they live and continuing that connection to place, and tradition is a key component of resilience in Indigenous communities. In the case of federally-recognized Tribes, the federal Trust Responsibility imposes requirements to honor treaty and subsistence rights, including safe access to traditional foods and livelihoods. Indigenous Peoples who are not federally-recognized also have close connections to land and place; for these Tribes as well, federal policies and programs need to be developed that account for the rights of self-determination, access to traditional resources, and well-being. The following section highlights some needs and concerns of Indigenous Peoples in regard to the CAP, and makes recommendations to promote Indigenous leadership in building resilience to the impacts of climate change.

### **Tribal Impacts**

This pillar focuses largely on infrastructure needs, both pre- and post-disaster, to help build resilience in at-risk communities. Developing or rebuilding public infrastructure is one of the costliest expenses for Tribes and Indigenous Peoples, and thus it's appropriate that the federal government support climate resilience planning and project/program implementation. However, resilience is more than infrastructure, and that's especially true for Indigenous Peoples. Infrastructure helps provide physical resilience to a community, but social, cultural, environmental, and economic resilience are also important factors in the health and well-being of a community.<sup>35</sup> Indigenous communities often have a close connection to place and the natural environment, and it is essential to recognize this connection and defer to Indigenous and local leadership when planning or implementing resilience initiatives. Focusing solely on infrastructure needs denies the other social, economic, and environmental factors that contribute to human health and well-being, and ultimately resilience.

The Federal Trust Responsibility is *“a legally enforceable fiduciary obligation on the part of the United States to protect Tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native Tribes and villages.”*<sup>36</sup> Climate change poses a direct threat to the lands, waters, assets, resources, and

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<sup>35</sup> For instance, see resources produced by the [Center for Environmentally Threatened Communities](#) (CETC) - a partnership between the Alaska Native Tribal Health Consortium (ANTHC) and the Denali Commission.

<sup>36</sup> BIA (2020). Frequently Asked Questions | Indian Affairs [online]. Available at: <https://www.bia.gov/frequently-asked-questions> [accessed Sept. 24, 2020].

entire ecosystems of American Indian and Alaska Native Tribes and villages, and to non-federally-recognized Indigenous Peoples. Resilience planning can help Indigenous Peoples anticipate and prepare for future change, and thus falls under the Trust Responsibility of the federal government for federally-recognized Tribes. In the case of non-federally recognized Indigenous Peoples, the absence of legal protection for their rights to cultural and traditional resources can decrease resilience over time. The federal government needs to account for the social, cultural, and environmental concerns of non-federally-recognized Indigenous Peoples and recognize their right to self-determination in federal programming and policy development, in addition to providing and expanding support for federally-recognized Tribes.

Indigenous Peoples are on the frontlines of climate change, and are increasingly grappling with actions and decisions to deal with the subsequent impacts on their communities' lives and livelihoods that are beyond their control. As Indigenous Peoples have found themselves forced to adapt to a changing climate, there are opportunities to build adaptive capacity and leadership. Indigenous Peoples can support each other through shared networks of expertise. Further, it's likely that new, Indigenous-led business opportunities will develop that pertain to adaptation and resilience planning and implementation.

### **Gaps**

Non-federally-recognized Tribes and Indigenous communities often face many of the same challenges as federally-recognized Tribes without dedicated funding streams to assist in resilience planning and implementation. Federal programs designed to assist marginalized and disadvantaged communities need to address the multiple social, environmental, cultural, and economic factors that contribute to resilience, while devolving decision-making authority to the local level.

Sustained funding for resilience planning targeted towards Indigenous communities is essential to the long-term success of climate adaptation and resilience programs. Capacity building programs such as EPA's Indian General Assistance Program (IGAP) are effective programs to develop long-term internal capacity within federally-recognized Tribal governments. Expanding IGAP's scope to include climate change adaptation and resilience could help build capacity within Tribes to address the impacts of climate change. Alternatively, Congress could authorize new funding streams to provide Tribal adaptation specialists to federally-recognized Tribes. Federal service programs such as AmeriCorps could provide temporary capacity-building within Indigenous communities to prepare for the impacts of climate change, but more stable and long-term programs are needed to help support at-risk communities and build long-term, sustained capacity and workforce development.

There are many federal funding streams that assist with climate change resilience planning, but fewer that provide resources to implement plans. Congress should allocate more funding to resilience projects and programs, with the authority to waive matching requirements for Indigenous and low-and-medium income (LMI) communities.

Another gap is that many Tribal Nations have had their water rights adjudicated. Tribal Nations had unlimited access to water before colonization and should have senior water rights that supersedes that of any other entity for consumption or to support culturally-important species. This is a Trust Responsibility as recognized by a recent case in the U.S. Court of Appeals for the Federal Circuit (Klamath Tribe water rights case for instream water rights).<sup>37</sup> Tribal Consultation must be incorporated for further discussion about any and all issues related to water and water infrastructure.

### **Tribal Concerns**

Due to being chronically under-funded for decades, many Tribes and Indigenous communities have limited capacity for resilience planning and implementation. Small staff sizes, modern communication technology and internet limitations, and distance from training opportunities can impact Indigenous leaders' abilities to participate in state and national training and initiatives, to access funding and technical assistance, and to network with other Indigenous leaders. The COVID-19 pandemic has brought to light many of these disparities, as well as others including rural access to health care, education, and modern communication technologies, which can have an overall impact on community health, well-being, and resilience.

Access to traditional resources and the ability to connect and engage with cultural practices are key components of resilience in Indigenous communities. Climate change threatens to disrupt Indigenous Peoples' relationship with the lands, waters, and traditional foods and medicine. The range, season, quality, and quantity of traditional resources have shifted noticeably, a trend likely to continue as climate impacts become more pronounced. In some areas, land loss and natural disasters such as repeated droughts or storm activity have degraded and depleted traditional lands.<sup>38</sup> As the range of traditional resources shift, Indigenous communities may need to develop co-management agreements with nearby land managers to ensure access to traditional resources and cultural practices. Hunting, fishing, and gathering open seasons that are becoming increasingly out of sync with annual subsistence cycles also pose a risk to Indigenous Peoples' access to traditional resources.

Indigenous Knowledge (IK) will likely play a key role in adaptation planning for Indigenous communities. This may include sensitive information about cultural sites, including traditional hunting, fishing, and gathering sites, burial grounds, or spiritual locations. It could also include knowledge of financially valuable pharmaceutical compounds found within traditional medicines or other intellectual property rights that could confer financial benefits. It is essential that federal programs not require the disclosure of sensitive Indigenous Knowledge as part of grant or program requirements and that Indigenous People maintain intellectual property rights over traditional resources.

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<sup>37</sup> *Baley v. United States*, 942 F. 3d 1312 (Fed. Cir. 2019), cert. den. 2020 WL 3405869 (June 22, 2020).

<sup>38</sup> Lynn, K., Daigle, J., Hoffman, J., Lake, F., Michelle, N., Ranco, D., Viles, C., Voggesser, G., Williams, P. (2014) *The impacts of climate change on Tribal traditional foods*: Maldonado, J.K., Colombi, B., Pandya, R. (Eds.), *Climate Change and Indigenous Peoples in the United States: Impacts, Experiences and Actions*. Springer International Publishing, New York, pp. 37–48.

## **Tribal Priorities**

### *Account for multiple dimensions of resilience*

Resilient and sustainable Indigenous communities are founded upon traditional values and knowledges through social connectedness, social support, leadership, resources, infrastructure and a stable community. The resilience of Indigenous communities is directly connected to their lands and waters to which they are related through complex systems of kinship, spirituality, ancestral and transgenerational obligations, and Indigenous knowledges. Therefore, policies targeting building resilience among Indigenous Peoples should include mechanisms that allow for local leaders to develop resilience programming and projects that maintain balance between the mind, body, spirit, and emotions. What this ultimately looks like depends on the needs and vision of the local community, but federal agencies should consider projects such as those that promote social and cultural connections, economic development, and environmental protection or restoration under the umbrella of resilience. One way this could be accomplished is through working with local leaders to develop resilience indicators that best reflect local priorities, which could include measurements such as jobs created, elders served, or youth engaged in traditional activities. As noted below in the discussion on benefit-cost analysis in federal programs, resilience needs to be about more than protecting infrastructure and property values, and the federal government should identify ways to capture non-monetary benefits of resilience activities to help inform grant and program decision-making.

### *Support community-led planning and decision-making*

The federal government should support climate change adaptation planning at the community level, with the federal government supporting community-led decision-making through providing downscaled data, training, and capacity building. Tribes need to be involved in this planning effort at all levels because they have special status as political sovereigns and co-managers of the shared resources. This planning should not be limited to infrastructure planning, but, at the community's discretion, include social, cultural, economic, and environmental resilience planning as well.<sup>39</sup>

### *Relocation*

In some cases, communities are being forced to consider community-wide relocation or expansion to move to safer ground.<sup>40</sup> The government should support community-led resettlement that empowers and honors community decision-making, sovereignty, and self-determination not only at the individual- and property-owner level, but the whole community level, which is established through relationships and practices, not geographical boundaries.<sup>41</sup>

<sup>39</sup> Lowlander Center (2015) Resettlement as a Resilience Strategy and the Case of Isle de Jean Charles. Prospectus for the National Disaster Resilience Competition.

[https://www.doa.la.gov/OCDDRU/NDRC/IDJC\\_Prospectus\\_final\\_27Oct15\\_updated\\_logos.pdf](https://www.doa.la.gov/OCDDRU/NDRC/IDJC_Prospectus_final_27Oct15_updated_logos.pdf)

<sup>40</sup> GAO [Government Accountability Office] (2020) A Climate Migration Pilot Program Could Enhance the Nation's Resilience and Reduce Federal Fiscal Exposure. <https://www.gao.gov/assets/710/707961.pdf> [accessed Sept. 23, 2020].

<sup>41</sup> Marino, E., Jerolleman, A., and Maldonado, J. (2019) Law and policy for adaptation and relocation meeting. Meeting summary report. 3-4 September, National Center for Atmospheric Research, Boulder, CO.

There needs to be support provided for development, infrastructural, and service needs during the period in between when a community makes the decision to move or expand and when such a process is implemented. Providing essential financial and infrastructure support aligns with the UN Declaration of the Rights of Indigenous Peoples (U.N. Declaration).

Community-led decision-making should be supported from the visioning stage all the way through implementation. While their current place may no longer be permanently inhabitable, all efforts should be made to restore the land and waters, informed by Indigenous knowledge, and the Indigenous stewards should maintain access to and stewardship of place, which includes exercising cultural practices. Because of the reservation system that limits movement and the exercise of many rights within reservation boundaries or some off-reservation lands, many federally recognized Tribes do not have the option to move to achieve climate resilience. The government should work with Tribes to identify a path forward for those Tribes whose rights on existing reservations are threatened by climate change. This could include a streamlined process for the development of co-management entities to govern conservation and use of traditional resources on non-Tribal lands, or land exchange programs that allow for the redrawing of reservation boundaries to better uphold the federal Trust Responsibility by providing enhanced access to and control over traditional resources.

### *Floodplain Management*

The Tribal First Foods – water, salmon and other fish species, game, roots, berries, wild rice – have been cornerstones of Tribal culture for thousands of years, and the Tribes are uniquely reliant on them for their spiritual, economic, and nutritional sustenance. Tribal cultures and histories are intertwined with Tribal First Foods and the Tribes have the knowledge about the best approaches to sustainable preservation and replenishment of these foods. This intimate connection with, and knowledge of, the First Foods and their physical and biological needs, gives Tribes a great interest in their restoration and protection, and Tribes are greatly concerned about how climate impacts are affecting these resources. This connection is expressed by the Confederated Tribes of the Umatilla Indian Reservation in their “First Foods” approach to natural resources planning which brings attention to species and ecological processes through the order of foods served in Tribal meals.<sup>42</sup> Based on this, the Tribes are in a unique position to encourage the consideration of climate change in planning and recovery and are updating their own strategies to broadly consider the effects of climate change on First Food resources and the factors which sustain them.

One of the ways is through holistic floodplain protection and restoration in limiting the impacts of climate change.<sup>43</sup> Tribes are impacted by floods from development in floodplains in off-reservation areas. Well-managed floodplains can reduce flooding, store and cool surface

<sup>42</sup> Jones, K.L., Poole, G.C., Quaempts, E.J., O’Daniel, S. and Beechie, T. (2008a) *Umatilla River Vision*. Confederated Tribes of the Umatilla Indian Reservation, Mission, Oregon, U.S.A. [www.ykfp.org/par10/html/CTUIR%20DNR%20Umatilla%20River%20Vision%20100108.pdf](http://www.ykfp.org/par10/html/CTUIR%20DNR%20Umatilla%20River%20Vision%20100108.pdf)

<sup>43</sup> Columbia River Inter-tribal Fish Commission, host. Portland, OR (2016) “Future of Our Salmon Technical Workshop and Conference 2016-Healthy Floodplains, Living Rivers: Outcomes and Recommendations.” <https://www.critfc.org/wp-content/uploads/2020/09/FOOS16-Summary.pdf>

water, provide rearing habitat for fish, and create cold water refugia for migrating salmon. While the annual costs of flooding are rising, the pressures to build in flood-prone areas continues. Building on a floodplain is effectively building *in* the river. Policies that encourage economic development in the floodway, floodplain, and in hazard zones fail to protect public safety, incur costs in damages, and harm the health of the river basin. Under the National Flood Insurance Policy (NFIP) it should be a requirement before any development is approved in the floodplain that the standards under the ESA be upheld. There needs to be an increase in and/or creation of legislative authority for implementing sustainable, collaborative floodplain restoration projects and stewardship programs.

Congress needs to support a shift in land use policies that recognize the benefits and environmental capital of properly functioning floodplains. Floodplain reconnection will provide resilience to climate change impacts. Understanding flood patterns and potential future flood zones is important to long-term planning. However, Tribes are sometimes hesitant to use the flood mapping services offered by FEMA because they are concerned about having the capacity and resources to meet NFIP requirements if they are in a mapped flood zone. The potential reluctance on the part of Tribal, federal, state, and private donors to invest in identified flood risk areas is another concern about engaging with federal data programs.

Floodplain management needs to be collaborative, sustainable, and equitable. Specific recommendations include:

Collaborative practices:

- Integrate Traditional Ecological Knowledge (TEK) in basin-wide river management.
- Include “Tribal First Food – River Vision”<sup>44</sup> principles in resource planning and management decisions.
- Include climate change forecasting data in FEMA flood maps.
- Support and increase legislative authority for implementing sustainable, collaborative floodplain restoration projects and stewardship programs.
- Include accurate projections of future hydrological conditions in FEMA flood zone map updates. Flood zones based on historical conditions do not adequately reflect current and future conditions.
- Increase public understanding of floodplain values.

Sustainable practices:

- Improve land use planning and regulation for increased protection and restoration of floodplain ecosystem function.
- Design floodplains to address both flood protection and ecosystem services.

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<sup>44</sup> BIA (2020). Frequently Asked Questions | Indian Affairs. <https://www.bia.gov/frequently-asked-questions> [accessed Sept. 24, 2020].

- Modernize flood risk management for ecosystem functions.
- Recharge subsurface waters in floodplains, preferably naturally, or artificially if necessary, to improve water quality and water supply.
- Manage out-of-stream water withdrawals to ensure sufficient winter and spring flows necessary for accessing and recharging floodplains.
- Improve linkage of surface water and groundwater to improve instream flows.
- Protect increased surface flows enhanced by projects such as improving floodplain connectivity and resiliency.
- Find incentives and opportunities for increased floodplain land and water restoration, which promotes natural floodplain function.
- Revise Federal Emergency Management Agency (FEMA) emergency flood protection policy that currently allows for habitat degradation.

Equitable practices:

- Assist property owners and renters in moving out of flood zones and shorelines with buy-out programs designed to help residents of all income levels move to safer ground, not just the more affluent property owners who have traditionally benefited from buyback programs<sup>45</sup> (Cusick, 2020).
- Prioritizing the funding for and removing regulatory hurdles for the acquisition of senior water rights for all Tribal Nations

*Implementation funding for Tribes*

Funding to implement resilience projects and programs remains a major challenge. Tribes are often disadvantaged by the criteria used in many Federal grant programs for project selection. Many projects require matching funds that historically redline, and minority communities have difficulty providing. Formulas for calculating project benefits also tend to advantage high-density, high-property value locations. Many Tribes and Indigenous communities are located in rural areas, and have difficulty competing for limited grant funding.

It is critical to move away from benefit-cost analysis that does not account for the distribution of costs and benefits or important social and cultural factors, and expand the focus from built infrastructure to include considerations of critical social services, subsistence and cultural practices, and systems. It is critical that the full costs of relocation -- from visioning to implementation and continued support -- are properly budgeted and accounted for, otherwise those relocating will unjustly bear the externalized costs. Further, Tribes and Indigenous communities should not be subject to cost sharing or match requirements for funding. Developing an independent monitoring program will help to oversee that community plans and priorities are being met, and a grievance redress mechanism would address any procedural and bureaucratic challenges.

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<sup>45</sup> Cusick, D., (2020) Racial Inequalities in Housing Extend to Flood Buyout Programs. Scientific American. [www.scientificamerican.com/article/racial-inequalities-in-housing-extend-to-flood-buyout-programs](https://www.scientificamerican.com/article/racial-inequalities-in-housing-extend-to-flood-buyout-programs) [accessed Sept. 23, 2020].

*Support for Urban Indigenous Peoples*

The United States is becoming increasingly urban, and many Indigenous People find themselves part of the growing urbanization trend as many jobs gravitate towards city centers. Policies and programs that support the continued health and well-being of urban Indigenous communities can help maintain connections to culture and build resilience.

## **Pillar 10: Protect and Restore America’s Lands, Waters, Oceans, and Wildlife**

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**Reviewer:** Holly Prendeville

*“The traditional knowledge of Indigenous Peoples worldwide maintains records of climate, phenology, wildlife, and land management practices that benefit ecosystems and humans.”*

*-Dr. Michael Kotutwa Johnson, Traditional Hopi Dryland Farmer*

*“Native Nations need to develop a Climate Action Plan to avert the collapse of ecosystems.”*

*-David Petrie, Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians*

**Overview:** Pillar 10 consists of over 100 policy recommendations, and a detailed review of each one is beyond the scope of this report. Instead we present several overarching themes and a representation of some of the many Tribal concerns surrounding the subject of Pillar 10. For a complete list of all the building blocks in Pillar 10, please see Appendix 2.

This CAP pillar is organized as two major sections, each of which has five subsections:

- Capture the Full Potential of Natural Climate Solutions
  - Protect and Conserve Large Landscapes and Biodiversity
  - Lift Up America’s National Parks and Public Lands as Part of the Climate Solution
  - Address the Biodiversity Crisis and Help Wildlife Adapt to Climate Change
  - Protect and Restore Forests and Grasslands
  - Protect and Restore Ocean and Wetland Ecosystems for Climate Mitigation and Resilience
- Make Public Lands and Waters a Part of the Climate Solution
  - Reduce Greenhouse Gas Pollution from Public Lands and Waters
  - Expand Protections for Wild and Special Places
  - End Unfair Government Subsidies for Oil and Gas Production on Public Lands
  - Establish and Maintain Robust Environmental Review, Requirements, and Restoration
  - Invest in State and Local Communities in Economic Transition<sup>46</sup>

Every policy proposal of Pillar 10 is relevant to Tribal communities due to the pivotal role of lands, water, plants, and animals in Tribal ways of life, and Tribes’ status as sovereign nations.

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<sup>46</sup> A shortcoming of this subtitle is the absence of the term “Tribal”. The US has three sovereign governing bodies 1) Federal, 2) Tribal, and 3) State.

The ecosystems of our lands and waters support a wide variety of plant and animal species that provide food security and enable economic survival for Tribal communities. They also form the foundation for culture, spiritual life, traditional medicine, and community cohesion.<sup>47</sup> These ecosystems already face negative effects due to climate change. Ecosystem protection will promote the social resilience of Tribal communities while reducing harmful greenhouse gas pollution. Many of these species are also critical for maintaining the physical and spiritual health of Indigenous Peoples, which has declined since the introduction of non-Native and processed foods.<sup>48 49</sup>

### **Tribal Impacts and Opportunities**

There is an unfortunate precedent of Tribal communities being barred from fishing, hunting, and gathering in national parks and marine protected areas despite sovereign rights to do so. Thus, early and meaningful consultation with Tribes about such actions will be crucial to uphold the principles of Tribal sovereignty and environmental justice.<sup>50</sup> Tribes should be included in the management of parks, national forests, and protected areas to ensure the protection of their rights and interests from potential maladaptation, and to ensure that these lands continue to provide for their treaty and other sovereign rights.

Policies proposed in the other CAP pillars must prevent adverse impacts to the lands, waters, and oceans that Tribal communities rely upon. The Plan supports research and development of “next generation” nuclear technologies. Also, the Plan does not ban new fossil fuel infrastructure. These energy pathways pose risk to the lands, waters, and oceans, due to both catastrophic failures and long-term cumulative pollution. Furthermore, the CAP incentivizes hydropower, with the caveat that hydropower projects should “*comply with all relevant environmental statutes, including the Endangered Species Act, and should operate in a way that does not harm fisheries or threaten recreational, Tribal, and commercial fishing*” (p. 44). Hydropower dams, while providing carbon neutral energy, also pose significant barriers to the survival and abundance of salmon species.<sup>51</sup> Salmon and steelhead are resources protected by the Trust Responsibility and treaties, and vitally important to Tribal subsistence, economies, cultures, and spiritual identity. The compounding effects of hydropower, habitat degradation, and changing environmental conditions have negative repercussions for the salmon runs that have sustained Tribal

<sup>47</sup> Northwest Indian Fisheries Commission (2016): Climate Change and our Natural Resources: A Report from the Treaty Tribes in Western Washington. Olympia, WA. <https://nwtreatytribes.org/climatechange/>

<sup>48</sup> Fialkowski, M.K., T.A. Okoror, and C.J. Boushey (2012) The relevancy of community-based methods: using diet within native American and Alaska native adult populations as an example. *Clinical and Translational Science*, 5 (3), 295-300. <https://dx.doi.org/10.1111%2Fj.1752-8062.2011.00364.x>.

<sup>49</sup> Knowler, W.C., D.J. Pettitt, M.F. Saad, and P.H. Bennett (1990) Diabetes mellitus in the Pima Indians: Incidence, risk factors and pathogenesis. *Diabetes/Metabolism Reviews*, 6 (1), 1-27. <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/nutrition.htm>

<sup>50</sup> Executive Order (EO) 13175, “Consultation and Coordination with Indian Tribal Governments.”

<sup>51</sup> Frank, D. Red Arrow (2017) A Hell of a Complex: The Miscarriages of the Federal Hydropower Licensing Regime. *American Indian Law Journal*, 6 (1), Article 5. <http://digitalcommons.law.seattleu.edu/ailj/vol6/iss1/5>

communities and cultures for millennia.<sup>52</sup> The protection of fisheries is paramount. Renewable energy options that do not harm fisheries should be prioritized over any new hydropower projects.

Salmon and steelhead are dependent on healthy watersheds: cool-water streams and rivers allow for freshwater spawning, rearing, and migratory habitat. Seasonal snowmelt from the mountains of the Pacific Northwest produces a year-round supply of water that supports multiple downstream uses, including historically abundant runs of salmon and steelhead. Climate change may imperil many fish populations by reducing winter snowfall, changing seasonal stream flows, and by increasing water temperatures. Changing ocean conditions (higher water temperature and ocean acidification) will alter the marine food web and will affect salmon and steelhead. Sea level rise is likely to reduce the quality and extent of coastal estuarine habitats used by juvenile salmon.

Floodplains support Tribal and First Nation First Foods: clean water, salmon, lamprey, sturgeon, steelhead, resident fish, deer and other wildlife, roots, wild rice, and berries. The cultural consequences of skewing the natural hydrograph have been devastating for Tribes and First Nations on their fishing villages, salmon runs, and traditional river management. Land and water development and management in the floodplains of the Columbia Basin over the last 150 years have not recognized the benefits and environmental capital of properly functioning floodplains. Traditional and scientific knowledge of the biological, physical, and ecological processes of floodplains is well-developed, but not widely understood, accepted and implemented for all floodplain values and needs.<sup>53</sup>

It is also imperative that natural resources policies prohibit the construction and replacement of infrastructure in sites that are vulnerable to ecological degradation. Likewise, there should be prohibitions on infrastructural construction on sites that perform the ecological functions of carbon sequestration, climate change refugia, or provide natural buffers to disasters, such as riparian corridors, salt marshes, and wetlands. Policy deficiencies include fragmentation across various agencies and weak enforcement, sacrificing our future well-being for unsustainable growth.

### **Gaps**

The uncertainty of climate impacts demands flexibility and coordinated, long-range efforts across institutional and cultural divides to collectively support whole-basin management strategies. Resilience means that natural processes are able to shape themselves, to change, and to maintain their function in response to environmental change. For example, climate change will

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<sup>52</sup> Crozier L.G., M.M. McClure, T. Beechie, S.J. Bograd, D.A. Boughton, et al., (2019) Climate vulnerability assessment for Pacific salmon and steelhead in the California Current Large Marine Ecosystem. *PLOS ONE*, 14 (7), e0217711. <https://doi.org/10.1371/journal.pone.0217711>

<sup>53</sup> Columbia River Inter-tribal Fish Commission, host. Portland, OR, 2016: "Future of Our Salmon Technical Workshop and Conference 2016-Healthy Floodplains, Living Rivers: Outcomes and Recommendations." <https://www.critfc.org/wp-content/uploads/2020/09/FOOS16-Summary.pdf>

transform our rivers and our ability to control the hydrograph as we do in some locations without losing river dynamism that is foundational to all user benefits. Achieving resilience requires adapting river use and operations and implementing strategies to restore natural river function for long-term ecological stability.

A robust climate action plan should articulate clear guidelines and expectations for protection of forested riparian zones for their numerous benefits, including carbon sequestration in the vegetation and soil. A study of riparian forests in northern California found that while riparian forests sequestered less carbon in the long term than commercially harvested coniferous forests, they can sequester as much or more carbon in the short term.<sup>54</sup>

Another avenue for pursuing ecosystem resilience is shellfish and seaweed aquaculture practices that benefit water quality and fish habitat. Seaweed aquaculture has the potential to sequester carbon and buffer ocean acidification locally.<sup>55</sup> Production can be encouraged through streamlining permit processes in locations that do not contain critical habitat for ESA-listed salmon and other Tribal resources.

Conservation on privately-owned lands still relies on voluntary means, which can be piecemeal and too modest. Climate adaptation requires large-scale, landscape-level actions. Tribal programs for land acquisition can be promoted so that habitat enhancement that might conflict with other land use can occur, such as beaver reintroduction, reforestation, and installation of large woody material in streams. Policies could include programs to buy out properties in channel migration zones, or after flood damage to levees, roads, or private property.<sup>56</sup> Tribal cultural values and priorities of environmental stewardship can help promote the balance between economic benefits and protecting environmental resources, community health, and cultural traditions.

### **Tribal Concerns**

Tribes are disproportionately impacted by climate change due to their high dependence on the First Foods, and relative vulnerability of their infrastructures. Yet historically, Tribes have not been equitably funded in natural resource and wildlife conservation. While the funding available for Tribal climate change programs such as the BIA Tribal Resilience Program has increased in the last few years, the amounts are still inadequate to fully meet the need. Project-based funding, while important to Tribes in responding to the effects of climate change, is not a sustainable approach to building capacity. Furthermore, funding that goes beyond planning and support implementation of Tribal adaptation plans has been notably absent. Stable, long-term funding for Tribal efforts to reduce the impact of climate change is crucial for the protection of all resources.

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<sup>54</sup> Matzek, V., J. Stella, and P. Ropion, 2018: Development of a carbon calculator tool for riparian forest restoration. *Applied Vegetation Science* 21 (4), 584-594. <https://doi.org/10.1111/avsc.12400>.

<sup>55</sup> Duarte, C.M., J. Wu, X. Xiao, A. Bruhn, and D. Krause-Jensen, 2017: Can Seaweed Farming Play a Role in Climate Change Mitigation and Adaptation? *Frontiers in Marine Science* 4:100. doi: 10.3389/fmars.2017.00100

<sup>56</sup> Northwest Indian Fisheries Commission, 2016: Climate Change and our Natural Resources: A Report from the Treaty Tribes in Western Washington. Olympia, WA. <https://nwtreatytribes.org/climatechange/>

There needs to be a review of existing federal, state and Tribal grant programs with revisions as necessary to support funding of climate related projects.

Specific funding needs include the following:

- BIA Rights Protection Implementation (RPI): Within RPI, the “Evaluation and Research Activities – Climate” program was not funded by BIA in Fiscal Year (FY) 2018, despite many successful Tribal projects and programs in FY 2014 through FY 2017. We have identified a need of \$25 million for RPI Climate Change, plus additional increases to other RPI accounts, bringing our total RPI request to \$77.605 million.
- BIA Tribal Resilience Program/Cooperative Landscape Conservation: This Pillar recommends increases to the BIA Tribal Resilience Program and an increase in appropriations to the BIA Cooperative Landscape Conservation from \$15 million to \$25 million (p. 389). We respectfully request \$50 million for the Tribal Resilience Program; this reflects an increase of \$40.044 million over the FY 2019 enacted level of \$9.956 million.
- EPA General Assistance Program (GAP): We respectfully request an accompanying bill or report language that would double the current funding level, and improve flexibility in the GAP to ensure Tribal priorities and implementation activities would be eligible.
- The Recovering America’s Wildlife Act (H.R. 3742), which provides \$97.5 million for Tribes to manage wildlife in light of the wildlife crisis in which climate change is a leading factor.
- Increasing funding for Landscape Conservation Cooperatives and cross-jurisdictional collaboration at a landscape level are excellent proposals.

While Pillar 10 contains many laudable recommendations, more can be done to support the resilience of lands, waters, oceans, and wildlife critical to the resilience of Indigenous Peoples.

Recommended actions include the following:

#### Development and implementation of Tribal watershed conservation management plans

- Protect and manage wildlife migration corridors: Watershed riparian corridors provide for a significant portion of our nation’s migratory pathways, but lack effective management strategies to include Tribal and private perspectives. Recently, some federal agencies have acknowledged this shortfall and have engaged Tribal partners to develop a more effective program under the guidance of joint Tribal, federal, state and private partnership.
- Habitat connectivity: Connecting biological corridors with already existing federal and state conservation areas will significantly increase conservation efforts underway for species whose habitat is shifting and shrinking under current management. Currently, federal land management agencies charged with overseeing conservation efforts on vast acreages of federal property rarely engage with “off-site” management actions outside of their prospective land ownership. To enact lasting change, we must directly tie all users and managers together to initiate a system to optimally manage critical habitat as a whole rather than in isolation.
- Engagement on private lands: The federal government owns approximately twenty-eight percent of all lands within the United States. Based on this limited percentage, outcomes will

never reach acceptable management potential. Tribal engagement and leadership within local communities and surrounding private property outlines an important fundamental key to success on non-federal properties.

- Focused federal funding process: The U.S. Bureau of Reclamation has initiated a federal funding opportunity that envisions watershed partnership efforts engaging Tribal leadership with both private landowners and federal nexus agencies into an operational conservation program. This effort is encompassing Tribal and federal perspective and management philosophies into outcome products.
- Mitigate fire risk: The U.S. Bureau of Indian Affairs has developed a program within Reserved Treaty Rights Lands that allows specific management direction on both Tribal property and adjacent and/or patchwork private property. This process implements fire management actions utilizing trained fire professionals to target conservation goals and objectives on critical habitat.

#### Watershed evaluations identifying significant benefits to local, state and federal economies

- Invest in local economies and protect critical water supplies: Healthy watersheds tie directly to community economic drivers such as clean water, recreation, tourism, job creation and growth allowing for community sustainability. Tribal conservation plans will identify key economic aspects that provide direct monetary impacts to communities and show the economic needs for conservation action.
- Identify values of watershed ecological services to local communities, such as property values, job creation, value of reliable and sustainable public water supplies, and direct tourism impacts.
- Identify significant economic impacts due to loss of ecological services such as the results of severe drought events on existing public water supply.

#### For floodplain management, adopt a river vision that recognizes the multiple purpose values of healthy and ecologically sustainable floodplains that are resilient to anticipated climate change impacts

- Implement a collaborative and unified whole-basin vision and action framework that targets and focuses actions to connect all Tribes, agencies and communities through support of common objectives for improved natural floodplain health and ecological function.
- Integrate Traditional Ecological Knowledge (TEK) in basin-wide river management.<sup>57</sup>
- Include Tribal First Food–River Vision principles such as those used by the Confederated Tribes of the Umatilla Indian Reservation in resource planning and management decisions.<sup>58</sup>
- Modernize flood risk management for ecosystem functions.
- Improve land use planning and regulation for increased protection and restoration of floodplain ecosystem function.
- Design floodplains to address both flood protection and ecosystem services.

<sup>57</sup> For details on TEK and related terms, see [Appendix 1](#) of this document.

<sup>58</sup> Jones, K.L., G. C. Poole, E. J. Quaempts, S. O'Daniel, and T. Beechie (2008a) *Umatilla River Vision*. Confederated Tribes of the Umatilla Indian Reservation, Mission, Oregon, U.S.A.  
[www.ykfp.org/par10/html/CTUIR%20DNR%20Umatilla%20River%20Vision%20100108.pdf](http://www.ykfp.org/par10/html/CTUIR%20DNR%20Umatilla%20River%20Vision%20100108.pdf)

- Modernize flood risk management for ecosystem functions.
- Recharge of sub-surface waters in floodplains should occur naturally, or artificially if necessary, to improve water quality and water supply.
- Manage out-of-stream water withdrawals to ensure sufficient winter and spring flows necessary for accessing and recharging floodplains.
- Improve linkage of surface and groundwater management to improve instream flows.
- Protect increased surface flows enhanced by projects such as improving floodplain connectivity and resiliency.

Identify and link wildlife corridors encompassing federal/state properties for engagement within Tribal conservation management plans

- Development and growth of Tribal natural resource offices through structured capacity building and partnership development will provide significant value to overall conservation efforts, and allow Tribal voices and perspectives to provide leadership and direction.
- Tribal engagement has rarely been requested within development of federal land management conservation efforts for grassland and grassland bird species. The development and implementation of Tribal conservation plans is paramount to conservation delivery within large scale grassland habitats across federal, Tribal, state and private landscapes.
- Development of Tribal/private land management demonstration sites. Tribal leadership engagement will provide significant merit to this process focused on outreach, education, and technical assistance to all landowners working cooperatively to deliver conservation across a broad-spectrum landscape.
- Climate Adaptation Science Centers provide both valuable training opportunities and significant funding avenues for climate based scientific studies. Extremely valuable research is now being completed within Tribal communities and this effort needs to be duplicated in all climate centers within a lens of Tribal engagement at the planning level.

Incorporate Climate Adaptation and Tribal Priorities into Fisheries Management<sup>59</sup>

- Halt the decline of fish species and populations, and rebuild the runs in a manner that supports Tribal ceremonial, subsistence, and commercial harvests.
- Support the sovereign rights of Tribes to sufficient instream flows to support salmon and other aquatic resources that fall under the federal Trust Responsibility to Tribal Nations, especially during summer.
- Protect and restore stream connectivity to cold water refuges for cold water aquatic species. Policies and legislation that prioritize protecting and increasing cold water refugia areas are needed. Restoration actions needed include connections to side channels and floodplains, replanting native vegetation that provides shade, and increasing channel depths.

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<sup>59</sup> Columbia River Inter-Tribal Fish Commission, 2014. *Wy-Kan-Ish-Mi-Wa-Kish-Wit, Spirit of the Salmon – The Columbia River anadromous fish restoration plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes*. CRITFC, Portland, Oregon. <https://plan.critfc.org>

- Restore ecosystem function to streams and rivers (including riparian restoration, livestock management and other restoration actions). Potential habitat and restoration areas should be prioritized based on salmon and steelhead vulnerabilities to climate change.
- Explore means for greater flexibility in the application of water rights and their potential use for ecosystem functions.
- For species populations that are most vulnerable, further genetic research into ways of increasing resilience to climate change is warranted.
- Manage hydropower systems to a greater extent to assist fish species migration and survival.
- Reduce existing stressors on fish, including fish toxins, habitat degradation, and impediments to fish migration.
- Support research into how climate change may affect marine food webs that are critical to salmon and steelhead.
- Protect coastal estuarine habitats.

These recommendations will help ensure that the Nation upholds its Trust Responsibility to Indigenous Peoples by protecting the fish, wildlife, and other natural resources vital to our cultures, communities, and livelihoods, and ensuring that Tribes are meaningful participants in the nation's efforts to reach the net zero carbon pollution level by mid-century. By taking a leadership role in securing equitable support for Tribes, the future well-being of Tribal natural resources, health and economies as well as foster the capacity of the Tribes to meaningfully contribute to the greater national effort to combat climate change.

### **Tribal Priorities**

The inclusion of provisions for free, prior, and informed consent sets an excellent precedent for Tribal consultation that is both meaningful and just. Consultation is meaningful when appropriate Tribal officials and federal representatives interact before taking any action or implementing decisions that may affect Tribal rights and interests, both on- and off- Tribal reservations. Consultation must occur early enough to allow Tribes the time to provide meaningful input on the subject matter, and to account for each individual Tribe's timeline and sovereign process for considering consultation offers. The Trust Responsibility describes the duty of the federal government to fulfill their Trust Responsibility to respect Tribal sovereignty and to ensure the survival and well-being of the Tribes. A firm mandate and support for implementation and action is required for the proposed commission to formally and meaningfully consult with Tribal leaders and the interagency task force to ensure Tribal inclusion in federal natural resource grants and programs.

Indigenous Peoples' TEK are a vital aspect of implementation and adaptation to climate change. However, TEK are often implemented in ways that the Western science systems employed by agencies do not value, understand, or cooperate with. TEK understanding of ecosystem cycles occurs in a different manner than evaluation with Western science methodologies. Tribal input is vital as an on-the-ground, near-daily intimate approach to changes that may seem miniscule to those outside of Tribal and Indigenous paradigms. However, this TEK documentation is

foundational to noting changes that impact biodiversity, and contribute to the overall climate change events that become larger after time has passed. Particularly essential is protection of TEK that is considered “sacred” – this includes geographic spaces, or familial held knowledge, and there should not be forced disclosures when collaborations occur.

Tribal cultures and their sovereign rights are place-based, and climate change is altering the location and timing of species’ behaviors and events (i.e., phenology) in the living world.<sup>60</sup> Loss of biodiversity and changing migration patterns will impact TEK as well as traditional food sources and the ecosystems which those sources live within and around. If these sources move outside Tribal territories, usual and accustomed areas, or any currently accessible lands or waterways, discussion needs to occur on how allowances should take place and be implemented for the continuation of cultural traditions and for ensuring protection of biodiversity. Issues such as designation of heritage sites, licensure date/timelines, harvest takes, and allowances may need to be addressed to ensure the lifecycles, the abundance, and the nutrient levels of traditional foods while upholding Tribal rights and access simultaneously.

Land conservation efforts could be improved with more expansive and holistic Indigenous views. Policies for conservation of public lands must include language that is appropriate to Indigenous Peoples. All aspects of the management of public lands and lands purchased for protection and restoration pose a significant opportunity to incorporate –not institutionalize– Indigenous values and Indigenous Knowledge for multiple benefits. For example, a collaboration of the Yurok and Karuk Tribes, with the U.S. Forest Service and Stanford University found that traditional Tribal fire management practices hold great promise for reducing wildfire risk while revitalizing Tribal cultures in the Klamath Basin in northern California.<sup>61</sup> Prescribed burns, such as those practiced by the Tribes, reduce wildfire fuel and decrease wildfire intensity and size. At the same time, the traditional practices increased the availability of high-quality weaving materials by ten times as compared to untreated areas.

Management of public lands can also incorporate Traditional Ecological Knowledge of watershed processes and sustainable forest practices, where entire stream networks are considered for downstream effects on vegetation, wildlife, fish and other aquatic species. Climate change impacts are occurring within the context of degraded ecosystem functions that compound the negative effects of climate change. Protecting habitat is an essential element of the federal fiduciary duty to ensure that Tribes can exercise their sovereign rights. Although the federal government makes significant investments in restoring degraded habitat, it does not fully exercise its authorities to protect the essential habitat that remains. Without these protections,

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<sup>60</sup> Prevéy, J.S., Parker, L.E., Harrington, C.A., Lamb, C.T. and Proctor, M.F., 2020. Climate change shifts in habitat suitability and phenology of huckleberry (*Vaccinium membranaceum*). *Agricultural and Forest Meteorology*, 280, p.107803.

<sup>61</sup> Marks-Block, T., Lake, F.K., and Curran, L.M. (2019) Effects of understory fire management treatments on California Hazelnut, an ecocultural resource of the Karuk and Yurok Indians in the Pacific Northwest. *Forest Ecology and Management* 450 (15 October 2019), 117517. <https://doi.org/10.1016/j.foreco.2019.117517>.

overall habitat will continue to decline. This cumulative habitat degradation threatens the ability of Tribes to protect, restore and exercise their sovereign rights to fish, gather, and hunt. The trajectory of continued decline in habitat could be changed by addressing the lack of coordinated federal leadership and the failure to exercise federal authorities.

## **Pillar 11: Advance Climate Resilience and Preparedness for a Strong National Defense / Restore America's Leadership on the International Stage**

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**Reviewers:** Nikoosh Carlo, Kathy Lynn

**Overview:** Pillar 11 has two subsections. Within the pillar subsection, *Advance Climate Resilience and Preparedness for a Strong National Defense*, the building block most relevant to Indigenous Peoples is: Require That Department of Defense (DOD) Installations Coordinate with Local Communities on Climate Planning. Domestic military installations should coordinate their resilience planning with hazard mitigation and climate resilience planning efforts conducted by state, Tribal, territorial, and local governments adjacent to and within commuting distance of their facilities. Funding and technical assistance must be made available for Tribes to adequately participate in these hazard mitigation planning efforts. Also, this subsection is overly focused on military matters, and ignores national defense issues important to Tribes such as food security (including traditional food sources from marine and freshwater to land-based animals and plants), energy security, Tribal sovereignty, and the treatment of Indigenous people attempting to migrate to the U.S. at its southern border.

Within the pillar subsection, *Restore America's Leadership On the International Stage*, there are several building blocks of particular concern to Indigenous Peoples: Bolster U.S. Participation in International Climate Finance Programs; Empower Women and Girls in Developing Countries to Adapt to Climate Change and Build Resilience; Reduce Black Carbon Emissions; Stop International Deforestation and Forest Degradation; and Improve Arctic Diplomacy and Engagement. Some of these building blocks represent obligations which Indigenous Peoples in the United States feel toward their Indigenous brothers and sisters around the world, such as ensuring that financial contributions to the GCF are met, and that all climate actions which the U.S. supports in other countries ensure that the rights of Indigenous Peoples are respected. Others, such as addressing black carbon and improving Arctic diplomacy and engagement affect Indigenous Peoples in the U.S. directly. Generally, this subsection is deficient in having too narrow a view of what it takes for the U.S. to restore its international leadership position, as U.S. based Tribal representatives are members of U.S. delegations to international climate change and other related delegations. Also, Tribes should participate fully in cross-border negotiations affecting Tribes in the U.S., e.g. the Columbia River Treaty negotiations.

**Impacts and opportunities:** Impacts from the subsection regarding strengthening national security are expansive. Tribes near military installations can be adversely affected by actions taken there if they do not have the opportunity to coordinate hazard planning with adequate funding and technical assistance. Food security has proven to be a matter of important national security, especially during the Covid- 19 pandemic. And actions taken in the name of national

security at the southern border, have had serious adverse effects on the human rights of Indigenous Peoples attempting to migrate into the U.S., such as separating children from their families and putting people in the equivalent of cages. The subsection on restoring national leadership represents great opportunities for assisting Indigenous Peoples in other countries and here in the U.S. by ensuring their rights under the United Nations Declaration on the Rights of Indigenous Peoples (U.N. Declaration), including the rights of Tribes in the U.S. to participate in decision-making in matters affecting them, such as cross-border negotiations, as members of U.S. delegations to international forums, and as permanent participants in the Arctic Council.

### **Gaps**

1. The subsection on national security does not address food security, energy security, or the rights of Indigenous Peoples at the southern border.
2. The subsection on restoring America's leadership, in the building block on Empowering women and girls to adapt to climate change, does not address their empowerment to adequately participate in international climate matters.
3. The building block on improving Arctic Diplomacy should support and fund the Indigenous Permanent Participants in the Arctic Council, and leverage the unique opportunity of this forum to learn from and uplift Indigenous knowledge, culture, perspectives, and leadership.
4. The building block on preventing deforestation does not fully recognize that most forest land is Indigenous land which must be protected by official recognition of Indigenous land title, and does not make clear that reductions in deforestation can never be used to accrue carbon offsets.
5. There should be a general requirement that in all international climate actions, the rights of Indigenous Peoples as set forth in the UN Declaration must be respected, promoted in all climate actions as set forth in the Paris Accord, even if the United States is not a party.
6. There is no provision for U.S. Tribes to participate in cross-border negotiations affecting them, or to be on international delegations addressing climate change.
7. The U.S. must rejoin the Paris Accord and support the Local Communities and Indigenous Peoples Platform (LCIPP) established in paragraph 135 of the Paris Decision.

### **Concerns**

1. The subsection on national security is too focused on military interests, and ignores issues such as food security, energy security, and rights of Indigenous Peoples at the southern border.
2. The Green Climate Fund (GCF) lacks sufficient funds.
3. The GCF does not fund Indigenous Peoples directly, but rather requires that they go through a national entity which greatly limits their access. Indigenous Peoples should have a separate window at the GCF.
4. That countries will seek offsets for reducing deforestation.
5. That in GCF projects and deforestation projects, the rights set forth in the UN Declaration will not be honored.

6. Conflating Indigenous Peoples with local communities in the LCIPP. Local communities do not share the rights of Indigenous Peoples under the UN Declaration.
7. Constant references in documents to *“best available science”*, *downplays the important role that traditional knowledge can play. The reference should be to “best available knowledge.”*

### **Priorities**

1. Ensure that all climate actions in the U.S. and internationally comply with the rights of Indigenous Peoples that are asserted in the 2007 UN Declaration; such as the right to self-determination, lands, territories and resources, and free, prior, and informed consent.
2. Rejoin the Paris Accord - without doing so, the United States cannot regain its international leadership role.
3. Support the LCIPP and its purpose of strengthening traditional knowledge, and giving it due weight in climate policy, subject always to free, prior, and informed consent of the Indigenous People involved.
4. Fulfill financial commitments to the Green Climate Fund, and lobby for direct funding of Indigenous Peoples in developing countries.
5. Support full participation, through funding and other resources, of Indigenous Permanent Participants to lead projects and serve in leadership roles for the Arctic Council working groups and subsidiary bodies.
6. Provide funding for capacity building of Indigenous women, girls, and youth in developing countries and in the United States.
7. Address the need to prevent/mitigate black carbon.
8. Fight deforestation, disallow all offsets as offsets allow emission of carbon elsewhere.
9. Provide financial assistance and technical assistance to Tribes in the United States for development of hazard mitigation and climate resilience plans in coordination with DOD military installations.
10. Demilitarize the subsection on national security and include such elements as food security (including marine resources), energy security, and human rights of Indigenous people at the southern border.
11. Involve Indigenous Peoples and representatives in cross-border negotiations affecting their rights, and on U.S. delegations to international venues addressing climate change.

## Pillar 12: Strengthen America’s Core Institutions to Facilitate Climate Action

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**Reviewers:** Nikoosh Carlo

**Overview:** This pillar focuses on strengthening climate science, assessing the value of federal climate action and strengthening the country’s democratic institutions. The United States has treaty and trust responsibilities to federally recognized Tribal Nations. To uphold these responsibilities the United States government must ensure the effective and proper functioning of its democratic institutions. To accomplish this, these institutions must include and prioritize the findings in the Tribal Climate Change Principles: Responding to Federal Policies and Actions to Address Climate Change which were developed by an expert task force in September of 2015, and endorsed by the National Congress of American Indians (NCAI) through Resolution #SD-15-024. Tribal Nations within the territory of the United States have unique challenges in adapting to and mitigating the effects of climate change. The eight principles of this report directly address key underlying challenges and provide recommendations to “*guide the federal government in the development and implementation of administrative and legislative actions related to Indigenous Peoples and climate change.*” The eight principles are as follows:

### *Strengthen Tribal Sovereignty in the Climate Change Era*

1. Federally-recognized Tribes and other Indigenous Peoples and Indigenous communities must be partners with full and effective participation in assessing and addressing the problems of climate change at the local, regional, national, and international levels and must be accorded at least the status and rights recognized in the U.N. Declaration on the Rights of Indigenous Peoples and other international standards relevant to Indigenous Peoples.
2. Tribes must have fair and equitable representation on all federal climate committees, working groups, and initiatives in which states, local governments, and other stakeholders are represented.
3. The federal government should establish a high-level interagency Tribal government task force to examine and propose solutions to close gaps across the federal agencies’ relationships and programs with Tribes, and to develop, recommend, and implement Tribal-specific solutions that enable the agencies to support and foster Tribal climate-resilient planning and investment.

### *Support Tribes Facing Immediate Threats from Climate Change*

4. Indigenous Peoples must have direct, open access to funding, capacity-building, and other technical assistance, with their free, prior and informed consent, to address the immediate and long-term threats from climate change.

*Ensure Tribal Access to Climate Resources*

5. Tribes must have fair and equitable access to federal climate change and other relevant programs.
6. Tribes must be made eligible for existing and future federal natural resource funding programs for which states are eligible, but from which Tribes are currently, or might be, excluded.
7. A fair and equitable set-aside of direct monies or allowances must be made available for distribution to Tribes through legislation, administrative actions, and existing and future federal natural resource funding programs.

*Traditional Knowledges and Climate Change*

8. Indigenous Traditional Knowledges, with the free, prior, and informed consent of Indigenous Peoples, must be acknowledged, respected, and promoted in federal policies and programs related to climate change.

**Impacts and opportunities**

It has been established by the IPCC and others that, because of their close relation to, and reliance on nature, Indigenous Peoples are disproportionately vulnerable to climate change. These impacts are unique to each of the 574 federally recognized Tribal Nations and the numerous state recognized and unrecognized Tribal Nations in the United States, as well as other Indigenous Peoples in the United States such as Native Hawaiians. The U.S. should prioritize supporting Tribal Nations in their efforts to address climate change through mitigation and adaptation efforts. To properly assess and address these impacts, Indigenous Knowledges must be recognized as an important part of climate science, and should inform climate policy, always with the free, prior, and informed consent of the Indigenous Peoples involved. Non-Indigenous personnel must be educated to work with Indigenous Peoples, their knowledge, and their world views. STEM programs should include social sciences and the humanities. More Indigenous students must be recruited and funded in environmental programs in colleges and universities, and integrated into workforces on climate change mitigation and adaptation at Tribal, state, and federal levels.

The true value and effects of climate action must be assessed. Climate actions may promote immense ecosystem and cultural values which are often not taken into account, or may actually harm those same interests, especially where specific values to Tribes are involved and not known to non-Tribal actors.

**Gaps**

Too often, climate science is viewed as being only comprised of western science. Traditional Knowledge is often not recognized for its value in assessing and addressing climate change impacts and contributing to climate solutions. This is due to the lack of understanding by non-Indigenous scientists of Indigenous Knowledge as well as inadequate funding available to

Indigenous experts to participate in scientific, policy and decision-making spaces. Tribal Nations are often understaffed and under-resourced to be competitive with states and municipalities when applying for federal grants, programs, and funding. Equitable and abundant funding must be provided for climate adaptation planning and implementation. Funding should be made available to Tribal Nations to reduce carbon footprints and expand resilience in a rapidly changing climate.

### Concerns

Failing to incorporate traditional knowledge in climate policy and action would be a mistake. It has been shown that the highest concentration of biodiversity exists on lands managed by Indigenous Peoples.<sup>62,63</sup> Additionally, biodiversity is highest in culturally diverse places throughout the world. This is not accidental. Indigenous Peoples are the best stewards of biodiversity. The health of Indigenous cultures and the environment is inextricably linked. Supporting Indigenous sovereignty is a critical climate strategy the U.S. government must prioritize in addressing climate impacts throughout the country.

### Priorities

1. Implement the United Nations Declaration of the Rights of Indigenous Peoples (UN Declaration).
2. Adhere to the eight principles laid out in the NCAI Resolution #SD-15-024 (see above) in federal climate change programs and policy. These principles include “ensuring that Indigenous and Traditional Knowledges, with the free prior and informed consent of Indigenous Peoples are acknowledged, respected, and promoted in federal policies and programs related to climate change.”
3. Increase targeted financial and technical support for Tribal Nations.
4. Provide Tribal Nations with detailed and down-scaled climate projections to better understand the impacts of climate change on their lands, and how to address those impacts.
5. Assess the impacts of climate actions on Indigenous Peoples
6. Provide funding for Indigenous students to study in colleges and universities and later to work on climate change at the Tribal, state, and federal levels, and supporting Indigenous students in learning about their culture, history, and experience on the land and with elders.

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<sup>62</sup> Garnett, S.T., Burgess, N.D., Fa, J.E. et al. (2018) A spatial overview of the global importance of Indigenous lands for conservation. *Nat Sustain* 1, 369–374. <https://doi.org/10.1038/s41893-018-0100-6>

<sup>63</sup> Schuster, R., Germain, R.R., Bennett, J.R., Reo, N.J., Arcese, P. (2019) Vertebrate biodiversity on Indigenous-managed lands in Australia, Brazil, and Canada equals that in protected areas. *Environmental Science & Policy*, Volume 101, pp. 1-6, ISSN 1462-9011, <https://doi.org/10.1016/j.envsci.2019.07.002>.

### III. CONCLUSION

This Tribal Review assesses the Congressional Action Plan (CAP) on the Climate Crisis from a Tribal perspective for the purpose of: (i) providing information, (ii) assisting in strategizing priorities, and (iii) drafting prospective language for Tribal resolutions and future policy efforts . Using a decentralized, expert-based approach, work groups assessed impacts and opportunities, concerns, gaps, and priorities of particular pillars of climate action presented in the CAP. The review effort revealed that all twelve of the proposed pillars of climate action are relevant to Indigenous Peoples of the U.S. Furthermore, the effort showed that all of the pillars present potential opportunities; and at the same time, the existing CAP proposals (based on the Plan published in June, 2020) pose some concerns and have some deficiencies from a Tribal perspective. This finding poses several prospective needs: (i) discussion of the CAP in light of this Review among inter-tribal organizations, as well as at the community-level by Tribes and Indigenous Peoples; (ii) the development of statements, such as resolutions, that formalize response to the CAP; (iii) dialogue between Tribal representatives and Congresspeople and other federal officials; dialogue at state and local levels may be beneficial as well.

Six overarching themes that promote fulfilment of the CAP goals were distilled from the Tribal Review: (1) increase social-economic resilience to the impacts of an economic transition toward a carbon-neutral economy; (2) uphold the Federal Trust Responsibility, Treaties, and commitment to formal Government-to-Government relations and Tribal Consultation; (3) restore ecological resilience, thereby strengthening the federal government's capacity to ensure Tribal access to culturally-valued resources (e.g., First Foods) on Tribal lands, and ceded and ancestral territories; (4) assign value to Indigenous and Traditional Knowledges in climate change science, planning, and action, while respecting the requirement for the Free, Prior and Informed Consent of Indigenous Peoples; (5) promote environmental and climate justice while upholding Tribal sovereignty; and (6) uphold and expand institutions relevant to climate governance and science.

## APPENDIX 1. Key Terms and Points of Consistency

### I. Key Terms

**Indigenous Peoples:** In adopting this term, the Tribal Review is consistent with the language employed by the National Climate Assessment (e.g., the Fourth National Climate Assessment (NCA4), the United Nations Declaration of the Rights of Indigenous Peoples, and the U.N. Paris Agreement. The Tribal Review recognizes the need for flexibility for intentional use of other terms in various Pillar sections, including (but not limited to) Alaska Native Tribes, federally-recognized Tribes, Tribes/ Alaska Natives/ Indigenous Nations.

**Indigenous and Traditional Knowledge (ITK):** the ways of knowing that indigenous peoples have derived through long standing interactions with ancestral territories.<sup>64,65</sup> ITK involves three concepts, which are often used interchangeably, yet each of which arises from distinct social-political contexts and academic traditions.<sup>66</sup> (1) **Traditional Ecological Knowledge (TEK):** the body of place-specific culture and practices that a society has developed across generations to promote desired ecological conditions, composition, structure, and function - that is, knowledge pertaining to ecological subjects;<sup>67,68</sup> (2) **Traditional Knowledge (TK);** and (3) **Indigenous Knowledge (IK):** a specific body of knowledge associated with a specific people and locality involving an understanding or possession of information, facts, ideas, truths, or principles.

<sup>69</sup>

**Net-zero emissions:** achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere ([ClimateCouncil.org.au](https://climatecouncil.org.au)). “Carbon neutrality” sometimes is used interchangeably with this term.

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<sup>64</sup> Nalau, J., Becken, S., Schliephack, J., Parsons, M., Brown, C. and Mackey, B., 2018. The role of indigenous and traditional knowledge in ecosystem-based adaptation: A review of the literature and case studies from the Pacific Islands. *Weather, Climate, and Society*, 10(4), pp.851-865.

<sup>65</sup> See also, Convention on Biological Diversity (CBD), Article 8. In-situ Conservation Article 8(j). Article 17. Exchange of Information Article 17.2. Article 18. Technical and Scientific Cooperation, Article 18.4.

<sup>66</sup> Rýser, R.C., 2012. Indigenous and traditional knowledge. *Berkshire Encyclopedia of Sustainability*, 5.

<sup>67</sup> Berkes, F., Folke, C., Gadgil, M., 1995. Traditional ecological knowledge, biodiversity, resilience, and sustainability. In: Perrings, C.A. (Ed.), *Biodiversity Conservation: Problems and Policies*. Kluwer Academic Publishers, Dordrecht, pp. 281–287.

<sup>68</sup> Turner, N.J., Ignace, M.B., Ignace, R., 2000. Traditional ecological knowledge and wisdom of aboriginal peoples in British Columbia. *Ecol. Appl.* 10 (5), 1275–1287.

<sup>69</sup> Rýser, R.C., 2012. Indigenous and traditional knowledge. *Berkshire Encyclopedia of Sustainability*, 5.

## II. Points of Consistency

The Tribal Review recognizes and builds on the foundation established key precedent documents, including the United Nations Framework Convention on Climate Change; the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007); the Outcome Document of the World Conference on Indigenous Peoples (2014); the Paris Agreement (2015); and the Paris Decision (2015). This report asserts consistency with the following articles presented in these documents.

### **United Nations Declaration on the Rights of Indigenous Peoples**

#### **Article 3**

Indigenous Peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.

### **Paris Agreement**

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of Indigenous Peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.

#### **Article 7, paragraph 5**

Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of Indigenous Peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.

### **Paris Decision**

Paragraph 135. *Recognizes* the need to strengthen knowledge, technologies, practices and efforts of local communities and Indigenous Peoples related to addressing and responding to climate change, and *establishes* a platform for the exchange of experiences and sharing of best practices on mitigation and adaptation in a holistic and integrated manner (italics in original).

## APPENDIX 2. List of policy proposals and building blocks of PILLAR 10: Protect and Restore America’s Lands, Waters, Ocean, and Wildlife

### **Capture the Full Potential of Natural Climate Solutions**

#### Protect and Conserve Large Landscapes and Biodiversity

1. Building Block: Protect at Least 30% of All U.S. Lands and Ocean Areas by 2030, Prioritizing High-Quality Conservation
2. Building Block: Fully and Permanently Fund the Land and Water Conservation Fund
3. Building Block: Restore Abandoned Mines on Federal and Nonfederal Land for Climate Mitigation
4. Building Block: Support the Efforts of Private Landowners to Conserve Natural Areas and Increase Financial Incentives for Private Land Conservation
5. Building Block: Support and Consult Tribal Nations on Land Conservation and Indigenous Traditional Knowledge, With the Free, Prior, and Informed Consent of Indigenous Peoples
6. Building Block: Expand Environmental Justice Initiatives to Share Nature’s Benefits More Equitably and Honor the Conservation Needs of All Communities
7. Building Block: Reestablish the Civilian Conservation Corps

#### Lift Up America’s National Parks and Public Lands as Part of the Climate Solution

8. Building Block: Increase Funding for the National Park Service and Other Land Management Agencies to Lift Up America’s National Parks and Public Lands As Part of the Climate Solution
9. Building Block: Invest in Monitoring, Assessing, and Addressing Climate Impacts on National Parks Ecosystems and Identify Ways to Increase Their Climate Resilience

#### Address the Biodiversity Crisis and Help Wildlife Adapt to Climate Change

10. Building Block: Establish a Wildlife Corridor and Connectivity System to Conserve Natural Spaces and Help Wildlife Adapt to the Impacts of Climate Change

11. Building Block: Develop and Implement a National Landscape Conservation Strategy to Help Species Adapt to a Changing Climate
12. Building Block: Support the Efforts of Private Landowners to Conserve Habitat and Help Wildlife Adapt to the Impacts of Climate Change
13. Building Block: Improve Implementation of the Endangered Species Act to Protect Endangered and Threatened Species from the Impacts of Climate Change

#### Protect and Restore Forests and Grasslands

14. Building Block: Incorporate Climate Mitigation and Resilience into the Forest Service's "Multiple Use" Policy and Planning
15. Building Block: Protect and Conserve Mature and Old Growth Forests
16. Building Block: Reduce Illegal International Deforestation by Restricting Access to U.S. Markets
17. Building Block: Invest in Federal Forest Restoration for Maximum Climate Mitigation and Resilience
18. Building Block: Invest in Native Grassland Restoration for Maximum Climate Mitigation and Resilience
19. Building Block: Increase Investments in Conservation, Restoration, and Climate-Informed Management of Private Forests
20. Building Block: Partner with States to Maximize Restoration Resources and Ensure Climate-Informed Forest Management Across the United States
21. Building Block: Provide Adequate Funding to Address Fires on Federal Lands While Maintaining Environmental Safeguards
22. Building Block: Ensure That All Categorical Exclusions from NEPA Are Informed by Science and Developed by Agency Experts

23. Building Block: Invest in Reforestation on Public Lands and Reduce the Reforestation Backlog
24. Building Block: Provide Financial and Technical Assistance to Increase Reforestation on Nonfederal Lands
25. Building Block: Invest in Afforestation of Lands
26. Building Block: Increase Urban Forests and Tree Canopy
27. Building Block: Measure the Success and Effectiveness of Forest Service Activities Based on Outcome-Based Metrics, Including Climate Benefits, Rather Than Output-Based Metrics, Such As Board Feet Harvested
28. Building Block: Develop Region-Specific Climate-Smart Forestry Practice Guidelines to Support Sustainable Forest Management and Timber Harvest on Nonfederal Lands
29. Building Block: Create Markets and Incentives for Innovative, Sustainable Wood Products That Utilize Timber Produced by Sustainable and Climate-Smart Forest Restoration Practices
30. Building Block: Invest in Lifecycle Analysis of Wood Use and Wood Products, Including Accurately Accounting for the Climate Impacts of Biomass
31. Building Block: Support Partnerships and Collaborations to Facilitate Broad Adoption of Climate-Smart Forest Management
32. Building Block: Determine Where Forest Restoration Provides the Greatest Climate and Biodiversity Benefits Through Increased Data Collection
33. Building Block: Invest in Research, Data, and Model Development on Forest Health and Wildfire Behavior
34. Building Block: Expand Research on Carbon Sequestration in Federal Forests, Grasslands, and Soils
35. Building Block: Increase Staff Resources and Funding at the Forest Service and Department of the Interior to Match Land Management Needs

### Protect and Restore Ocean and Wetland Ecosystems for Climate Mitigation and Resilience

36. Building Block: Protect and Conserve Existing Ocean and Wetland Ecosystems
37. Building Block: Restore Lost and Degraded Ocean and Wetland Ecosystems
38. Building Block: Restore, Strengthen, and Codify a National Ocean Policy and Incorporate Climate Mitigation
39. Building Block: Strengthen the National Coastal Zone Management Program and Other Programs That Increase Capacity Building for Coastal Communities
40. Building Block: Scale Up Ocean-Based Renewable and Marine Energy While Minimizing Impacts on Marine Mammals, Fisheries, Ocean Ecosystems, and Cultural Resources
41. Building Block: Address Ocean and Coastal Acidification and Biodiversity Decline
42. Building Block: Address Harmful Algal Blooms and Hypoxia
43. Building Block: Incorporate Climate Adaptation into Fisheries Management
44. Building Block: Increase Investments in Natural Infrastructure for Coastal and Riverine Resilience
45. Building Block: Expand the Coastal Barrier Resources Act to Cover More Biologically Sensitive Areas
46. Building Block: Advance Understanding of Ocean and Coastal Ecosystems' Climate Benefits
47. Building Block: Expand Research on the Ocean Carbon Cycle

### **Make Public Lands and Waters a Part of the Climate Solution**

#### Reduce Greenhouse Gas Pollution from Public Lands and Waters

48. Building Block: Incorporate Climate Mitigation and Conservation into the BLM Multiple-Use Policy and Other Public Land and Water Agencies

49. Building Block: Achieve a Goal of Net-Zero Emissions on Public Lands and Waters by 2040 at the Latest
50. Building Block: Prioritize Reductions of Greenhouse Gas Emissions and Co-Pollutants That Affect Environmental Justice Communities
51. Building Block: Enact a Moratorium on New Fossil Fuel Leases on Public Lands and Implement Robust Economic Transition Initiatives
52. Building Block: Prohibit New Offshore Oil and Gas Leasing
53. Building Block: Reduce Methane Pollution from Oil and Gas Production on Public Lands
54. Building Block: Direct DOI to Track, Measure, and Report Emissions and Oil and Gas Production from Public Lands and Waters to Guide Federal Decision-Making
55. Building Block: Eliminate the Requirement That BLM Hold Lease Sales Quarterly and Shorten the Length of Lease Terms
56. Building Block: Expand Renewable Energy Development and Production on Public Lands and Waters, While Ensuring Responsible Siting to Protect Wildlife

#### Expand Protections for Wild and Special Places

57. Building Block: Protect Wild and Special Places from Drilling and Mining
58. Building Block: End Drilling and Mining in Important Habitat Onshore and Offshore

#### End Unfair Government Subsidies for Oil and Gas Production on Public Lands

59. Building Block: Eliminate Unnecessary Tax Breaks for Oil and Gas Companies
60. Building Block: Reform the Onshore Oil and Gas Royalty System to Increase the Royalty Rate and End Handouts for Fossil Fuel Companies
61. Building Block: Reform the Offshore Oil and Gas Royalty System and Close Loopholes for Oil and Gas Companies

- 62. Building Block: End Noncompetitive Oil and Gas Leasing on Public Lands
- 63. Building Block: Increase Minimum Bid Requirements and Rental Rates for Both Competitive and Noncompetitive Oil and Gas Leases
- 64. Building Block: End Speculative Leasing and Anonymous Industry Nominations and Adopt a Comprehensive Planning Process

Establish and Maintain Robust Environmental Review, Requirements, and Restoration

- 65. Building Block: Require Robust Environmental Review and Safeguards for Oil and Gas Leasing and Production
- 66. Building Block: Restore Public Participation and Comment in Oil and Gas Leasing Decisions
- 67. Building Block: Increase Oil and Gas Bonding and Fees to Hold Industry Accountable for Cleanup and Reclamation and End Self-Bonding in the Coal Industry
- 68. Building Block: Invest in Orphaned Oil and Gas Well Reclamation and Remediation on Federal and Nonfederal Lands

Invest in State and Local Communities in Economic Transition

- 69. Building Block: Assist Historically Fossil Fuel-Dependent States, Communities, and Workers During the Economic Transition
- 70. Building Block: Reward State and Local Governments and Communities for Climate and