Environmental Justice Toolkit for Hydrogen Project Developers

Resources, Best Practices and Recommendations for Engaging Tribes and Communities

Washington State Department of Commerce, Office of Renewable Fuels

Gridworks

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Table of Contents

Table of Figures

Introduction

As Washington advances the deployment of hydrogen to meet its climate and energy goals, it is essential that developers engage with communities and Tribes in ways that are respectful, transparent and equitable. The **Environmental Justice Toolkit for Hydrogen Project Developers: Resources, Best Practices and Recommendations for Engaging Tribes and Communities** provides clear, practical guidance to help developers plan and implement projects in a manner that reflects these values.

The Toolkit provides guidance to developers on:

- building relationships with communities and Tribes,
- understanding and addressing potential concerns with hydrogen projects, and
- developing a community benefits plan.

This guidance responds to concerns raised during the development of the Washington State Department of Commerce's report on green electrolytic hydrogen and renewable fuels.[1] Stakeholders noted that developers have varying levels of experience with community engagement, which can lead to confusion, mistrust, and delays. The toolkit aims to provide consistent, accessible strategies for developers across the hydrogen supply chain.

Using the Toolkit does not guarantee that a project will be permitted or built; rather, the Toolkit is intended to strengthen collaboration, improve transparency and help ensure that hydrogen development contributes to equity and environmental justice.

Developers who use the toolkit's guidance to collaborate with communities and Tribes may also reduce project risks and improve project outcomes by:

- reducing opposition and increasing the likelihood of a project moving forward,
- uncovering concerns early—which may lead to a more efficient environmental review process,
- ensuring a developer has access to skilled labor through the negotiation of a Community Workforce Agreement (CWA) or Project Labor Agreement (PLA), and
- providing developers access to financial benefits in the form of tax deferrals and reductions, grants and financing.

Ultimately, the toolkit helps developers create projects that meet local needs and provide direct, tangible value to the communities that host them. By engaging early, often, and meaningfully, developers can help ensure that hydrogen infrastructure is built *with* communities, not simply *in* them.

1 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington," 99.

How to Use This Toolkit

This Toolkit is designed to support developers in collaborating with communities and Tribes throughout the development process. Developers are encouraged to review the Toolkit in order. The Toolkit begins with context and background on the benefits of collaboration, environmental justice and environmental review in Washington. The heart of the Toolkit is a series of actionable guidance for collaborating with communities and Tribes, and the Appendix provides reference materials.

The toolkit includes the following components:

- **The Case for Collaborating with Communities and Tribes in Clean Energy Development:** An overview of how collaborating with communities and Tribes can reduce project risks and improve project outcomes.
- **Environmental Justice in Washington:** Background on environmental justice in Washington, and Washington's intentions to address environmental justice in the clean energy transition.
- **Navigating Washinton's State Environmental Policy Act (SEPA):** An overview of the purpose of SEPA and an overview of how projects move through the SEPA process.
- **Guidance on Coordinating Development and Engagement Activities:** A table that maps out a typical development process, with example activities for community and Tribal engagement at each stage, along with references to relevant sections of the toolkit that support those engagement steps.
- **Community Engagement Best Practices (BPs) and Actions:** Five best practices and associated actions that developers can take to thoroughly and meaningfully engage with communities in the area being considered for development.
- **Tribal Engagement Best Practices (BPs) and Actions:** Four best practices and associated actions that developers can take to thoroughly and meaningfully engage with Tribes in the area being considered for development. Tribes are sovereign nations and therefore there are unique considerations for Tribal engagement vs. community engagement.
- **Addressing Potential Adverse Impacts and Concerns with Hydrogen:** An overview of the hydrogen supply chain and descriptions of potential adverse impacts and concerns.
- **Community Benefit Plan Guidance:** An overview of community benefits plans, examples of benefits, and guidance on how to negotiate benefits with communities and Tribes.
- **Community Benefits Plan Template:** A collection of prompts and planning aids to help developers organize their strategy for engaging with communities and Tribes, and for determining community benefits.
- **Appendices:** (A) case studies of community benefits negotiations on prior projects, (B) brief descriptions of relevant state laws, (C) a glossary of terms related to environmental justice and (D) a summary of hydrogen production methods, storage and transportation methods and end-uses.

The Case for Collaborating with Communities and Tribes in Clean Energy Development

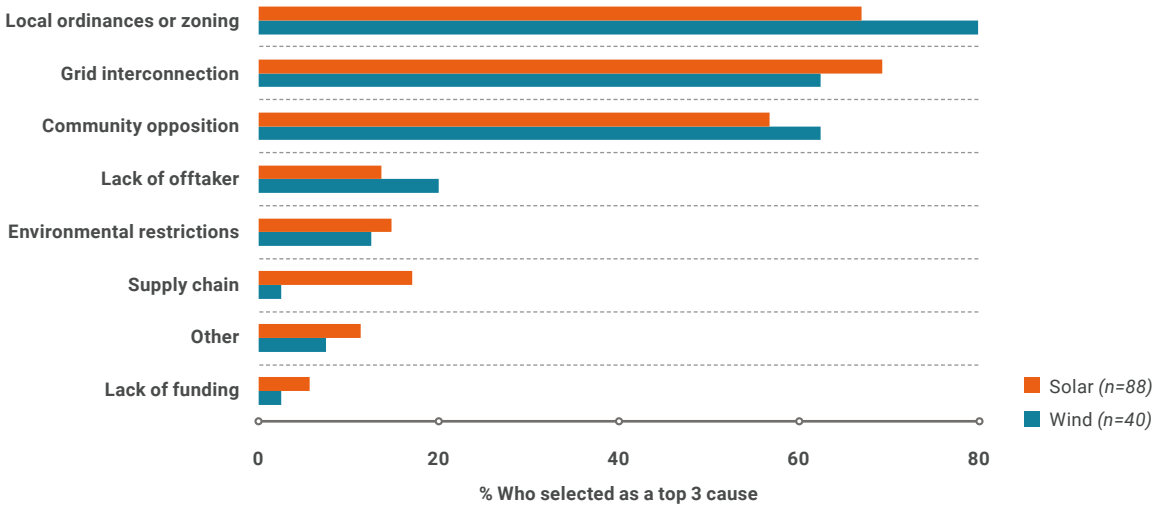
Collaborating with communities and Tribes in clean energy development can reduce risk and improve project outcomes in multiple ways, including by:

- reducing opposition and increasing the likelihood of a project moving forward,
- uncovering concerns early—which may lead to a more efficient environmental review process,
- ensuring a developer has access to skilled labor through the negotiation of a Community Workforce Agreement (CWA) or Project Labor Agreement (PLA), and
- providing developers access to financial benefits in the form of tax deferrals and reductions, grants and financing.

Reduce Community Opposition

In 2023, Lawrence Berkeley National Laboratory (LBNL) surveyed 123 industry professionals representing 62 companies with direct experience working in community engagement and permitting of land-based, utility-scale wind and solar energy facilities in the U.S.[2] LBNL found that community opposition is the third leading cause of solar and wind project cancelation.

Figure 1. Developer reported leading causes of project cancelation from 2018-2023.[3]



Project cancellation can equate to $2 million in sunk costs for solar projects and $7.5 million for wind projects. Even when a project is not cancelled, the survey found that community opposition leads to an average of an 11-month delay for solar projects and a 14-month delay for wind projects. Project delays can cost approximately $200,000 per MW for both wind and solar.[4]

In contrast, **the cost to conduct community engagement is about $1,100 per MW of wind and $700 per MW of solar**. This is approximately five times lower than spending on site control and, overall, a small fraction of total capital expenditures on solar and wind projects.[5]

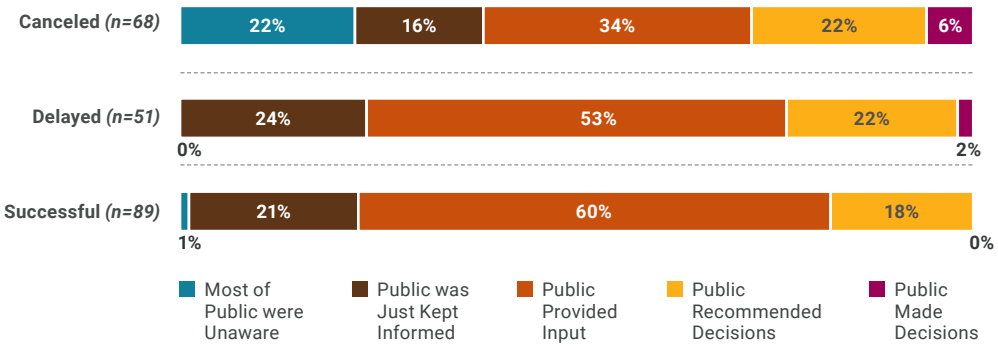
The study found that developers believe that community engagement addresses concerns and decreases the chance of opposition. Seventy-five percent of respondents agreed that increased community engagement efforts led to fewer project cancellations, and 66% shared that local concerns were adequately addressed before project construction.[6]

2 Nilson, Hoen, and Rand, "Survey of Utility-Scale Wind and Solar Developers."
3 Nilson, Hoen, and Rand.
4 Nilson, Hoen, and Rand.
5 Nilson, Hoen, and Rand.
6 Nilson, Hoen, and Rand.

Although conducting community and Tribal engagement does not guarantee that a project will be permitted or built, the survey data suggest successful projects are more likely to have had public input.

Figure 2. **Level of public engagement in the most recent canceled, delayed and successful projects. 78% of "Successful" projects included public input.**[7]

Which of the following best describes the way members of the public were engaged in decisions about the project?



A 2022 study of delayed or blocked utility-scale wind, solar and geothermal energy projects found that lack of public participation was a source of opposition in 28% of projects, and a failure to respect Tribal rights, including the right to consultation, was source of opposition in 24% of projects.[8] The study examined 53 challenged projects in 28 states between 2008 and 2021. While community is not the only or even the leading cause of project opposition, community opposition does create a project risk that can be mitigated through active collaboration with communities and Tribes.

Move Through Environmental Review More Efficiently

The Washington State Environmental Policy Act (SEPA) review process begins with an applicant (developer) submitting an environmental checklist[9] to the SEPA lead agency, self-reporting activities relevant to a project proposal. In the checklist, the applicant provides information about the proposal and its probable environmental impacts.

The SEPA lead agency will review an applicant's environmental checklist and issue one of three threshold determinations: a Determination of Nonsignificance (DNS), a Mitigated Determination of Nonsignifcance (MDNS) or a Determination of Significance (DS). Each type of determination has a different follow-on process; the follow-on process for a DNS or MDNS occur on a shorter

7 Nilson et al., "Halfway up the Ladder," November 2024.

8 Susskind et al., "Sources of Opposition to Renewable Energy Projects in the United States."

9 Washington Department of Ecology, "SEPA Checklist Guidance."

timeline than for a DS.

The Department of Ecology notes that "early consultations with other agencies, Tribal governments, and the public can help identify potential impacts and possible mitigation." Developers can then adjust their projects to eliminate or mitigate those potential impacts prior to submitting their checklist and going through SEPA review. By addressing concerns upfront, a project may be more likely to receive a threshold determination of DNS or MDNS.

Ensure Access to a Skilled Workforce

Collaborating with local labor unions and workforce organizations, particularly through the negotiation of a Community Workforce Agreement (CWA) or Project Labor Agreement (PLA) can help ensure that developers have access to skilled labor. Additionally, PLAs and CWAs often mandate the use of certified apprenticeship programs and formal training standards, ensuring that workers on the project site have the necessary skills, experience, and safety knowledge to meet project demands.

In addition to the direct workforce benefits that can come from developers negotiating a PLA or CWA, per Chapter 82.89 RCW, renewable hydrogen, green electrolytic hydrogen and green hydrogen carrier projects can receive reductions of up to 100% of sales and use taxes on purchases of materials and equipment, labor, or services if a project is developed under a PLA or CWA.[10]

Other Financial Benefits

Prior to 2025, clean energy infrastructure projects that sought funding from the U.S. Department of Energy (DOE), such as those projects that are a part of the Pacific Northwest Hydrogen Association (PNWH2) Hub, were required to conduct community benefits planning. This requirement was dropped in 2025, but could emerge again as federal priorities evolve.

Projects that are developed in partnership with Tribes may be able to access grants and funding via their Tribal partner. For example, Tribes may have access to Tribal-specific funding and financing streams (e.g., low-interest federal or state loans for Tribal-led clean energy development projects, federal tax incentives, bid credits for projects committing to Tribal benefits, etc.) which can improve a project's capital stack.

10 "Chapter 82.89 RCW: TAX DEFERRALS FOR INVESTMENT PROJECTS."

Environmental Justice in Washington

As Washington takes key steps towards achieving statewide decarbonization targets, the State has also begun prioritizing the recognition and advancement of environmental justice through key policies and other State actions. The broader transition away from fossil fuels systems to those powered by clean, renewable and carbon-free sources will improve environmental and public health across the state, among other benefits, and Washington's clean energy transition policies demonstrably centers environmental justice and the reduction of burdens on the state's most vulnerable communities in that transition.

Washington defines **environmental justice**[11] in the Healthy Environment for All (HEAL) Act as, *"the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, rules, and policies. Environmental justice includes addressing disproportionate environmental and health impacts in all laws, rules, and policies with environmental impacts by prioritizing vulnerable populations and overburdened communities, the equitable distribution of resources and benefits, and eliminating harm."*

The HEAL Act is the first statewide law to systematically identify and address environmental and health disparities in Washington, particularly on overburdened communities and for vulnerable populations. The HEAL Act directs specific state agencies to meaningfully engage with communities and Tribes and consider environmental justice in its strategy and programs. This includes the hydrogen economy acceleration work carried out by the Department of Commerce and the environmental review and permitting work carried out by the Department of Ecology.

The consideration of environmental justice impacts in clean energy infrastructure development is encouraged through the State's direction under the renewable hydrogen law (SB 5910),[12] Clean Fuel Standard,[13] Climate Commitment Act (CCA)[14] and the Clean Energy Transformation Act (CETA).[15] For example, the CCA aligns with the HEAL Act by requiring 35% of revenues generated from allowances to be invested in overburdened communities, and 10% of revenues to support Tribes.[16] Further, CETA embeds community benefits by supporting family-wage job creation in the state's energy transition and seeking to ensure that all electricity customers are benefiting from the transition to a clean energy economy.

11 Chapter 70A.02 RCW: ENVIRONMENTAL JUSTICE.

12 RENEWABLE HYDROGEN.

13 "Clean Fuel Standard - Washington State Department of Ecology."

14 "Chapter 70A.65 RCW: GREENHOUSE GAS EMISSIONS—CAP AND INVEST PROGRAM."

15 CLEAN ENERGY--ELECTRIC UTILITIES.

16 "Climate Commitment Act - Washington State Department of Ecology."

Washington's Overburdened Communities

The HEAL Act was born out of recommendations put forth by the State's Environmental Justice Task Force (EJTF), submitted to the legislature in the 2020 report, "Recommendations for Prioritizing EJ in Washington State Government". The report underscored the conclusion of multiple studies conducted in Washington from the 1990s to early 2000s, finding that hazardous waste, incinerators, contaminated sites and toxic waste sites are highly concentrated in communities that are low-income, majority Black, Native American, and/or people of color.[17],[18] The pollution coming from these sites ends up in Washington's environment, food, water and air, resulting in adverse health and economic impacts, as well as biodiversity loss.[19] Exposure to environmental hazards can compound with factors such as racism, stress and poverty, leading to poorer health outcomes and shorter life expectancies for impacted community members. The results of these studies demonstrate that the impacts of redlining, settler colonialism and structural oppression[20] are still experienced by communities today.[21] The intention of the HEAL Act and other laws that complement the HEAL Act are to remedy these historical harms and distribute environmental benefits amongst vulnerable populations and Tribes.

The uneven distribution of environmental hazards are illustrated by the Washington Environmental Health Disparities Map (EHD Map).[22] The EHD Map[23] was developed by the Washington State Department of Health in 2019 and was updated in 2022. The interactive mapping tool compares metrics such as diesel emissions and ozone, proximity to hazardous waste sites, poverty and rates of cardiovascular disease across communities in Washington.[24]

As directed by RCW 70A.65.020,[25] the Department of Ecology (Ecology) used the EHD Map and additional data sources to identify 16 overburdened communities that are highly impacted by air pollution (Figure 3). This effort is specific to criteria air pollution, such as ozone and particulate matter, and takes action to better understand and reduce that pollution for areas of the state populated by those considered the most overburdened and vulnerable.[26] Sources of criteria air pollution impacting identified communities and Tribes include wildfires, vehicle emissions,

17 Ridgway, "Environmental Equity Study in Washington State."

18 Osaki and Finkbonner, "Final Report State Board of Health Priority: Environmental Justice."

19 Rasmussen, Lopez, and Fernald, "Environmental Justice Task Force Recommendations for Prioritizing EJ in Washington State Government."

20 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

21 Rasmussen, Lopez, and Fernald, "Environmental Justice Task Force Recommendations for Prioritizing EJ in Washington State Government."

22 "Washington Environmental Health Disparities Map."

23 "Washington Environmental Health Disparities Map."

24 "Washington Environmental Health Disparities Map."

25 "RCW 70A.65.020: Environmental Justice Review."

26 "Air Quality Standards - Washington State Department of Ecology."

residential wood burning, and industrial activity.[27] Communities on federally recognized Tribal reservations, are not currently reflected in Figure 1. In the case of Tribes, Ecology has initiated government-to-government consultation with Tribes identified as highly impacted by criteria air pollution, leading to mutually signed agreements addressing air pollution concerns under the Climate Commitment Act.

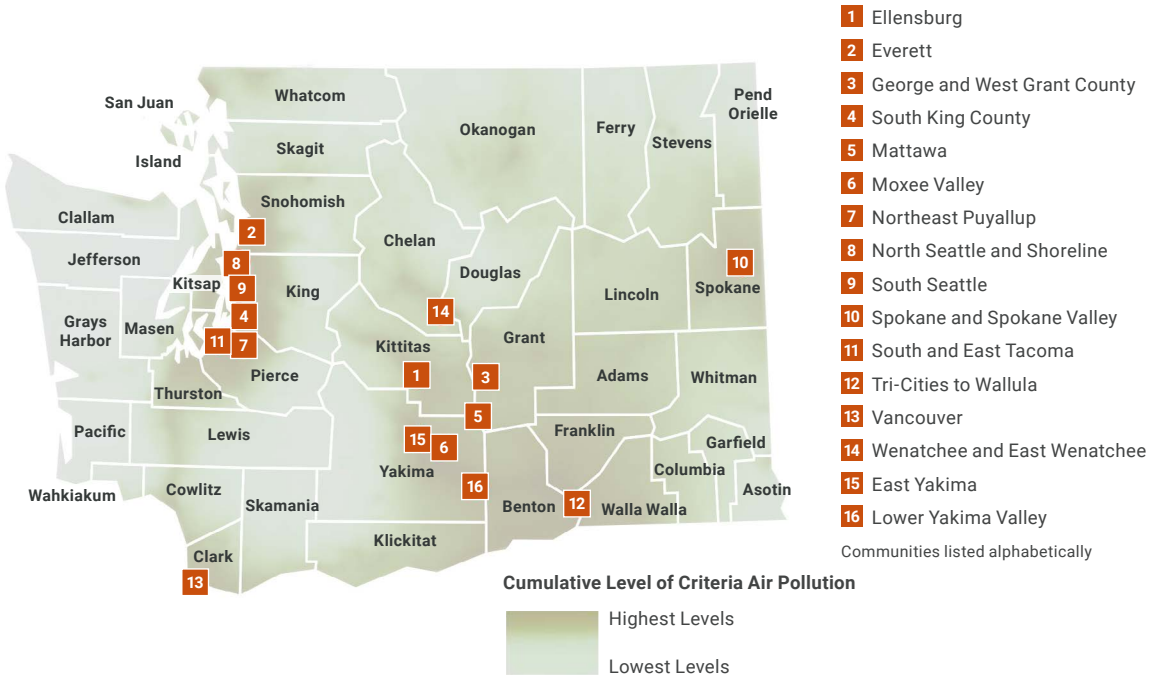


Figure 3. **The Department of Ecology has identified 16 overburdened communities that are highly impacted by air pollution by analyzing the Washington Environmental Health Disparities Map amongst other resources,[28] as directed by RCW 70A.65.020.[29]**

The State's efforts to identify overburdened communities, coupled with efforts such as the cap-and-trade program under the CCA, demonstrate the State's commitment to addressing disproportionate environmental and health impacts. Washington's state agencies are committed to supporting developers to ensure that future work, including new energy projects, reduces burdens and harms and brings benefits to overburdened communities and Tribes. The intention of this toolkit is to provide hydrogen developers guidance to be partners in meeting state goals around environmental justice.

27 Washington Department of Ecology, "Overburdened Communities."

28 Washington State Department of Ecology, "Improving Air Quality in Overburdened Communities."

29 "RCW 70A.65.020: Environmental Justice Review."

Navigating Washington's State Environmental Policy Act (SEPA)

The Washington State Environmental Policy Act (SEPA), codified in RCW 43.21C,[30] was enacted in 1971 to ensure that environmental impacts are considered during decision-making by state and local agencies. SEPA applies to a broad range of governmental actions, including issuing permits, adopting regulations, and approving private developments, including energy projects.

The SEPA lead agency[31] for a given project must review a proposed project's probable environmental impacts and consider mitigation for those impacts, but SEPA itself does not mandate approval or denial of a project. Instead, it functions as a procedural tool to integrate environmental review into government decisions.

Hydrogen projects are subject to SEPA review and this section describes what developers can expect in that process. The process begins with an environmental checklist,[32] leading to a threshold determination to decide if a more detailed Environmental Impact Statement (EIS) is required. The SEPA lead agency may be required to provide opportunities for public comment on agency determinations, but SEPA does not have explicit requirements for applicants to conduct public engagement themselves. However, proactive engagement with communities and Tribes can help a developer move through the SEPA process more efficiently.

30 "Chapter 43.21c RCW: STATE ENVIRONMENTAL POLICY."

31 The SEPA lead agency depends on project, location and which permitting pathway a clean energy developer chooses. The three different pathways are described by the Department of Ecology in its "Focus on: Pathway options for environmental review and permitting clean energy projects."

32 Washington Department of Ecology, "SEPA Checklist Guidance."

CASE STUDY

Chevron Refinery Modernization Project (2014)

Project Description: Construction of a new hydrogen plant (to replace existing an ageing asset) and the addition of oxygen enrichment facilities to the facility's sulfur-recovery units that would enable Chevron to refine higher-sulfur crude oil.

What happened? Chevron initially proposed and received approval for a similar project in 2009. However, environmental groups sued, arguing that the Environmental Impact Report (EIR) was too vague and could allow increased pollution from heavier crude processing. A judge agreed, halting the project due to the EIR's shortcomings, and Chevron had to cut more than a thousand workers working on the new project.

Chevron submitted a new proposal in 2011 and the city led a more inclusive EIR process leading to a more comprehensive EIR that better addressed community concerns. The project was approved in 2014.

Key Takeaway: Environmental review should involve broad community participation, not just a small group of individuals. The minimum public process required by law for environmental review often falls short in providing true transparency or public trust. In contrast, wider participation builds greater confidence in the process and outcomes

Refer to Appendix A for the complete case study.

Environmental Checklist

The SEPA process begins with an applicant (in this case, a hydrogen project developer) submitting an environmental checklist.[33] In the checklist, the applicant provides information about the proposal and its probable environmental impacts. Applicants must provide information about the project's probable environmental impacts across 16 categories:

1. Earth
2. Air
3. Water
4. Plants
5. Animals
6. Energy and Natural Resources
7. Environmental Health
8. Land and Shoreline Use
9. Housing
10. Aesthetics
11. Light and Glare
12. Recreation
13. Historic and Cultural Preservation
14. Transportation
15. Public Services
16. Utilities

The Department of Ecology notes that "early consultations with other agencies, Tribal governments, and the public can help identify potential impacts and possible mitigation." Similarly, the EJTC highlights that communities know their own assets and needs, and as such, can speak best to the viability and impact of proposed solutions.[34]

In addition to early consultation, developers proposing green electrolytic and renewable hydrogen facilities should refer to the Department of Ecology's Programmatic Environmental Impact Statement on Green hydrogen energy facilities ("PEIS") to identify potential impacts and possible mitigation.[35] The Department of Ecology was directed to develop the PEIS through RCW 43.21C.535.[36]

Threshold Determination

For hydrogen projects, the SEPA lead agency will review an applicant's environmental checklist and the PEIS in order to issue one of three threshold determinations; a Determination of Nonsignificance (DNS), a Mitigated Determination of Nonsignifcance (MDNS) or a Determination of Significance (DS). Each type of determination has a different follow-on process; the follow-on process for a DNS or MDNS occur on a shorter timeline than for a DS.

By conducting early engagement and considering the potential impacts and mitigations

33 Washington Department of Ecology.

34 "Environmental Justice Task Force Operating Principles."

35 Washington Department of Ecology, "Programmatic EIS."

36 "RCW 43.21C.535: Clean Energy Projects—Nonproject Environmental Impact Statements."

identified in the PEIS, applicants may be more likely to design projects that have fewer adverse impacts and/or that include mitigation measures to address adverse impacts.

- Determination of Nonsignificance (DNS)
    - The DNS may or may not require a public comment period and circulation to other agencies.[37]
- Mitigated Determination of Nonsignifcance (MDNS)
    - A 14- day comment period, distribution, and public notice are always required for mitigated DNS.
- Determination of Significance (DS)
    - A 21-day comment period,
    - Scoping for an Environmental Impact Statement (EIS)
    - Preparing the draft EIS,
    - Issuing the draft EIS for review and comment
    - Preparing the final EIS

37 Washington Department of Ecology, "State Environmental Policy Act Handbook."

Guidance on Coordinating Development & Engagement Activities

The following list presents a general development process for an energy project, with example activities for community and Tribal engagement at each stage and references to relevant sections of the toolkit that support those engagement steps. Note that not all stages have a corresponding section in this toolkit.

Project Conception & Initial Feasibility

- **Initial community and Tribal needs assessment**
  - Community Engagement Best Practice 1
  - Tribal Engagement Best Practice 1
- **Identification of potential local economic opportunities**
  - Community Engagement Best Practice 1
  - Tribal Engagement Best Practice 1
- **Preliminary mapping of interested parties and regional Tribal partners**
  - Community Engagement Best Practice 2
  - Tribal Engagement Best Practice 2
- **Early research on community and Tribal priorities and concerns**
  - Community Engagement Best Practice 1
  - Tribal Engagement Best Practice 1
  - Potential Adverse Impacts & Community Concerns

Pre-Development

- **Formation of community advisory committee**
  - Community Engagement Best Practice 5
  - Tribal Engagement Best Practice 2
- **Initial community/Tribal outreach meetings**
  - Community Engagement Best Practices 3, 4, 5
  - Tribal Engagement Best Practice 2

- **Documentation of baseline community/Tribal conditions**
  - Community Engagement Best Practice 1
  - Tribal Engagement Best Practices 1, 4
- **Identification of potential impact areas (social, economic, environmental, cultural)**
  - Tribal Engagement Best Practice 4
  - Potential Adverse Impacts & Community Concerns

Project Planning

- **Development of draft community/Tribal benefits framework**
  - Community Engagement Best Practice 4
  - Tribal Engagement Best Practice 3
  - Community Benefits Plan Guidance
- **Establishment of community/Tribal investment priorities**
  - Tribal Engagement Best Practice 3
  - Community Benefits Plan Guidance
- **Creation of local hiring and training goals**
  - Tribal Engagement Best Practice 3
  - Community Benefits Plan Guidance
- **Design of community/Tribal partnership programs**
  - Tribal Engagement Best Practice 3
  - Community Benefits Plan Guidance
- **Planning for community/Tribal amenities or infrastructure improvements**
  - Community Benefits Plan Guidance

Permitting & Approvals

- **Integration of community benefits commitments into SEPA checklist and permit applications**
  - Community Benefits Plan Guidance
- **Public benefit agreements with local jurisdictions**
  - Memorializing Benefits and Commitments
- **Development of monitoring and reporting mechanisms for community impacts**

- **Community impact mitigation plans, including any decommissioning plans**
  - Potential Adverse Impacts & Community Concerns
  - Community Benefits Plan Guidance
- **Formal community benefits agreement negotiations**
  - Memorializing Benefits and Commitments

Financial Close

- **Finalization of community benefits agreement**
  - Memorializing Benefits and Commitments
- **Budgeting for community programs and investments**
  - Community Benefits Plan Guidance
- **Establishment of community benefit funds if applicable**
  - Community Benefits Plan Guidance
- **Setting up administrative structure for benefits delivery**

Construction

- **Implementation of local hiring programs**
  - Community Benefits Plan Guidance
  - Memorializing Benefits and Commitments
- **Launch or expansion of workforce training initiatives**
  - Community Benefits Plan Guidance
  - Memorializing Benefits and Commitments
- **Start of community improvement projects**
  - Memorializing Benefits and Commitments
- **Regular community updates and engagement**
  - Community Engagement Best Practice 4
  - Tribal Engagement Best Practice 2
- **Monitoring of community impacts**

Commercial Operation

- **Transition to long-term community programs**

    - Memorializing Benefits and Commitments

- **Implementation of revenue sharing agreements**
    - Memorializing Benefits and Commitments
- **Activation of community spaces or facilities**
    - Memorializing Benefits and Commitments
- **Launch or expansion of educational programs or partnerships**
    - Memorializing Benefits and Commitments

Operations & Maintenance

- **Ongoing community benefit delivery**
    - Memorializing Benefits and Commitments
- **Regular reporting to interested parties and regional Tribal partners**
    - Community Engagement Best Practice 4
    - Tribal Engagement Best Practice 2
- **Continuous monitoring of impacts and benefits**
- **Annual review and adjustment of programs**
- **Long-term relationship maintenance**
    - Community Engagement Best Practice 4
    - Tribal Engagement Best Practice 2

Decommissioning

- **Implementation of decommissioning plan**: Ensure site is restored to pre-project conditions and uses, unless alternate actions are agreed to by the project developer, permitting authority or regulatory agencies.

Community Engagement Best Practices (BPs) and Actions

Community engagement is key to understanding and addressing community perspectives, concerns, and environmental justice considerations of a given hydrogen project. While this toolkit provides a starting point for developers to understand common concerns that communities may have with green hydrogen projects (Addressing Potential Adverse Impacts and Concerns with Hydrogen), **it is essential for developers to validate those concerns with the specific communities in and around the area being considered for development**. Community engagement is the process of working collaboratively with groups of people affiliated by geographic proximity, special interest or lived experience to address issues affecting the wellbeing of those people.[38] **Community engagement provides an opportunity for developers and communities to work together to develop green hydrogen projects that at a minimum, do not harm host communities and, at best, provide mutual and equitable benefits to developers and communities.**

The following best practices (BPs) describe how developers can engage community members in planning, constructing and operating hydrogen facilities in Washington. Developers should aim to:

- **Best Practice #1:** Learn about the communities in and around the area being considered for development
- **Best Practice #2:** Identify and collaborate with community leaders
- **Best Practice #3:** Be transparent about the project development process
- **Best Practice #4:** Create meaningful opportunities for engagement aligned with key decision-making milestones
- **Best Practice #5:** Accommodate accessibility needs and cultural norms to increase the inclusion of typically under-represented voices

BP #1

Learn about the host communities in and around the area being considered for development

Before engaging any potentially impacted community, developers should learn about the current and historic socioeconomic and geographic conditions of the communities in and around the area being considered for development.[39] Having a baseline understanding of these

38 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

39 Washington Department of Commerce.

conditions will help developers form an initial understanding of how a hydrogen project may be perceived by or affect a community, which in turn will indicate the types of community leaders to engage who can further that understanding. Further, developers should take the time to research and understand the local economy and job sectors, including potential local unions.

Actions to Implement Best Practice #1

1. **Identify the project's potentially affected areas.** In addition to the project site, this may include:[40]
    - "major support sites such as burrow pits or lay-down yards,
    - additional land required for facility operation (including required buffers and energy sources),
    - necessary inputs for the project (e.g., water),
    - utilized infrastructure (e.g., transportation routes),
    - local and regional workforces and commuting areas, and
    - areas of air, noise, and light pollution."

1. **Conduct a social characterization assessment** of the project's potentially affected areas to develop an understanding of community dynamics and communities' decision-making processes.[41]
    - Use Mapping tools such as the Washington State Health Disparities Map[42] to understand the high-level environmental and socioeconomic conditions of the communities in the project's potentially affected areas.
    - Refer to the Department of Commerce's "Environmental Justice Community Engagement Plan: Appendix 5" for steps on assessing overburdened communities and vulnerable populations in the project's potentially affected areas.[43] Leverage local information and data sources to understand sentiments and priorities related to economic development, comprehensive plans, and industrial and clean energy development. Sources may include:[44]
        - local and regional media (e.g., newspapers, radio, television),
        - publicly-available agendas, recordings and transcriptions of past city council and county commission meetings,
        - local government webpages, and

40 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."
41 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."
42 Network--4300, "Washington Environmental Health Disparities Map | Washington State Department of Health."
43 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."
44 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."

    - advocacy content produced by local organizations (e.g., websites, blogs, press releases, recorded presentations).
- Research prior infrastructure and industrial development processes that occurred in the community to better understand the community's relationship with development and developers. For these past projects, attempt to identify and assess who benefitted, who was negatively impacted, and how.

BP #2

Identify and collaborate with community leaders

Collaborating with community leaders gives developers an opportunity to design hydrogen projects in partnership with host communities. Collaborating with community leaders can also help focus engagement efforts around community-identified points of contact. This approach can enable more efficient and coordinated collaboration throughout the project.

Collaboration can mean designing community engagement plans that bring other members of the community into the conversation, identifying appropriate sites for development (e.g., least-conflict sites), identifying opportunities for community benefits (e.g., good quality jobs, funding for local programs) or identifying methods to mitigate potential harms (e.g., enhanced safety monitoring). Developers should approach the host communities with an interest in gathering feedback and information, and an open mind to adjusting project plans in response to this feedback and information.[45, 46]

Community leaders
are people or organizational representatives who represent a portion of the community and **can act as trusted messengers to carry information to community members and bring information back to developers.** While local elected officials are one type of community leader, others—such as employees or volunteers of local community-based organizations, grassroots organizers, educators, religious/cultural leaders, small business owners and/or trusted neighbors— may be more tapped into the perspectives of historically underserved or underrepresented groups. Community leaders bring local knowledge, history, and network connections to the table that may otherwise be introduced too late or remain unknown.

45 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."

46 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

Actions to Implement Best Practice #2

1. **Identify community leaders relevant to the project**
    - Review city and county meeting minutes to identify organizations that routinely attend meetings and speak about related issues. [47]
    - Conduct website and media outlet searches for individuals and groups that work in or around the affected area or work on the topic of interest, broadly defined (e.g., environment, public health, economic well-being, air quality). [48]
    - Work with local elected officials and government staff to identify and contact community leaders.[49]
    - Contact the Department of Commerce Community Engagement Specialist who works in the geographic area.[50]
    - Conduct interviews with an initial set of community members and ask for their recommendations on others to engage, including those who have different perspectives from theirs.
2. **Use a stakeholder mapping tool** with the steps above to organize interested parties by their concerns, needs, and level of influence. Organizing interested parties in this way will help to inform your engagement strategies. Potential tools include:
    - RMI and Emerald Cities Collaborative's Stakeholder Mapping Worksheet[51] and Stakeholder Mapping Tool[52]
    - RMI's Stakeholder Analysis and Mapping (S.A.M.) Tool[53]
3. When contacting community leaders, **provide sufficient information about the project** so the organization or individual can assess the relevance of the project to their interests and/or suggest other organizations or individuals to contact. Information should include:[54]
    - who you are,
    - a description of the project and the project's purpose,
    - why you are reaching out to the community, and
    - how you would like to partner with them.

47 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."
48 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."
49 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."
50 "Regional Team Members."
51 Rocky Mountain Institute (RMI) and Emerald Cities Collaborative, "Worksheet 7 - Stakeholder Mapping."
52 Rocky Mountain Institute (RMI) and Emerald Cities Collaborative, "Stakeholder Mapping Tool Spreadsheet."
53 Rocky Mountain Institute (RMI), "Stakeholder Analysis and Mapping (S.A.M.) Tool."
54 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

4. **Designate specific staff** to lead community engagement and to serve as the point of contact for community leaders and community members.
5. **Hire and compensate community leaders** to support community engagement. Having trusted, well-known voices who are familiar with local issues, dynamics and politics can greatly strengthen community relationships. These individuals are more likely to be respected and welcomed by the community, which helps build trust.[55] Together, the designated community engagement lead at the development company and the community leader(s) should:
    - set expectations for engagement,
    - create an engagement plan and timeline,
    - identify barriers and solutions for engaging the community,
    - identify appropriate methods for sharing resources, meeting notes, next steps and project information throughout the development process, and
    - build authentic and trusting relationships with the community.[56]

55 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."

56 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

CASE STUDY
Port of Seattle (2019)

Project Description: The Port of Seattle has "facilities and property ranging in scope from a half-acre park to a large airport and container terminals."

What happened? The near-Port neighborhoods of South Park and Georgetown experience environmental justice issues such as disproportionate exposure to air pollution, lack of greenspace, and high poverty rates. In 2017, the Port of Seattle and the Duwamish Valley community were selected by the U.S. Environmental Protection Agency to participate in a pilot project aimed at strengthening engagement between ports and communities facing environmental justice challenges. The success of the pilot led the Port Commission to formally establish the Duwamish Valley Community Equity Program (DVCEP), reflecting a sustained commitment to community benefits and equitable engagement.

Key Takeaway: "Establishing relationships within a "core team" of leaders can help overcome "bumps in the road." Port staff and representatives from both neighborhoods participated in an EPA-hosted introductory meeting and established shared principles that would govern their interactions with each other throughout the project. This early dialogue set up ground rules for communication and conflict resolution that proved useful when significant challenges or differences in perspective threatened the project."

Refer to Appendix A for the complete case study.

BP #3

Be transparent about the project development process

When describing the importance of community engagement to agency decision making, Commerce notes that ""Meaningful and direct involvement... builds more sustainable agency programs and decisions, and it increases community understanding of agency decisions and transparency and trust in government actions; a way of fostering trust, strengthening relationships, and honoring community knowledge that leads to more effective and equitable solutions."[57]

These practices help to build mutual understanding and trust between developers and communities,[58] which can reduce community opposition and increase the likelihood of a project moving forward.[59]

Actions to Implement Best Practice #3

1. **Share key project information** that will enable communities to understand the project. Key project information includes:[60]
    - the project purpose
    - project details, such as
        - the proposed technology,
        - siting options, and
        - planned operations
    - an initial assessment of potential adverse impacts
    - the regulatory and/or other legal requirements the project must comply with
    - an initial assessment of project benefits, such as
        - What are the local benefits?
        - What are the public benefits?
        - What are the economic development opportunities?
2. At the beginning of the project, developers should communicate the following information to communities to ensure there are **clear expectations about opportunities to help shape the project**.

57 Washington Department of Commerce.

58 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."

59 Nilson et al., "Halfway up the Ladder," November 1, 2024.

60 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."

- The roles and responsibilities of all parties in the project planning process, including the developer, community members, local and state government, Tribes and any third-party contractors.
- Which aspects of the project are and are not negotiable and why.
- Key decision points, decision-making criteria and which parties hold ultimate decision-making authority on which issues.

3. **Involve communities in selecting third-party consultants** (e.g., environmental, archaeological and/or cultural resource consultants) needed during the project development process. This practice can strengthen a community's trust in the information presented and demonstrates that non-biased information is being used for decision-making.
4. **Consider using non-disclosure agreements** or other confidentiality agreements to allow "participating community members to gain detailed insight into technical aspects, financial plans, and development timelines, while ensuring business-sensitive details remain private to the group."[61] Sharing this type of information with communities may allow for more frank conversations about community benefits. However, the confidentiality agreement must be structured carefully so that it does not limit the community's ability to inform or consult its members.

BP #4

Create meaningful opportunities for engagement aligned with key decision-making milestones

Developers should work with community members to better understand their concerns and issues, identify potential impacts and consider preferred mitigation options before major commitments are made, reducing the risk of redesigns or conflict.[62] Similarly, from the community perspective, "[m]eaningful participation in decision-making processes related to one's health and environment is critical to mitigating environmental harms and gaining environmental justice."[63]

This approach leads to decisions that are more implementable and sustainable because they reflect the needs and interests of all interested parties, including vulnerable and overburdened communities.[64] When interested parties are involved early and understand how their input

61 Dr. Madeline Schomburg et al., "Building Buy-In for Clean Energy Projects: The Developer's Playbook."

62 Washington Department of Ecology, "Programmatic EIS."

63 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

64 US EPA, "Public Participation Guide."

influences outcomes, they are more likely to support and invest in the success of the project.[65]

Notably, engagement should continue throughout the life of the project, all the way through decommissioning. If the developer and community commit to community benefits, the community should have the ability to monitor and enforce compliance with those commitments. Maintaining two-way engagement throughout the life of the project allows for efficient resolution of unforeseen issues.

Actions to Implement Best Practice #4

1. **Designate specific staff** to lead community engagement and to serve as the point of contact for community leaders and community members.
2. **Set-up an email address, web contact form, phone number and/or local office** where community members can contact the designated community engagement lead, and share this contact information widely.
3. **Work with community leaders to develop an engagement plan** for soliciting input and feedback, ensuring that enough time is built into the project development process to solicit, review and incorporate input and feedback before key decision points. As a part of this plan, developers should:
    - inform community leaders and community members about key decision-making milestones, how to provide input and feedback, and how that input will be incorporated into decisions;[66]
    - disseminate information with sufficient time for review and feedback before decisions will be made about that aspect of the project;[67]
    - provide periodic reports on how input and feedback impacted project decisions, and in key instances where it didn't, share why; and[68]
    - maintain thorough documentation of all steps leading to project decisions, including meeting notices, agendas, summaries, public input opportunities and supporting technical information, subject to reasonable confidentiality considerations.[69]

The example below provides an example of engagement strategies and milestones developers should undertake in the first year of a project, specifically for hydrogen hub projects that were previously required to fulfill U.S. Department of Energy requirements for federal hydrogen hub community benefits planning.

65 US EPA.

66 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."

67 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."

68 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."

69 "Colorado Electric Transmission Authority (CETA): Principles of Community Engagement."

Example of milestones that could be a part of an Engagement section

Below is an example of a series milestones that could be a part of an Engagement Methods and Timeline element for a H2Hubs CBP.

- By month three: host a listening session, invite at least ten community-based organizations concerned with environmental justice, and host a second listening session if less than five of these organizations participate.
- By month five: publish a presentation and written fact sheet in at least two different languages used within the community that answer questions heard in the abovementioned listening session.
- By month seven: present these materials at least twice (at least once in-person and once virtually) and receive feedback using transcribed and digitally posted comments to record feedback. The total audience of these presentations should be at least fifty people not affiliated with the project and should reflect at least five different communitybased organizations.
- By month nine: receive written and oral comments from the community on how the project could change to respond to community concerns surfaced in the listening sessions, host an internal meeting to evaluate findings of engagement, and make a plan for incorporating these findings into project planning/decisions.
- By month twelve: write a public report of prior engagements to share with attendees to document how their feedback/input was used in project planning and let them know of future opportunities to engage in an ongoing manner throughout the project lifecycle.
- For each step, report relevant data to DOE.

BP #5

Accommodate accessibility needs and cultural norms to increase the inclusion of typically under-represented voices

Developers should design processes for input and feedback that actively bring in perspectives that often go unheard, such as those from overburdened communities and vulnerable populations.[70]

Traditional stakeholder engagement processes, such as council meetings and public

70 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

comments, may work for some but not all community members. Community engagement efforts should be varied to ensure that all community members, particularly those from overburdened communities and vulnerable populations, can give input and feedback.

Community leaders know their communities and can help developers select engagement strategies, communication methods and design meetings that meet community needs. Developers should also "[b]e aware of intercommunity dynamics, power structures and other norms that may impact the makeup of groups brought together. [Developers should] ... talk to community leaders to learn about potential intercommunity dynamics that may create barriers for some community members to fully engage.[71]

Actions to Implement Best Practice #5

Developers should aim to make giving input and feedback as easy as possible. This will require designing engagement events to fit the needs of the community, framing content in understandable terms and ensuring that engagement and communication practices are culturally effective, linguistically appropriate and accessible.[72] The following steps should be taken to enable robust community participation.

Engagement strategies:

1. **Use a variety of strategies to share information** and to solicit input and feedback from impacted community members. Potential strategies include:
    - town hall meetings,
    - open houses,
    - visiting potential host sites with community members, either in-person or virtually,[73]
    - tabling at local events,
    - coordinating with local community-based organizations to present at regular meetings,
    - facilitated discussions,
    - workshops,
    - community advisory board,
    - one-on-one meetings,
    - focus groups,
    - radio,
    - ads in local publications,

71 Washington Department of Commerce.

72 Washington Department of Ecology, "Programmatic EIS."

73 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."

- websites,
- written comments, and
- surveys.[74,75]

2. **Tailor the engagement strategy to the engagement goal**. For example, larger meetings such as town halls and community meetings may be better suited for informing the community about the project, whereas smaller and/or facilitated meetings may be better for gathering input and feedback.[76,77]
3. **Pay for a third-party facilitator**. Using a third-party facilitator can create a trusting environment during meetings and helps ensure that meetings are respectful, balanced, and productive. If and when conflicts arise, facilitators can help to channel that conflict into a productive dialogue. Facilitators can be from inside or outside the community, but should have lived and/or professional experience that will enable them to effectively lead discussion.[78]
4. **Engage local media** to help publicize outreach events. This could include local newspapers, and—particularly in rural and non-English speaking communities—radio.[79]
5. **Set-up an email address, web contact form, phone number and/or local office** where community members can contact the designated community engagement lead, and share this contact information widely.

Communications:

1. **If attending community events, be clear about who you are representing and your interest or purpose for being in the space.** Extracting feedback or information from community members without being transparent about who you represent can erode trust with the community.
2. **Establish clear and consistent communication channels** and implement a broad suite of communication tools and techniques.[80]
3. **Pay for a neutral third-party technical assistance provider** (selected by the community) to support communities in understanding the project's technical details, the project development process, terminology and decisions.[81, 82]

74 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."
75 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."
76 "Guidance for Creating a Community Benefits Plan for the Regional Clean Hydrogen Hubs."
77 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."
78 Washington Department of Commerce.
79 Washington Department of Commerce.
80 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."
81 "Principles for Effective Stakeholder Engagement in Infrastructure Permitting and Review Processes."
82 Washington Department of Ecology, "Programmatic EIS."

4. **Ensure project information and non-confidential data is easily accessible**. For example:
    - provide information and data in hard and soft copy and use large/legible text sizing,[83]
    - provide information and data in non-English languages commonly used in the community,
        - Refer to the Department of Commerce's "Environmental Justice Community Engagement Plan: Appendix 5" for mapping tools that help assess common languages spoken in the geographic area.[84]
    - provide information in easy to understand terms, stripping away jargon and acronyms that may not be well known to the layperson[85] (e.g., following the plain language guidelines[86]),
        - Example: EcoTech Biofuels, LLC and DPChem Consulting's presentation on a biomass project in Colorado.[87]
    - distribute information and data via mailers, community bulletin boards and a website, and
        - Examples of public websites:
            - Black Forest Partners and Grid United's Southline Transmission Project[88]
            - Grid United's Three Corners Connector Project.[89]
    - in rural communities and those with large Spanish-speaking populations, explore opportunities to promote engagement events and project information through local radio channels.

Meeting Logistics:

1. When selecting **meeting venues**, consider:
    - partnering with trusted local establishments to host meetings (e.g., public libraries, community centers) and providing compensation for the space,
    - venues that are centrally located to the target audience, and
    - venues that are easy to access via multiple modes of transportation (e.g., venues

83 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

84 Washington Department of Commerce.

85 Washington Department of Commerce.

86 "Plain Language Resources | Governor Bob Ferguson."

87 Linda-Rose Myers and Dan Parker, "Converting Dead and Diseased Trees from Our Western Forests to Sustainable Aviation Fuel."

88 "Home - Southline Transmission Project."

89 "Materials – Three Corners Connector," accessed May 20, 2025, https://threecornersconnector.com/materials/.

near bus stops or rail stations, venues that have adequate vehicle and bike parking).

2. **Offer logistical support** to community members to overcome barriers to participation. For example:

    - Poll the community and select multiple meeting times that work for the majority of community members.
        - For example, host meetings in the day and evening to accommodate various work and school schedules.
    - Provide travel support (e.g., shuttle service, rideshare credits, bus passes, parking fees).
    - Provide participation stipends.
        - Refer to the Washington State Office of Equity's Community Compensation Guidelines.[90] Whenever possible, create compensation processes that are easy to navigate and access.
        - Low-barrier methods for payment include physical prepaid cards and gift cards.
    - Provide language interpretation leveraging local interpreter services.
        - Refer to the Department of Commerce's "Environmental Justice Community Engagement Plan: Appendix 5" for mapping tools that help assess common languages spoken in the geographic area.[91]
    - Provide childcare services.
    - Provide food and beverages.
    - Ensure ADA compliance (e.g., building onramps, elevators, transcripts for virtual calls).

90 "Community Compensation Guidelines | Office of Equity."

91 Washington Department of Commerce, "Environmental Justice Community Engagement Plan."

Tribal Engagement Best Practices (BPs) and Actions

Washington is home to 29 federally recognized Tribes several non-federally recognized Tribes[92] and the culturally significant lands of Tribes located in bordering states and Canadian provinces. Given Washington's desire to be a key part of the hydrogen economy, it is likely that hydrogen projects will affect Tribal treaty reserved rights, Tribal reservations, off-reservation rights, trust lands, other Tribal-owned land and other areas of significance to Tribes in Washington.

The following best practices (BPs) are a starting point for developers to understand how to engage with Tribes and Tribal governments in planning, building and operating hydrogen facilities in Washington. **Each Tribe is unique and developers should adjust their engagement approaches to meet the specific needs of the Tribes involved in or affected by a project.**[93] Developers should aim to:

- **Best Practice #1:** Learn about the Tribes in and around the area being considered for development
- **Best Practice #2:** Identify and coordinate with Tribal representatives to plan Tribal engagement
- **Best Practice #3:** Create opportunities for formal partnership
- **Best Practice #4:** Collaborate with Tribes to identify least-conflict sites

BP #1

Learn about the Tribes in and around the area being considered for development

Each Tribe has its own history, cultural norms and values, legal rights, legal jurisdiction, governance structures, and policy and economic development priorities, which may affect how they wish to be engaged or consulted with about potential hydrogen projects.[94] Since federally recognized Tribes are sovereign nations, Tribal government will have different regulations and codes compared to state or federal regulations and codes, particularly around permitting and labor.

92 Rasmussen, Lopez, and Fernald, "Environmental Justice Task Force Recommendations for Prioritizing EJ in Washington State Government."

93 LaValle, "Illuminating Common Ground."

94 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."

The following resources provide a starting point for developing an understanding of Tribes and Tribal history in Washington, and for understanding the current laws and regulations regarding sovereign status, treaty rights and government-to-government consultation. Successful Tribal engagement requires developers to gain an understanding of these unique characteristics to tailor engagement to meet the needs of a given Tribe.[95,96]

Actions to Implement Best Practice #1

- **Developers should learn about Tribal history**, cultural norms and values, legal rights, legal jurisdiction, governance structures, and policy and economic development priorities. Developers should assign dedicated staff to lead training and education efforts or hire external experts to provide this support.

> It is not a Tribe's responsibility to educate developers and others. Instead, review the suggested materials, conduct additional research and partner with organizations that can support these education efforts.

1. **Learn about Tribal history** in the United States and Washington. Some resources include:
    - Dawes Act (1887)[97]
    - Marshall Trilogy[98]
        - Johnson V. M'Intosh (1823)
        - Cherokee Nation V. Georgia (1831)
        - Worcester V. Georgia (1832)
    - Indian Reorganization Act (1934)[99]
    - United States v. Washington (1974)[100]
    - The Nature Conservancy's Indian Country 101 Course[101]
    - Alliance for Tribal Clean Energy's forthcoming "Pathways to Trust: A Learning Journey Towards Equitable Tribal Partnerships℠" training, to be released Fall 2025.

95 Blaug and Nichols.
96 U.S. Fish & Wildlife Service, "Tribal Consultation Handbook."
97 "Dawes Act (1887)."
98 "Marshall Trilogy | Tribal Governance."
99 "Records Relating to the Indian Reorganization Act (Wheeler–Howard Act)."
100 "Website."
101 "Course: Indian Country 101."

- Portland State University's Certificate in Tribal Relations[102]
- Resources on the Governor's Office of Indian Affairs (GOIA) website[103]

2. **Identify which Tribes have interests in the area being considered for development to** create a list of Tribes to contact.
    - Washington Tribal Maps
        - Map of Reservations and Ceded Land
        - Map of Reservations
    - Washington Department of Archaeology & Historic Preservation's Interactive Map of Tribal Areas of Interest

3. Review **Tribal treaty rights.**
    - Governor's Office of Tribal Relations: Tribal Treaties[104]
    - Northwest Indian Fisheries Commission: Treaties[105]

4. Review **currently active laws and regulations** regarding government-to-government consultation, treaty rights and sovereign status.
    - View relevant list of treaties, laws, court cases, executive orders, plans, and policies in the Department of Ecology's "Programmatic Environmental Impact Statement on Green Hydrogen Energy Facilities in Washington State, Appendix B: Tribal Rights, Interests, and Resources Technical Appendix" (Table 1).[106]
    - Climate Commitment Act, Tribal Consultation section (RCW 70A.65.305)[107]
    - HEAL Act, Tribal Consultation section (RCW 70A.02.100)[108]
    - Chapter 43.376 RCW: GOVERNMENT-TO-GOVERNMENT RELATIONSHIP WITH INDIAN TRIBES[109]
    - Consultation and Coordination With Indian Tribal Governments: A Presidential Document by the Executive Office of the President on 11/09/2000 (Executive Order 13175)[110]
    - Improving Tribal Consultation and Tribal Involvement in Federal Infrastructure

102 "Certificate in Tribal Relations | Portland State University."
103 "GOIA | Governor's Office of Indian Affairs (GOIA)."
104 "Treaties | GOIA."
105 "Treaties."
106 Washington Department of Ecology, "Programmatic EIS."
107 "RCW 70A.65.305: Tribal Consultation."
108 "RCW 70A.02.100: Tribal Consultation."
109 "Chapter 43.376 RCW: GOVERNMENT-TO-GOVERNMENT RELATIONSHIP WITH INDIAN TRIBES."
110 "Consultation and Coordination With Indian Tribal Governments."

Decisions[111]

- Centennial Accord between the Federally Recognized Indian Tribes in Washington State and the State of Washington[112]
    - State-Tribal Relations / Centennial Accord[113]
- New Millenium Agreement[114]
    - Millennium Agreement Related Documents[115]

5. Focus culture, language and religious research on published articles, books, journals, interviews etc. **produced by Tribal and Indigenous leaders**.

- Who You Are: The Science of Connectedness[116]
- Reclaiming Indigenous Voice and Vision Edited by Marie Battiste[117]
- Sand Talk: How Indigenous thinking can save the world by Tyson Yunkaporta[118]
- Indigenomics: Taking a Seat at the Economic Table by Carol Anne Hilton[119]
- Decolonizing Methodologies: Research and Indigenous peoples by Linda Tuhiwai Smith[120]
- Indigenous methodologies: Characteristics, conversations and contexts by Margaret Kovach[121]
- Indigenous Statistics: A quantitative research methodology by Maggie Walter and Chris Andersen[122]

BP #2

Identify and collaborate with Tribal representatives to plan Tribal Engagement

The U.S. federal government has the legal obligation to maintain a trust responsibility with

111 "Improving Tribal Consultation and Tribal Involvement in Federal Infrastructure Decisions."
112 "Centennial Accord | GOIA."
113 "State-Tribal Relations / Centennial Accord | GOIA."
114 "Institutionalizing the Government-to-Government Relationship in Preparation for the New Millennium | GOIA."
115 "Millennium Agreement | GOIA."
116 Spivey, "Who You Are."
117 Battiste, "Reclaiming Indigenous Voice and Vision."
118 Yunkaporta, "Sand Talk."
119 Hilton, "Indigenomics: Taking a Seat at the Economic Table."
120 Smith, "Decolonizing Methodologies."
121 Kovach, "Indigenous Methodologies: Characteristics, Conversations, and Contexts, Second Edition."
122 Walter and Anderson, "Indigenous Statistics."

federally-recognized Tribes. The trust responsibility means that the U.S. federal government has an obligation 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."[123]

In the context of energy project development, if a project may impact Tribal lands and/or resources, the federal government carries out its trust responsibility through government-to-government consultation between the Tribal government and relevant state and/or federal agencies. Through the Washington Centennial Accord, federally recognized Indian Tribes and the State of Washington also have an established government-to-government relationship.[124]

Government-to-government consultation provides the opportunity for a Tribe and the state and/or federal government to identify and discuss any potential issues with a proposed project.[125] Government-to-government consultation is initiated by either the Tribe or by the state or federal government; developers should not expect to be involved in consultation between the Tribe and state and/or federal government, unless requested by the Tribe.

However, it is best practice for developers to engage directly with Tribal governments separate from government-to-government consultation process. Early engagement enables developers and Tribal government representatives to identify and address potential challenges ***before*** a project goes through environmental review and permitting, as well as to identify opportunities for partnership (discussed further in Best Practice #3).

If a developer receives state funds for a project, in order to comply with EO 21-02,[126] the recipient of the funds ***must*** consult with both the Washington Department of Archaeology & Historic Preservation (DAHP) and all federally recognized Indian Tribes that may have a cultural/historic interest or concern in the project's vicinity.

Developers should engage directly with Tribal representatives, soliciting input and feedback throughout the project, particularly before key decision points. These conversations may start with Tribal government staff (such as a Tribe's cultural resources, planning or economic development staff) or with Tribal government leadership. The correct point of contact will vary by Tribe.

Engaging with Tribal representatives enables developers to design hydrogen projects in partnership with Tribes. This could mean collaborating to identify appropriate sites for development (e.g., least-conflict sites, see Best Practice #4), opportunities for Tribal benefits (e.g., jobs, funding for local programs), methods to mitigate potential harms (e.g., enhanced safety monitoring) or opportunities for formal partnership (e.g., shared ownership, see Best

123 "What Is the Federal Indian Trust Responsibility? | Indian Affairs."

124 "Centennial Accord | GOIA."

125 "Consultation with Indian Tribes in the Section 106 Review Process: The Handbook."

126 "Executive Order 21-02."

Practice #3).

Actions to Implement Best Practice #2

1. **Designate specific staff** to lead Tribal engagement and to serve as a point of contact for Tribal representatives (government staff and leadership) and Tribal community members. **Complete the forthcoming Training** on Consultation and Engagement Processes for Federally Recognized Indian Tribes for clean energy project developers, developed by the Interagency Clean Energy Siting Coordinating Council, Department of Archaeology & Historic Preservation, Governor's Office of Indian Affair, Department of Commerce and Energy Facility Site Evaluation Council as directed by RCW 43.394.020 (g).[127]
2. **Identify Tribal representatives** from federally and non-federally recognized Tribes that have interests in the area being considered for development.
    a. Washington State Department of Archaeology & Historic Preservation (DAHP) Tribal Contact Info[128]
    b. Washington State Tribal Directory[129]
    c. Visit the Tribe's webpage and look for contact information for Tribal staff in cultural resources, planning, economic development and related departments.
3. **Contact Tribal representatives early** in the development process (e.g., once there is a project concept, but before a site has been selected and before site plans have been developed).
4. When contacting Tribal representatives, **provide sufficient information about the project** (e.g., project description and potential impacts, benefits, and partnership opportunities) so the Tribe can identify the appropriate Tribal staff or other representative to assess the project.
5. Work with Tribes to understand the Tribe's **decision-making processes and desired timeline** and cadence for engagement activities.
6. **Work with Tribal governments and native-led organizations to develop a Tribal community engagement strategy** (example). Hire and compensate Tribal members selected by the community to lead community engagement activities such as curriculum development, content creation and facilitation.[130]
7. **Center and respect Tribal leaders and customs**. During convenings, make sure Tribal leaders are first to be acknowledged and introduced. When Tribal leaders and elders are

127 "Chapter 43.394 RCW: INTERAGENCY CLEAN ENERGY SITING COORDINATING COUNCIL.", forthcoming

128 This list of Tribes has been provided to DAHP by the various Tribal organizations for the purposes of consulting with DAHP on the protection of cultural resources within Washington.

129 "Tribal Directory | GOIA."

130 "Tribal Civics: A Guide for Fostering Engagement."

speaking, be mindful to not interrupt them and create a welcoming environment in which sharing stories and experiences is encouraged. Have conversations with the Tribe to see how they want/expect to be centered in space in conversations, particularly when working with third-party community groups or facilitators.

8. **Build sufficient time into project development timelines** for the requested engagement, including budget and time to travel to rural/remote areas. Ensure enough time is available for Tribal governments and the state/federal government to conduct formal consultations.
9. **Be flexible.** It is impossible to predict how much time may need to be built into the project development process to accommodate appropriate engagement between a Tribe and the developer and/or the Tribe and relevant state and federal government agencies. However, highly proactive, responsive, transparent, and collaborative engagement and consultation from a project developer can often result in fewer delays.

BP #3

Create opportunities for formal partnership

Developers may intentionally avoid siting projects on Tribal lands to steer clear of perceived complications. However, an American Indian law practitioner in Americans for a Clean Energy Grid's report *"Recommended Siting Practices for Electric Transmission Developers"* highlights this point; "Don't assume that avoidance is the correct approach when faced with routing a project across Tribal lands. Many times, Tribes are on the opportunity side of a project and can bring a lot to the table."[131]

Consider the following:

- Many Tribes are actively exploring clean energy production and offtake opportunities to achieve Tribal energy sovereignty.[132]
- Many Tribes seek economic development and employment opportunities, and energy projects can offer both.
- Tribes in Washington may have access to Tribal-specific funding and financing streams[133] (e.g., low-interest federal or state loans for Tribal-led clean energy development projects[134], federal tax incentives, bid credits for projects committing to Tribal benefits, etc.).
- Developers may only need to negotiate with one Tribe vs. multiple landowners to secure a land lease.

131 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."

132 "Energy Vision for the Columbia River Basin."

133 Yazzie et al., "Opportunities to Grow Tribal Clean Energy in the US."

134 Yazzie et al.

Actions to Implement Best Practice #3

1. **Work with Tribal representatives to understand the Tribe's climate, energy and economic developments goals**. Identify and convey, if possible, clear connections between the proposed project's benefits and the Tribe's goals, making a strong case for partnership. Be prepared to come to the table with alternative ideas and solutions.
2. **Support Tribal governments in securing state, federal or other Tribal-specific funding**. Support Tribal representatives with identifying funding opportunities, navigating complex applications and/or providing grant-writing services, if requested. [135]
    - Refer to The White House Council on Native American Affairs (WHCNAA)'s Access to Capital Clearinghouse tool— a searchable database of Federal funding opportunities, including grants, loans, and tax credits, available for Tribal Nations, individuals, and businesses.[136]
3. **Work with Tribal representatives to understand the Tribe's capacity to engage with the project**. Provide financial or other support (e.g., hiring technical consultants or Tribal energy leaders) to fill any gaps. Tribal energy leaders can serve as conveyors and advocates to ensure that Tribal priorities are reflected in all aspects of project design, construction, and management. Tribal energy leaders can come from for-profit and nonprofit entities or form Tribal enterprises.[137]
4. Consider partnering with academic institutions and trade schools to offer long-term workforce training and apprenticeship programs that **prepare and hire Tribal community members for jobs** during both the construction and operation of the project.[138] Explore what other benefits the project can provide to achieve the Tribe's climate, energy and public health goals.
5. **Collaborate with the Tribe's Tribal Employment Rights Ordinance or Office (TERO)** to develop the employment strategy for the project. "TERO Ordinances require that all employers who are engaged in operating a business on reservations give preference to qualified Indians in all aspects of employment, contracting and other business activities. TERO Offices were established and empowered to monitor and enforce the requirements of the Tribal employment rights ordinance."[139]

135 Yazzie et al.

136 "Search | Access to Capital Clearinghouse."

137 Yazzie et al., "Opportunities to Grow Tribal Clean Energy in the US."

138 Yazzie et al.

139 "TERO FAQ – Council for Tribal Employment Rights."

BP #4

Collaborate with Tribes to identify least-conflict sites

Tribal Nations are important partners in identifying least-conflict sites. "Least-conflict sites" are clean energy infrastructure development areas which aim to minimize impacts to Tribal lands, culturally significant lands, natural habitats and farmlands.[140] While reservations and treaty rights may be documented in publicly available resources, information about other culturally significant lands and resources are often kept confidential.

For example, Tribes may share which area(s) are to be avoided by a developer while keeping the reasons for avoidance and/or exact locations private and confidential. The extent to which a Tribe will share information or data, particularly as it relates to project siting, will vary depending on a given Tribe's policies or direction from Tribal leadership. Developers should respect the data sharing and privacy protocols of the Tribe they are engaging with.

Tribal Data Sovereignty

Tribal Nations are sovereign governments. As such, Tribal data designated as culturally sensitive is not subject to public disclosure. If a Tribe chooses to share culturally sensitive data with a developer, the developer should treat that data as confidential, and the Tribe and the developer should have explicit agreements about how/when/where the data can be used. *(Adapted from: Department of Commerce, Righting our Relations Resource Guide)*

Some Tribes have signed a memorandum of understanding (MOU) with the state. If a Tribe requests consultation with the state, the Department of Commerce will control the data in line with the data sharing agreement in the MOU.

Actions to Implement Best Practice #4

1. **Consider the PEIS general measures to avoid, reduce and mitigate impacts when working with Tribes, as described in Appendix A Section 4.3.**[141]

    - **Coordination with agencies, Tribes, and communities:** Coordinate with agencies, Tribes, and communities prior to submitting an application and throughout the life of the project to discuss project siting and design, construction, operations, and decommissioning impacts; and measures to avoid, reduce, and mitigate impacts. Developers should also seek feedback from agencies, Tribes, and

140 "Report to the Washington State Legislature: Least-Conflict Solar Siting on the Columbia Plateau."

141 Washington Department of Ecology, "Programmatic EIS."

communities when developing and implementing the resource protection plans and mitigation plans identified in the PEIS.

- **Land use:** Consider the following when siting and designing a project:
  - Existing land uses
  - Land ownership/land leases (e.g., grazing, farmland, forestry)
  - Local comprehensive plans and zoning
  - Designated flood zones, shorelines, natural resource lands, conservation lands, priority habitats, and other critical areas and lands prioritized for resource protection
  - Military testing, training, and operation areas
  - State-designated harbors
  - Air quality nonattainment areas
- **Choose a project site and a project layout to avoid and minimize disturbance:**

Select the project location and design the facility to avoid potential impacts to resources.

- **Use existing infrastructure and disturbed lands, and co-locate facilities**
- **Conduct studies and surveys early:** Conduct studies and surveys early in the process and at the appropriate time of year to gather data to inform siting and design.
- **Restoration and decommissioning:** Implement a Site Restoration Plan for interim reclamation following temporary construction and operations disturbance. Implement a Decommissioning Plan for site reclamation at the end of a project.
- **Cumulative impact assessment:** Assess cumulative impacts on resources based on reasonably foreseeable past, present, and future projects. Identify actions to avoid, reduce, and mitigate cumulative impacts. Consider local studies and plans, such as comprehensive plans.

2. **Consider the PEIS recommended measures for siting and design when working with Tribes, as described in Appendix B: Tribal Rights, Interests, and Resources Technical Appendix.**[142,143]

- Site and design projects to avoid impacts to Tribal rights, interests, and resources.
- Contact potentially affected Tribes early in the siting process, ideally before land is acquired for a project or before permit applications are developed and offer information relevant to Tribal technical staff to help identify potential impacts to Tribes.
- Include Tribal treaty-reserved rights, Tribal reservations, off-reservation rights, trust lands, other Tribal-owned land, and other areas of significance to Tribes in consideration of potential impacts and mitigation.
- Consider including a Tribal monitor from each potentially affected Tribe on archaeological survey crews to provide input on Traditional Cultural Properties, sacred sites, and culturally significant sites.
- Tribal preferred aesthetic or visual quality mitigation practices may vary from those considered for other visual quality mitigation; consult with potentially affected Tribes on any aesthetic or visual quality mitigation practices.
- Maintain open Tribal access routes during construction, operations, and decommissioning and consider timing of activities to avoid disrupting Tribal access to sites and resources.

142 Washington Department of Ecology.

143 Washington Department of Ecology.

3. **Involve Tribal representatives in selecting the archaeological, cultural resource and other consultants needed during the project development process**.[144] This practice can strengthen a Tribe's trust in the information presented and demonstrates that non-biased information is being used for decision-making.[145] Tribal representatives may also wish to conduct their own independent studies, and developers should accommodate the inclusion of these independent studies into decision-making processes and timelines.

4. **Ensure budget and time are set aside to support Tribal capacity** in working with a developer at this level of involvement.

    - Some Tribes may ask for compensation to share specific information and documentation of the presence, location, nature and condition of cultural sites.[146]
    - Reimburse Tribes for costs incurred for field visits, monitoring activities, research, documentation production and travel. [147]

5. **Respect data sovereignty**. If a Tribe states than an area is not a good option for development, they do not need to provide any further explanation.

6. **Welcome Traditional Ecological Knowledge (TEK)** and value the perspectives of Tribal partners.[148]

144 Washington Department of Ecology.

145 Blaug and Nichols, "Recommended Siting Practices for Electric Transmission Developers."

146 Blaug and Nichols.

147 Blaug and Nichols.

148 "Righting Our Relations Resource Guide."

Addressing Potential Adverse Impacts and Concerns with Hydrogen

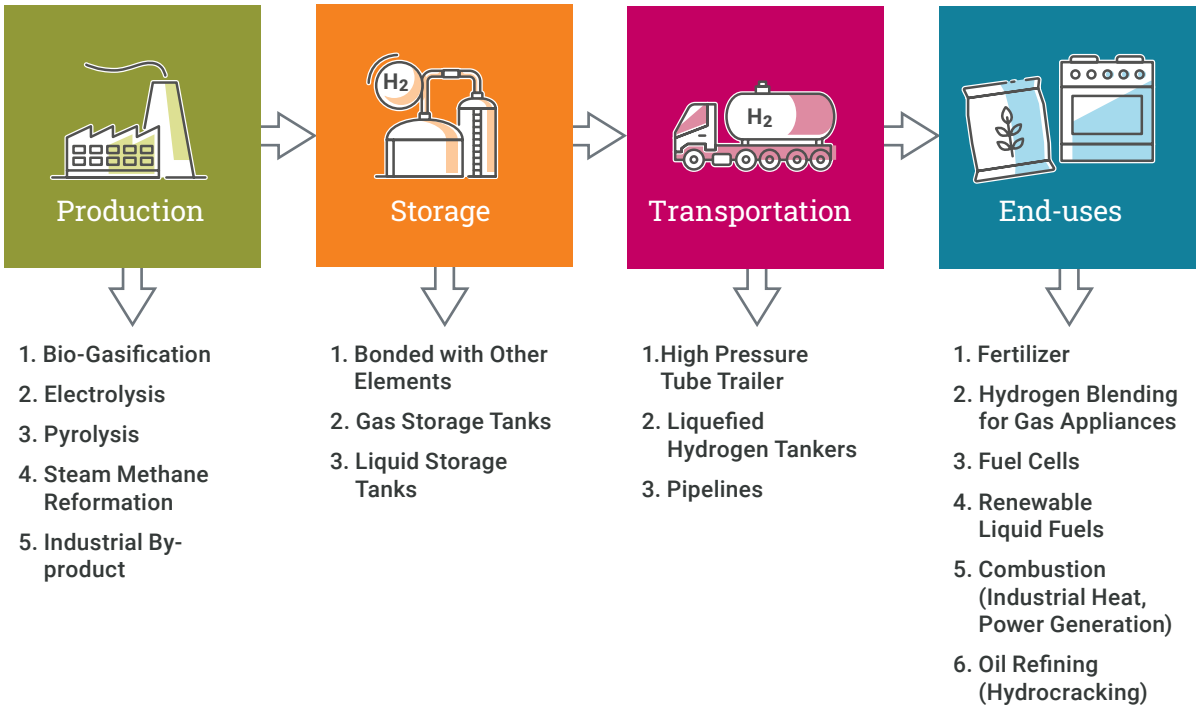
Developers must assess the potential impacts of their project as part of the SEPA process, and it is recommended to complete this assessment in collaboration with communities and Tribes to ensure that the assessment is complete and that appropriate mitigation measures are decided upon together. As a starting point, the "PEIS Impacts and Mitigations" section, the "Other Potential Adverse Impacts & Community Concerns" section and the attached ***"Hydrogen Supply Chain Impacts and Mitigations Matrix"*** provide an overview of potential adverse impacts from hydrogen projects and other concerns that communities and Tribes may have about hydrogen projects.

Not all potential impacts or concerns described here are relevant to all types of hydrogen facilities, and not all potential impacts or concerns are described here and in the matrix. Developers should still engage with communities and Tribes to complete a thorough assessment of potential impacts and to learn about their concerns.

Additionally, not all production methods, storage and transportation methods, and end-uses are covered in this toolkit. The methods covered are displayed in Figure 4 and reflect those methods and end-uses that are aligned with Washington's statewide modeling for hydrogen production and demand through 2050, envisioned as part of the PNWH2 Hub and/or otherwise likely to occur in Washington based on public announcements.[149] Descriptions of each method can be found in Appendix D: Glossary—Hydrogen Supply Chain.

149 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington."

Figure 4. Hydrogen Supply Chain



PEIS Impacts and Mitigations

This section summarizes the potential impacts and mitigation options for green hydrogen production facilities, green hydrogen production facilities with battery energy storage systems (BESSs) and green hydrogen storage facilities, as identified in the Department of Ecology's Programmatic Environmental Impact Statement on Green hydrogen energy facilities ("PEIS").[150]

Tribal rights, interests, and resources

- **Topic:** Tribal rights, interests, and resources
  - **Description of potential significant impact from facility types**: Constructing, operating, and decommissioning facilities could impact Tribal rights, interests, and resources. The significance of these impacts would be determined through consultation with potentially affected Tribes.
  - **Can it be mitigated below significance?**: Impacts and mitigation would be determined in consultation with Tribes. Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site.

150 Washington Department of Ecology, "Programmatic EIS."

Environmental justice

- **Topic:** Disproportionate impact
    - **Description of potential significant impact from facility types**: Disproportionate impacts on historic and cultural resources, Tribes and Tribal communities, biological resources, public services and utilities, vibration, and environmental health and safety.
    - **Can it be mitigated below significance?**: Impacts and mitigation would be determined in consultation with Tribes. Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site.

Air quality and greenhouse gases

- **Topic:** Greenhouse gases
    - **Description of potential significant impact from facility types**: Impacts from electrolysis, steam-methane reforming, pyrolysis, bio-gasification production and storage would range from less than significant impacts to potentially significant adverse impacts on life-cycle greenhouse gas emissions. In general, electrolysis using all renewable energy sources for electricity would have the lowest amount of life-cycle greenhouse gas emissions.
    - **Can it be mitigated below significance?**: Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site.

Biological resources

- **Topic:** Terrestrial and aquatic habitat and species (including special status species)
    - **Description of potential significant impact from facility types**: Impacts affecting species viability, the mortality of any individual species, or disturbance that disrupts successful breeding and rearing behaviors. Permanent degradation, loss, or conversion of suitable habitat that is critical to species viability or disrupts habitat continuity along migration routes.
    - **Can it be mitigated below significance?**: Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site. Mitigation to reduce impacts below significance for special-status habitats or species may not be feasible.

Environmental health and safety

- **Topic:** Fire and explosions
    - **Description of potential significant impact from facility types**:

Risk of fire or explosion during operations from flammable substances, including hydrogen and methane gas. The severity of risks would need to be assessed for each facility based on the project location, production method, and quantities of flammable materials produced or stored on-site.

- **Can it be mitigated below significance?**:
  Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site.

- **Topic:** Wildfire risk
  - **Description of potential significant impact from facility types**:
    New ignition sources from operations that may pose fire risk in remote locations with limited response capabilities.
  - **Can it be mitigated below significance?**:
    Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site.

- **Topic:** Battery overheating
  - **Description of potential significant impact from facility types**:
    If a facility has a co-located battery energy storage system, potential hazardous air emissions from damage or failure of the battery management system.
  - **Can it be mitigated below significance?**:
    Yes

Noise and vibration

- **Topic:** Vibration
  - **Description of potential significant impact from facility types**:
    Construction or decommissioning could affect people within 350 feet of the facility or in close proximity to conventional or historic structures. Some types of blasting within 2,000 feet of historic structures may have adverse effects.
  - **Can it be mitigated below significance?**:
    Yes

Historic and cultural resources

- **Topic:** Historic and cultural resources
  - **Description of potential significant impact from facility types**:
    Construction, operations, and decommissioning of all types of facilities could impact historic and cultural resources. The significance of these impacts would be determined through consultation with potentially affected Tribes, and for cultural and historic resources in consultation with DAHP.

- **Can it be mitigated below significance?**:
  Impacts and mitigation would be determined in consultation with Tribes and DAHP.

Public services and utilities

- **Topic:** Fire response
  - **Description of potential significant impact from facility types**:
    If new ignition sources are in remote locations with limited response capabilities, or if a fire or explosion during operations spreads rapidly or impacts large areas.
  - **Can it be mitigated below significance?**:
    Determining if mitigation options would reduce or eliminate impacts below significance would be dependent on the specific project and site.

Other Potential Adverse Impacts & Community Concerns

Ecosystem Impacts

Some hydrogen production methods produce wastewater which, if not handled properly, has the potential to introduce pollutants into the surrounding soil and water. Developers should be aware of this potential impact and be prepared to describe what mitigation measures they are putting in place to minimize this potential impact. If the given hydrogen facility will not produce wastewater, the developer should be prepared to explain why the facility will not produce wastewater.

Air Quality and Public Health

Direct

Some hydrogen production methods and end-uses emit pollutants such as NOx, particulate matter and SO_2. These pollutants are linked to respiratory and cardiovascular health issues.[151]

Although hydrogen may produce less of these pollutants than fossil fuel resources, and therefore represent system-wide pollution reductions, the localized effects of these pollutants in the communities where facilities are located should be addressed directly by developers. Developers should be aware of these potential public health concerns and be prepared to describe what mitigation measures they are putting in place to minimize these pollutants. If the given hydrogen facility will not produce these types of emissions, the developer should be prepared to explain why the facility will not produce those types of emissions.

Indirect

As an energy intensive process: A potential concern with hydrogen production and storage

151 Washington Department of Ecology, "Programmatic EIS."

processes powered by grid energy is that they could indirectly extend the life of fossil fuel resources by increasing demand on the grid. Extending the life of fossil fuel resources would result in continued emissions of pollutants in host communities (often overburdened communities) that are linked to various health problems, including respiratory issues, cardiovascular issues and neurologic issues. Developers of hydrogen production and storage projects should be aware of this potential concern and be prepared to discuss the energy source they plan to use.

GHG Emissions

Direct

Some hydrogen production methods emit CO_2, one of the most significant GHGs due to its long atmospheric lifetime. Developers should be mindful of this potential concern and be prepared to explain what mitigation measures they are putting in place to minimize CO_2 emissions. If the given hydrogen facility will not produce CO_2, the developer should be prepared to explain why the facility will not produce CO_2.

Indirect

Via leakage: There is potential for hydrogen leakage at all points in the hydrogen supply chain. While hydrogen itself is not a GHG, it can act as an indirect GHG by influencing atmospheric chemistry in ways that enhance the warming effects of other gases, particularly methane.[152] Developers should be aware of this potential concern, be prepared to describe how they are adhering to codes and standards for minimizing leakage (e.g., by adhering to guidelines on proper materials for pipelines and storage tanks), and any other mitigation measures they are putting in place to minimize leakage.

As an Input to fertilizer: Hydrogen is a necessary input for producing ammonia to then produce nitrogenous fertilizers. The production and use of nitrogenous fertilizers can release N_2O which is a potent GHG with a global warming potential approximately 273 times that of carbon dioxide.

As an energy intensive process: A potential concern with hydrogen production and storage processes powered by grid energy is that they could indirectly extend the life of fossil fuel resources by increasing demand on the grid. Extending the life of fossil fuel resources would result in continued GHG emissions. Developers of hydrogen production and hydrogen storage projects should be aware of this potential concern and be prepared to discuss the energy source they plan to use.

Fire/Explosion Risk

Hydrogen can form explosive mixtures with air at concentrations ranging from 4% to 75% by volume and requires a minimal amount of energy to ignite. There is potential for hydrogen

152 "New Climate Chemistry Model Finds 'Non-Negligible' Climate Impacts of Potential Hydrogen Fuel Leakage."

leakage at all points in the hydrogen supply chain, therefore leading to potential risk of fire and explosion. Further, when hydrogen is stored or transported it is under high pressure.[153] Thus, any end use or infrastructure that includes storage of hydrogen, such as tube trailer truck or a fuel cell vehicle, has risk of fire and explosion. Developers should be aware of this potential concern and be prepared to describe what mitigation measures they are putting in place to minimize leakage, to mitigate fire and explosion risk, and to communicate with workers, communities and first responders in the case of an incident.

Water Resource Impacts

Some hydrogen production methods use water in the production process. In areas of the state where water scarcity is a concern, some communities may be concerned about the additional strain that a hydrogen production facility will place on local water resources. Developers should be mindful of this potential concern and be prepared to describe their plans for working with local or regional water agencies to ensure that the proposed water use is within permitted limits and won't compromise existing users or ecosystems. Developers should document the results of these engagements and share these results with the community.

End Uses

Hydrogen has multiple end uses, such as fertilizer, hydrogen blending for gas appliances, fuel cells, renewable liquid fuels for hard-to-electrify transportation methods, industrial heat, power generation and oil refining. Some communities and Tribes may not support hydrogen as a method for decarbonizing those end uses, or may have concerns related directly to the end use itself. Examples of these concerns may include:

- ecological and natural resource impacts of hydrogen-derived fertilizer application,
- public safety impacts of delivering hydrogen blended with natural gas into residential and commercial buildings, and
- public safety impacts of on-board hydrogen storage in fuel cell vehicles.

Developers should be prepared to answer questions about their proposed end use and to explain if their proposed end use is related to any legally-required decarbonization planning (e.g., the energy efficiency and emission reduction requirements for petroleum refineries in WAC 173-485-040).

Other

Communities and Tribes may have other concerns such as:

- Impacts on retail electricity prices from increased demand for energy from grid-powered hydrogen production and storage projects

153 Washington Department of Ecology, "Programmatic EIS."

- Land use impacts from constructing additional solar or wind to power hydrogen production and storage processes
- Deforestation or reductions in agricultural land for food production (if the project uses biomass as its feedstock)
- The potential for hydrogen production to extend the life of industrial facilities by providing a use for its waste gases (hydrogen can be produced from industrial waste gases rich in carbon monoxide)

Developers may not be able to foresee every potential concern, and not every concern will be applicable to every projects. Developers should respond sincerely to each concern, invite open dialogue, and provide follow-up resources or updates—especially when more study or clarification is needed.

Community Benefits Plan Guidance

What is a Community Benefits Plan (CBP)?

Community Benefits Plans (CBPs) "are non-binding agreements that are typically developed by community organizations and developers. They outline the community's priorities for a development project and the developer's commitments to those priorities, which can include things like investing in affordable housing, job creation, local hiring preferences, etc. CBPs are not legally enforceable, but they can be a valuable way for communities to engage with developers and influence the development process."[154]

Notably, a CBP is distinct from a Community Benefits *Agreement* (CBA). A CBA is one possible outcome of a CBP **process**. A CBA is a legally binding agreement, while a CPB is *not* legally binding. During a CBP process, developers and communities or Tribes determine what benefits the project will provide. Developers and communities and/or Tribes can then decide whether or not they want to make those benefits legally binding via one of the types of agreements below, further defined in the "Memorializing Benefits and Commitments" section.

- Community Benefits Agreement
- Tribal Benefits Agreement
- Host Community Agreement
- Good Neighbor Agreement
- Project Labor Agreement
- Community Workforce Agreement
- Collective Bargaining Agreement
- Labor Peace Agreement / Labor Harmony Agreement

154 Slanger, "Community Benefits Plans."

CASE STUDY

Dearborn Street Mixed Use Development (2008)

Project Description: New development proposal for a six-story building with 600,000 square feet of retail space, plus 45,000 square feet of offices and 500 homes.

What happened? The push for a community benefits agreement on this project—the first of its kind in Washington—was prompted by a project design element that affected the public right-of-way and fell outside existing zoning regulations, requiring City approval. Community groups, concerned about the development's impact on their neighborhood (increased traffic, higher rents for small businesses, higher rents for residents, changes to neighborhood character), were able to leverage this approval process to advocate for community benefits.

Key Takeaway: Community benefits help ensure that a project mitigates community concerns and provides direct benefits to the community. Developers should build time for the benefits negotiation process into their project development timeline.

Refer to Appendix A for the complete case study.

Who Should Be Involved?

Refer to the Community Engagement and Tribal Engagement Best Practices and Actions sections for guidance on how to identify community leaders and Tribal representatives to engage with throughout the life of the project. You should approach these same community leaders and Tribal representatives with a request to negotiate a CBP and allow them to self-select the specific representatives who will sit at the negotiating table with you. Do not limit the number of representatives from the community or Tribe that can act as your counterparty.

The Negotiation Process

There is an inherent power imbalance in benefits negotiation. Developers have access to capital, legal expertise and more detailed information about their project. Developers can help to reduce this power imbalance by providing funds for communities and Tribes to hire technical consultants to help them understand project details, and/or bring in third-party facilitation or mediation to support the negotiation process.

The Case Studies provided in Appendix A offer examples of developers and communities that made it successfully through the CBP process. These Case Studies offer a few key lessons for

developers beginning a new project:

- Go into the development process expecting that you will need to negotiate community benefits. Even if community benefits planning is not legally required, community benefits are often a key a part of earning community buy-in.
- Developers can't plan for everything, but community benefits planning can be a known unknown—you may not know what the benefits package will be, but you can know that you need to set aside time for the discussions.
- A mediator can help facilitate negotiations.
- Community benefits planning can be a place to add provisions to a project that are not legally required but that are beneficial to the community.

Determining Benefits

Labor and Contracting Benefits

The most consistent potential benefits of hydrogen projects for communities and Tribes are construction and ongoing operations jobs, and the contracting and procurements for goods and services throughout the life of the project.

Developers and both communities and Tribes can negotiate terms for hiring and contracting, such as requirements for local hire, apprenticeship hours, wages and vendor preferences. These types of requirements can be mutually beneficial to developers and communities/ Tribes; developers get access to a skilled workforce and may be eligible for certain tax deferrals and reductions, while local communities and Tribes gain access to quality jobs and business opportunities.

These types of benefits are typically made legally binding via a Project Labor Agreement (PLA) or a Community Workforce Agreement (CWA). Washington defines both agreements as "a prehire collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project and is an agreement described in 29 U.S.C. Sec. 158(f)."[155] In practice, the two are slightly different.

- **Project Labor Agreement:** "PLAs are pre-hire collective bargaining agreements between labor unions and developers or contractors. They set the terms and conditions of employment for specific projects, specifying wages, benefits and working conditions."[156]
- **Community Workforce Agreement**: "A Community Workforce Agreement is a Project Labor Agreement designed to benefit under-represented and under-served communities'

155 "RCW 82.08.962: Exemptions—Sales of Machinery and Equipment Used in Generating Electricity. (Expires January 1, 2030.)."

156 Riedl et al., "Community Benefits Frameworks."

access to capital construction investments made in their communities. These benefits include access for local workers to participate in projects, opportunities for available local contractors to engage in these construction opportunities, and the expansion of qualified local workers contributing to regional economies."[157]

Developers should contact their regional building trades council to be connected to the relevant building and construction trades and union locals that are the key parties with which conversations about PLAs and CWAs should start. In addition, the following resources can support developers in meeting the procurement and labor expectations required to be eligible for the tax reductions detailed in RCW 82.89.

- Directory of [Minority-, Woman-] Certified Businesses[158]
- Prime Contractors searching for Veteran Owned Businesses[159]
- Washington's Electronic Business System Vendor Search[160]
- Identify the required prevailing wage rate to pay employees[161]
- Labor Standards Certification for Tax Incentives[162]
- Individual Tribe's Tribal Employment Rights Ordinance (TERO) Office

Benefit Category: Labor and Workforce Development

Assessment – Project Attributes

- What types of jobs will be created by the development?
- Will the jobs be temporary or permanent?
- How many jobs of each type will be created?
- What types of skills, training or certifications are needed for those jobs?
- What are the expected pay and benefits of each type of job? Does that level of pay and benefits constitute a living wage?

Assessment – Community Context

- Do local and/or underrepresented workers have the skills and/or certifications needed for the jobs that will be created?
- What existing programs or support are available to help the community workforce to

157 "Community Workforce Agreement (CWA) Listening Session - WSDOT."

158 "Directory of Certified Businesses."

159 "Prime Contractors Searching for Veteran Owned Businesses | WDVA."

160 "Washington's Electronic Business Solution."

161 Washington State Department of Labor & Industries, "Contractors / Employers."

162 Washington State Department of Labor & Industries, "Clean Energy Projects - Labor Standards Certification for Tax Incentives."

gain those skills and certifications, including presence of relevant union apprenticeship programs?

- Are there gaps in workforce training programs or barriers to accessing them?
- What is the living wage in the local community?
- What are relevant state and local labor laws and standards that the project will be expected to adhere to?

Implementation Plan Questions

- How can you structure the hiring process to preference local and/or underrepresented workers?
- What investments in programs or supportive services can you make to support local and/or underrepresented workers in gaining the necessary skills and credentials?
- How can you partner with existing groups or organizations that provide education and training, particularly local unions?
- What strategies will you use to fill jobs?
- Which building and construction trades, manufacturing and other union locals represent future workers?
- Is there an American Job Center serving the community?
- Are there any recognized pre-apprenticeship programs serving the community?
- Are there any registered apprenticeship programs accessible to the community?
- Are there any community or technical colleges serving the community? Are there any Tribal colleges serving the community? Do they offer coursework or certificate programs related to the necessary job skills?

Examples

- **Goal #1**: Hire local and/or underrepresented residents for construction and operations jobs
  - Outcome #1:
    - [# or %] of hours of work will be completed by workers from the following zip codes
    - [# or %] of operations positions will be filled by workers from the following zip codes
- **Goal #2:** The project will create high road jobs
  - Outcome #2:
    - Wages for construction jobs will meet or exceed prevailing wage requirements
    - Wages for [# or %] of operations jobs will meet or exceed the local living wage
    - [all/some/specific types of] workers will receive [xyz] benefits
      Examples of benefits include:
      - Employer-sponsored health insurance
      - Paid sick leave, paid time off, paid family and medical leave
- **Other Examples:**
- **Funding for workforce training programs**

Benefit Category: Contracting and Procurement

Assessment – Project Attributes

- What types of construction contracts and/or goods and services contracts will be needed during project construction?
- What types of construction contracts and/or goods and services contracts will be needed during project operation?
- What types of construction contracts and/or goods and services contracts will be needed during project decommissioning?
- What is the estimated dollar value of the needed goods and services contracts?

Assessment – Community Context

- Are there businesses in the local community that offer the needed goods and services?

- What programs or support are available to local, small, minority- and/or women-owned businesses (e.g. low-interest loans, business skills training)?

Implementation Plan Questions

- How can you advertise opportunities for contracting and procurement?
- How will a business demonstrate that they are an MWVBE?
- How can you exercise a preference for MWVBEs?
- What support can you provide to interested MWVBEs (e.g. host a supplier diversity program)?
- Are there state or local directories of certified minority-, women- and veteran-owned businesses?
- Does the local government have a department focused on small and minority business contracting offices?
- Are there Chambers of Commerce in the local area, including Chambers of Commerce that support specific racial, ethnic, or other identity-based groups?

Examples

- **Goal**: Contract with minority-, women- and veteran-owned business enterprises (MWVBEs)
  - Outcome:
    - [%] of total construction contracts and sub-contracts (measured as a % of total $ spend) will be with MWVBEs
    - [%] of total procurement contracts and sub-contracts (measured as a % of total $ spend) will be with MWVBEs

Benefit Category: Worker Health and Safety

Assessment – Project Attributes

- What are potential risks to worker health and safety related to project construction, operation and decommissioning?
- What options are available to mitigate those threats?

Assessment – Community Context

- Which unions represent the types of workers needed for the project, for both the construction and operation of the project?
- What are the local chapters of those unions?

Examples

- Workers will be engaged in the design of worker health and safety plans
- Workers will receive training on hazard prevention and control
- Workers will receive workplace harassment training covering various forms of harassment, including sexual harassment and discrimination based on protected status

Benefit Category: Worker Organizing

Assessment – Project Attributes

- What are potential sources of labor disputes?
- What processes can be put in place to mitigate labor disputes or strikes?

Assessment – Community Context

- Which unions represent the types of workers needed for the project, for both the construction and operation of the project?
- What are the local chapters of those unions?

Examples

- Developer pledges to stay neutral during any union organizing campaigns
- Developer pledges to allow union organizers access to appropriate onsite non-work spaces
- Developer pledges to refrain from holding captive audience meetings

Additional Community Benefits

In addition to quality jobs and business opportunities, developers can provide additional benefits to communities and Tribes such as philanthropic contributions to community organizations, commitments to environmental, health and safety measures beyond what is legally required.

The guidelines that follow offers suggestions for how to assess the need or opportunity for different types of benefits and offers some examples of potential benefits. However, the examples are broad and illustrative. **Developers and communities/Tribes should work together to determine the specific set of benefits that meet that community or Tribe's specific needs,**

whether they are included in these recommendations or not. Developers, communities and Tribes can explore other examples of benefits in RMI's Community Benefits Catalog,[163] WRI's Database of Community Benefits Frameworks Across the US[164] and in Appendix D: Case Studies.

Benefit Category: Shared Ownership

Assessment

- What legal structures are available for shared ownership (e.g., joint venture, shared revenue model, equity ownership)?
- What financial or in-kind (e.g., land, rights of way) resources can Tribes, local governments or communities contribute to the project?
- What are the implications of Tribal sovereignty (i.e., sovereign immunity) for different shared ownership options?
- Will shared ownership affect financing options?

Example(s)

- Joint Venture
- Shared Revenue Model
- Equity Ownership
- See also: DOE Office of Indian Energy, The Five-Step Process Framework for Project Development – Project Ownership Options (slides 31-24)[165]

Benefit Category: Community Investments

Assessment – Project Attributes

- What level of community investment can the project support while still remaining bankable and attractive to investors?
- What is the potential cost of litigation if the community opposes the project?

Assessment – Community Context

- What priorities have already been identified by the community?
- What other resources are available to help fulfill those needs?

163 Kristine Chan-Lizardo, Zach Clayton, and David Valdes, "RMI's Community Benefits Catalog."

164 World Resources Institute (WRI), "Database of Community Benefits Frameworks Across the US | World Resources Institute."

165 DOE Office of Indian Energy, "The Five-Step Process Framework for Project Development."

- How might the community or Tribe gain access to using product being developed?

Example(s)

- One-time or recurring charitable contributions to community causes, projects, or initiatives, managed by a third-party such as a community foundation
- Energy bill credits for local residents

Benefit Category: Financial Support for CBP Participation

Assessment

- What kinds of support do Tribes and communities need in order to participate in engagement efforts throughout the life of the project and in CBP negotiations? (e.g., compensation for time, technical advisor to understand project details?)

Example(s)

- Funding for community groups, Tribes or a third-party to conduct monitoring and compliance activities
- Funding for community groups and Tribes to participate in community engagement activities
- Funding for a technical consultant to support Tribes and communities in understanding project details

Benefit Category: Community Safety

Assessment – Project Attributes

- What are potential risks to community health and safety?
- Are there options to mitigate those risks, above and beyond what is required by the project's EIS?

Assessment – Community Context

- Is the surrounding community considered an overburdened community or home to vulnerable populations?
- Has the surrounding community previously experienced incidents from energy or other industrial facilities?

Example(s)

- Provide $1 million for free internet access for fenceline communities to ensure residents have access to online Community Warning System resources and information and emergency alerts
  (Source: Chevron Refinery Modernization Plan Community Investment Agreement)

Benefit Category: Environmental Protections

Assessment

- Does the community have concerns about the project's potential negative impacts that have not been addressed through the SEPA process?
- If so, what options exist to mitigate those potential negative impacts?

Example(s)

- All diesel equipment for construction equipment/vehicles will be outfitted with the best available control devices to reduce particulate matter emissions
  (Source: LAX Master Plan Program Community Benefits Agreement)
- Pay for the development of potable public water mains, supply lines, water storage tanks, and/or pumping stations in the event that existing public water wells become contaminated
  (Source: Seneca Meadows, Inc. Community Benefits Agreement)

Memorializing Benefits and Commitments

While a CBP is not itself legally binding, the developer and community and/or Tribe can memorialize the agreed upon benefits and other commitments that are identified through the CBP process via one of the following types of agreements, which are legally binding.

- **Community Benefit Agreement**: "CBAs are legally binding agreements between a developer or company and local community organizations. The agreements direct benefits from a project to local communities. The benefits are negotiated based on a community's priorities."[166]
- **Tribal Benefit Agreement:** Tribal Benefit Agreements are legally binding, negotiated agreements between a clean energy project developer and a Tribe, outlining benefits the Tribe will receive if the project is permitted and built.

166 Riedl et al., "Community Benefits Frameworks."

- **Host Community Agreement:** "HCAs are legally binding agreements between a developer and the municipality where a project will be sited."[167]
- **Good Neighbor Agreement**: "GNAs are established on a voluntary basis and are legally binding agreements between a business or developer and a neighboring community. The parties can address specific impacts the business will have on the community and come to a mutual understanding that benefits all parties."[168]
- **Project Labor Agreement:** "PLAs are pre-hire collective bargaining agreements between labor unions and developers or contractors. They set the terms and conditions of employment for specific projects, specifying wages, benefits and working conditions."[169]
- **Community Workforce Agreement**: "A Community Workforce Agreement is a Project Labor Agreement designed to benefit under-represented and under-served communities' access to capital construction investments made in their communities. These benefits include access for local workers to participate in projects, opportunities for available local contractors to engage in these construction opportunities, and the expansion of qualified local workers contributing to regional economies."[170]
- **Collective Bargaining Agreement:** "A collective bargaining agreement is the agreement reached between the employer and the labor union that will govern the employment for the employee-members of that labor union. Importantly, the agreement is between the union and the employer, not between the employer and its individual employees. Collective bargaining agreements commonly set forth provisions regarding wages, vacation time, working hours and conditions, and employee benefits."[171]
- **Labor Peace Agreement / Labor Harmony Agreement:** "A labor peace agreement (LPA) is a contract between an employer and a union, in which the employer agrees to be neutral during a union organizing campaign and not interfere with union organizing. The union agrees not to engage in picketing, work stoppages, boycotts, and any other economic interference with the employer."[172]

167 Riedl et al.

168 Riedl et al.

169 Riedl et al.

170 "Community Workforce Agreement (CWA) Listening Session - WSDOT."

171 "What Is a Collective Bargaining Agreement (CBA)?"

172 "Labor Peace Agreements (LPA) | The ILR School."

Community Benefits Plan Template

Who Should Be Involved?

Communities

Who are the communities in and around the area being considered for development?

1. What geographic areas will the project potentially affect?
2. What are the environmental and socioeconomic conditions of the communities in and around the area being considered for development?
3. Are there overburdened communities and/or vulnerable populations in and around the area being considered for development?
4. What is the community's relationship with development and developers? How have communities reacted to development proposals in the past, particularly infrastructure and industrial development? Who has benefited from development in the past? Who has been negatively affected? How?

Who are the community leaders?

1. Who are the individuals or organizations that routinely attend public meetings and speak about development or related issues?
2. What organizations in the area work on issues such as the environment, public health, economic well-being or air quality?
3. Which individuals or organizations do local elected officials and government staff identify as community leaders?
4. Which organization does the relevant Community Engagement Specialist suggest that you contact?[173]
5. Who do the individuals and organizations identified through questions 1-4 above identify as community leaders?

Tribes

1. Which tribe's lands fall in and around the area being considered for development?
    a. Which tribes have treaty rights
    b. Which tribes have reservations

173 "Regional Team Members."

c. Which tribes have trust land

d. Which tribes have culturally significant lands

2. Are those lands reservations, trust land or covered by treaty rights?

3. Who are the Tribal staff in cultural resources, planning, economic development and related departments for each of the tribes identified in response to question 1?

The Negotiation Process

1. What types of support are you providing communities and Tribes to reduce the power imbalance in negotiating benefits (e.g., hiring a technical consultant)?

2. What types of third-party support are available to support the negotiation process (e.g., professional mediators or facilitators, or other third parties such as local government staff)?

Determining Benefits

Labor and Contracting Benefits

Labor and Workforce Development

Project Attributes

- Job Classification
- Number of Jobs
- Temporary or Permanent
- Necessary skills, training and/or certifications
- Wages and benefits
- Living wage? Y/N

Community Context

1. Construction and Workforce Union Affiliates

Which regional building trades council covers the geographic region where you are proposing to construct your project?

Name of Council: _____

Contact Information: _____

Which unions represent the construction and non-construction workers you are likely to need for your project? What are the local chapters of those unions?

List of unions: _____

Name and contact of local chapters: _____

2. Tribal Employment Rights Ordinance (TERO) Office

Which Tribes that have interests in the area being considered for development? Do they have a Tribal Employment Rights Ordinance (TERO) Office?

List of Tribes: _____

Name and contact of Tribal Employment Rights Ordinance (TERO) Office(s) : _____

3. Local Workforce Readiness

Do local and/or underrepresented workers have the skills and certifications needed for the jobs that will be created?

☐ Yes ☐ No ☐ Partially

Explain your assessment.

4. Workforce Development

What existing programs or supports are available to help local workers gain the required skills/certifications?

☐ Trade schools

☐ Community or technical colleges

☐ Tribal colleges

☐ Recognized pre-apprenticeship programs

☐ Registered apprenticeship programs

☐ American Job Center

☐ Other

Are there any gaps in available training, or barriers to access (e.g., cost, eligibility, location)?

☐ Yes ☐ No ☐ Not Sure

If yes, describe the gaps or barriers.

5. Wages and Compensation

What is the living wage in the local community? (Check the MIT Living Wage Calculator: https://livingwage.mit.edu/)

What is the prevailing wage in the local community? (Identify the required prevailing wage rate to pay employees[174])

Living wage (per hour) for a single adult: $ _____

Living wage for a family of 4 (2 working adults, 2 children): $ _____

Prevailing wage: $ _____

How will your project wages compare to the local living wage?

☐ Below ☐ Match ☐ Above

How will your project wages compare to the local living wage?

☐ Below ☐ Match ☐ Above

6. State and Local Labor Standards

What labor laws and standards will this project need to comply with (e.g., prevailing wage, local hiring requirements, worker protections)?

[List relevant laws, ordinances, or union rules]

Implementation Plan

1. Community and Labor Partnerships

Which local organizations, unions, or training providers could be potential partners?

Local unions: _____

Workforce boards: _____

Nonprofits/training orgs: _____

Others: _____

How will you partner with them?

174 Washington State Department of Labor & Industries, "Contractors / Employers."

2. Investments in Workforce Development

What programs or supportive services can you invest in to fill gaps in available training, or barriers to access (e.g., cost, eligibility, location)?

☐ Training programs

☐ Childcare or transportation support

☐ Stipends for participants

☐ Other: _____

Details of planned or potential investments:

3. Hiring Approach

What is your overall strategy to recruit and fill jobs?

☐ Job fairs

☐ Partnerships with unions or job centers

☐ Online outreach

☐ Apprenticeship pathways

☐ Other: _____

Additional notes:

4. Inclusive Hiring Strategies

How will you structure the hiring process to prioritize local and/or underrepresented workers?

☐ Local hiring goals or targets

☐ First-source hiring agreements

☐ Priority interviews for community members

☐ Other (describe): _____

Describe your approach in more detail:

Next Steps: Outline the next steps your project team will take to ensure equitable access to employment opportunities:

Benefits

Describe the benefits related to labor and workforce development that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Contracting and Procurement

Project Attributes

- Type of Contract
    - Construction
    - Goods & Services
    - Other
- Project Phase Construction
    - Goods & Services
    - Other Construction
    - Goods & Services
    - Other
- Purpose or Scope
    - Construction
    - Goods & Services
    - Other
- Estimated Dollar Value
    - Construction
    - Goods & Services
    - Other

Community Context

1. Availability of Local Businesses

- Goods/Services Needed
- Local Business Available? (Yes/No)
- MWVBE?
- Business Name(s) or Notes

Some resources for identifying MWVBEs include:

- Directory of [Minority-, Woman-] Certified Businesses[175]

175 "Directory of Certified Businesses."

- Prime Contractors searching for Veteran Owned Businesses[176]
- Washington's Electronic Business System Vendor Search[177]

Implementation Plan

1. Advertising Contracting and Procurement Opportunities

How will contracting and procurement opportunities be promoted to ensure broad and equitable access?

☐ Supplier databases

☐ Chambers of commerce

☐ Supplier events

☐ Other (describe): _____

2. MWVBE Certification Requirements

How will a business demonstrate that they are a certified MWVBE?

Accepted certifications or documentation required: _____

3. Preference for MWVBEs

What strategies will you use to prioritize or preference MWVBEs in contracting decisions?

- Strategy
    - Evaluation scoring preference
    - Subcontracting goals
    - Other: _____
- How It Will Be Applied
    - Evaluation scoring preference
    - Subcontracting goals
    - Other: _____
- Set-aside contracts
    - Evaluation scoring preference
    - Subcontracting goals

176 "Prime Contractors Searching for Veteran Owned Businesses | WDVA."

177 "Washington's Electronic Business Solution."

- Other: _____

4. Support for Interested MWVBEs

What forms of support will be provided to help MWVBEs compete for project contracts?

- Support Activity
  - Technical assistance
  - Bid preparation support
  - Other: _____
- Description or Details
  - Technical assistance
  - Bid preparation support
  - Other: _____
- Supplier diversity event
  - Technical assistance
  - Bid preparation support
  - Other: _____

5. Local Chambers of Commerce

Are there Chambers of Commerce that can help connect with local or identity-based business groups?

- Chamber Name
- Focus (e.g., Latino, LGBTQ+, Veterans)
- Contact Info

Benefits

Describe the benefits related to community investments that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Worker Health and Safety

Project Attributes

1. Potential Risks to Worker Health and Safety

Identify health and safety risks associated with each project phase:

- Project Phase

    - Construction
    - Operation
    - Decommissioning
- Identified Risks
    - Construction
    - Operation
    - Decommissioning

2. Mitigation Strategies

For each identified risk, list the measures you will take to reduce or eliminate harm (e.g., policies, equipment, training, oversight plans).

- Risk or Hazard
- Mitigation Strategy
- Responsible Party
- Timeline for Implementation

Community Context

1. Construction and Workforce Union Affiliates

Which unions represent the construction and non-construction workers you are likely to need for your project? What are the local chapters of those unions?

List of unions: _____

Name and contact of local chapters: _____

2. Tribal Employment Rights Ordinance (TERO) Office

Which Tribes that have interests in the area being considered for development? Do they have a Tribal Employment Rights Ordinance (TERO) Office?

List of Tribes: _____

Name and contact of Tribal Employment Rights Ordinance (TERO) Office(s) : _____

Benefits

Describe the benefits related to community investments that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Worker Organizing

Project Attributes

1. Potential Sources of Labor Disputes

Identify possible causes of labor disputes or tensions related to the project (e.g., wages, working conditions, jurisdictional issues, lack of union recognition).

List of potential sources of dispute: _____

2. Dispute Mitigation Strategies

What processes, agreements, or mechanisms can be put in place to reduce the risk of labor disputes?

- Potential Source of Dispute
- Mitigation Strategy
- How It Helps
- Responsible Party
- Timeline for Implementation

Community Context

1. Construction and Workforce Union Affiliates

Which unions represent the construction and non-construction workers you are likely to need for your project? What are the local chapters of those unions?

List of unions: _____

Name and contact of local chapters: _____

2. Tribal Employment Rights Ordinance (TERO) Office

Which Tribes that have interests in the area being considered for development? Do they have a Tribal Employment Rights Ordinance (TERO) Office?

List of Tribes: _____

Name and contact of Tribal Employment Rights Ordinance (TERO) Office(s) : _____

Benefits

Describe the benefits related to labor and workforce development that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Additional Community Benefits

Shared Ownership

Assessment

1. Available Legal Structures for Shared Ownership

What legal structures are being considered for shared ownership of the project?
(e.g., joint venture, shared revenue model, equity ownership)

- Ownership Model
- Description
- Relevant Partners

2. Community/Partner Contributions

What financial or in-kind contributions might Tribes, local governments, or community entities bring to the project?
(e.g., land, rights-of-way, infrastructure, labor, permits)

- Contributor
    - Tribe
    - Local Government
    - Community Organization
- Type of Contribution
    - Tribe
    - Local Government
    - Community Organization
- Estimated Value or Impact
    - Tribe
    - Local Government
    - Community Organization

3. Implications of Tribal Sovereignty

What are the legal or practical considerations related to Tribal sovereignty (e.g., sovereign immunity) that may affect ownership structures?

- Shared Ownership Option

- Implications of Sovereignty
- Legal Considerations / Notes

4. Impact on Financing

Will shared ownership arrangements influence the project's financing options (positively or negatively)?

- Ownership Model
- Financing Consideration
- Notes or Required Adjustments

Benefits

Describe the benefits related to shared ownership that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Community Investments

Project Attributes

1. Community Investment Feasibility

What level of financial or material community investment (e.g., community benefits, shared revenue, local hiring commitments) can the project support while still remaining financially viable and attractive to investors?

- Type of Community Investment
- Estimated Cost
- Impact on Project Viability
- Feasible (Yes/No)

2. Cost Risk of Community Opposition

What is the potential cost of litigation or delays if the community opposes the project (e.g., lawsuits, permitting delays, public relations issues)?

- Type of Risk
    - Legal/Litigation Fees
    - Project Delays
    - Loss of Investor Confidence
    - Reputational Damage

- Estimated Cost
    - Legal/Litigation Fees
    - Project Delays
    - Loss of Investor Confidence
    - Reputational Damage
- Likelihood (High/Med/Low)
    - Legal/Litigation Fees
    - Project Delays
    - Loss of Investor Confidence
    - Reputational Damage
- Mitigation Strategy
    - Legal/Litigation Fees
    - Project Delays
    - Loss of Investor Confidence
    - Reputational Damage

Community Context

1. Community-Identified Priorities

What priorities, goals, or needs has the community or Tribe already identified (e.g., through past planning processes, public meetings, or formal resolutions)?

2. Available Resources to Address Needs

What programs, partners, or funding sources already exist that could help meet these priorities—either through the project or in partnership with it?

- Resource or Partner
- Type (e.g., funding, technical support)
- Relevant Priority Supported

Benefits

Describe the benefits related to community investments that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Financial Support for CBP Participation

Assessment

1. Support Needs for Meaningful Engagement

What types of support do Tribes and communities need to participate fully in project engagement and CBP negotiations throughout the life of the project? (Consider financial, logistical, and technical needs.)

- Type of Support Needed
    - Compensation for time
      e.g., stipends, meeting participation fees
    - Technical advisor or consultant
      e.g., environmental, or engineering support
    - Other: _____
- Description / Purpose
    - Compensation for time
      e.g., stipends, meeting participation fees
    - Technical advisor or consultant
      e.g., environmental, or engineering support
    - Other: _____
- Who Needs It (Tribe/Community Group)
    - Compensation for time
      e.g., stipends, meeting participation fees
    - Technical advisor or consultant
      e.g., environmental, or engineering support
    - Other: _____
- Can You Provide It? (Yes/No/Possibly)
    - Compensation for time
      e.g., stipends, meeting participation fees
    - Technical advisor or consultant
      e.g., environmental, or engineering support
    - Other: _____

Benefits

Describe the benefits related to financial support for CBP participation that your project will

provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Community Safety

Project Attributes

1. Potential Risks to Community Health and Safety

Identify risks to community members that could arise during project construction, operation, or decommissioning. Consider air and water quality, traffic, noise, hazardous materials, etc.

- Phase of Project
    - Construction
    - Operation
    - Decommissioning
- Potential Risk
    - Construction
    - Operation
    - Decommissioning
- Who Is Affected
    - Construction
    - Operation
    - Decommissioning
- Level of Concern (High/Med/Low)
    - Construction
    - Operation
    - Decommissioning

2. Mitigation Strategies Beyond SEPA Requirements

What additional steps can be taken—beyond what's required by SEPA—to reduce or eliminate these risks?

- Risk
- Additional Mitigation Measure
- Expected Benefit

- Feasibility (High/Med/Low)

Community Context

1. Community Vulnerability Assessment

Is the surrounding community considered an overburdened community or home to vulnerable populations?

2. History of Industrial Incidents

Has the surrounding community experienced incidents from energy or other industrial facilities in the past? (e.g., spills, explosions, health impacts, evacuation events)

- Facility or Industry
- Type of Incident
- Date/Timeframe
- Community Impact

Benefits

Describe the benefits related to community safety that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Environmental Protections

Assessment

1. Unaddressed Community Concerns

Has the community expressed concerns about potential project impacts that were not fully addressed during the SEPA process?

- Community Concern
- How Was It Raised?
  (e.g., public comment, meeting)
- Why It May Not
  Be Covered by SEPA
- Community Group
  or Individual

2. Mitigation Options

List options for reducing or eliminating environmental impacts—especially those that go beyond minimum legal requirements.

- Impact
- Proposed Mitigation Measure
- Expected Outcome
- Feasibility / Notes

Benefits

Describe the benefits related to environmental protections that your project will provide. Benefits should be SMART—Specific, Measurable, Achievable, Relevant, and Timely.

Appendix A
Case Studies

Project: Chevron Refinery Modernization Project

Project Description: Construction of a new hydrogen plant (to replace existing an ageing asset) and the addition of oxygen enrichment facilities to the facility's sulfur-recovery units that would enable Chevron to refine higher-sulfur crude oil.[178] The new hydrogen plant is "permitted to generate up to 294 million scfd (standard cubic feet per day) of hydrogen gas, an increase in production and recovery capacity of 63 million scfd, when compared to the permitted capacity of the existing hydrogen plant."[179]

Location: Richmond, California

Community Context:

- Multiple census tracts in Richmond, California have been designated as disadvantaged communities by the State. This designation means they rank among the top 25% of census tracts in CalEnviroScreen 4.0, a mapping tool that identifies areas in California most impacted by multiple sources of pollution and where residents are especially vulnerable to its harmful effects.
- A refinery fire in August 2012 caused by a rupture in a corroded pipeline sent 15,000 area residents to local hospitals with respiratory complaints.[180] the U.S. Chemical Safety Board, in its investigation into the incident, "said Chevron did not act upon six recommendations over 10 years to increase inspection and replace the line at its Richmond, California, refinery with upgraded pipe."[181]

Benefits Framework: Environmental and Community Investment Agreement

Framework Adoption Date: July 2014

Parties to the Framework:

- Chevron Products Company
- City of Richmond

Primary Community Concerns: Pollution, Safety

178 Rogers, "Environmental Report Released for Richmond Refinery Modernization Project."

179 "Chevron Refinery Modernization Project Environmental Impact Report."

180 Early, "Fifth Anniversary of Chevron Richmond Refinery Fire a Reminder of Work Still to Be Done."

181 Upton, "Chevron Ignored a Decade of Warnings before Richmond Refinery Explosion."

Benefits: A partial list, the complete set of benefits can be found in the Environmental and Community Investment Agreement.[182]

- Provide $6 million of funding for skills development and job transition training programs such as:
    - pre-apprenticeship construction skills training with union entry agreements,
    - business assistance and capacity building program to support businesses,
    - on the job training program to subsidize businesses that hire Richmond residents and improve their skill/job readiness,
    - adult education and skill building programs,
    - skill building programs for Richmond youth for employment in petro-chemical and renewable energy related sectors,
    - job transition training for technical skills, and
    - entrepreneurship programs (p. 7-8)
- Provide $1 million for free internet access for fenceline communities to ensure residents have access to online Community Warning System resources and information and emergency alerts (p. 8)
- Fund the Community-based GHG Reduction Programs with $30 million (p. 6, 11-14)
    - $18 million for electric city and easy go,
    - $1 million to the city to develop its Climate Action Plan,
    - $2 million for Urban Forestry Program,
    - $2.75 million for Transportation and Transit Programs,
    - $6.25 million for Rooftop Solar, energy retrofit, and zoning update programs.

Chevron proposed a similar refinery modernization project in 2005, which the Richmond City Council narrowly approved.[183] However, in 2009, environmental groups sued, arguing that the Environmental Impact Report (EIR) was too vague and could allow increased pollution from heavier crude processing.[184] A judge agreed, halting the project due to the EIR's shortcomings, and Chevron had to cut more than a thousand workers working on the new project.[185]

In 2011, Chevron submitted a scaled down version of the prior proposal. Bill Lindsay, the City Manager at the time, noted that while the California Environmental Quality Act (CEQA) does

182 "Chevron Refinery Modernization Plan Community Investment Agreement."

183 Connelly, "Chevron Restarts Richmond Renewal Project."

184 Connelly.

185 Connelly.

have some provisions for public input built in, it's typically not until a draft EIR has already been completed.[186] According the Lindsay, that process generated a lot of criticism the first time Chevron proposed the modernization project, so the city planned to hold periodic public meetings while the EIR was being prepared.[187]

Similarly, the first time the modernization project was proposed, the city negotiated a community benefits agreement with Chevron but without input from the community and community members were frustrated at the opaque process.[188] The second time around, in addition to involving the community in developing the project's EIR, the city also organized and led two public community workshops where community members provided input on the community benefits.[189] These meetings, along with City Councilmembers' priorities, informed what was ultimately included in the agreement.[190]

While the EIR included commitments to reduce emissions and measures to promote and enhance public health and safety, the community investment agreement offered a place to address community concerns and needs that were not directly related to the project's environmental impacts.[191] For example, the agreement includes $1 million for free internet access for fenceline communities to ensure residents have access to online Community Warning System resources and information and emergency alerts—particularly meaningful in the wake of the August 2012 fire. When the project was approved, a member of Communities for a Better Environment (CBE), a local environmental justice organization that had been part of the 2009 lawsuit, shared with a local news outlet that "the project as it stands now is better than the 2008 version, which CBE sued over, and better than what it was a month ago."[192]

Key Takeaways:

- Community benefits planning can present an opportunity to add provisions to a project that are not legally required but that are beneficial to the community and necessary for their non-opposition.
    - Toolkit Connections:
        - The Case for Collaborating with Communities and Tribes in Clean Energy Development—collaborating with community can reduce opposition
        - Community Engagement Best Practices and Actions—Community engagement provides an opportunity for developers and communities

186 Connelly.

187 Connelly.

188 Interview with former City of Richmond official.

189 Interview with former City of Richmond official.

190 Interview with former City of Richmond official.

191 Interview with former City of Richmond official.

192 Samuel, "Richmond Approves Contentious Chevron Project."

to work together to develop projects that at a minimum, do not harm host communities and, **at best, provide mutual and equitable benefits to developers and communities**.

        - Community Benefits Plan Guidance—CBPs can be a valuable way for communities to engage with developers and influence the development process

- Environmental review and community benefits planning should involve broad community participation, not just a small group of individuals. The minimum public process required by law for environmental review often falls short in providing true transparency or public trust. In contrast, wider participation builds greater confidence in the process and outcomes. Similarly, when community benefits are shaped by input from a larger, more representative group, they are more likely to reflect the community's needs and gain stronger support for the project.
    - Toolkit Connections:
        - The Case for Collaborating with Communities and Tribes in Clean Energy Development—collaborating with community can reduce opposition
        - Navigating Washington's State Environmental Policy Act (SEPA)—collaborating with community early in the environmental review process can help a developer move through environmental review more efficiently

Project: Dearborn Street Mixed Use Development

Project Description: New development proposal for a six-story building with 600,000 square feet of retail space, plus 45,000 square feet of offices and 500 homes. The site previously housed a Goodwill store, which would remain in the new retail development.

Location: Seattle, Washington

Community Context:

The project was proposed in an economically and ethnically diverse area of Seattle including Little Saigon, the Central District, the International District and North Rainier Valley. The site is located in a census tract with high rankings across environmental exposures (meaning highly affected) on Washington's Environmental Health Disparities Map; exposures that include diesel exhaust, PM 2.5 emissions, proximity to heavy traffic roadways, environmental effects as well as the socioeconomic factor of the population experiencing poverty and unaffordable housing.

Benefits Framework: Community Benefits Agreement

Framework Adoption Date: August 29, 2008

Parties to the Framework:

- Puget Sound Sage
- Washington Vietnamese American Chamber of Commerce
- Jackson Place Community Council
- Hod Carriers and General Laborers Union
- Dearborn Street Developers, LLC

Primary Community Concerns: Increased traffic, higher rents for small businesses, higher rents for residents, changes to neighborhood character[193]

Benefits: A partial list, the complete set of benefits can be found in the Community Benefits Agreement.[194]

- Community funds for
    - traffic mitigation ($150k),
    - right of way improvements ($50k),
    - community cultural center/public market development ($200k), and
    - 12 years of $50k annual funds to improve commercial viability and neighborhood

193 WEST, "Little Saigon Neighborhood Won't Benefit from Big-Box Mall."

194 "Dearborn Street Community Benefits Agreement."

vitality (p. 9-10)

- Must construct 400 units of housing (70 family-sized units), 200 of which should be affordable housing units (of those affordable units, 120 should be affordable to households with less than 50% median income, 50 should be family housing units) (p. 8-9)
- Ensure that at least 5,000 square feet of space of project site are available for lease to one or more non-profit organizations providing services to Vietnamese Community in greater Seattle area for 10 years (p. 6)

Process: The push for a community benefits agreement on this project—the first of its kind in Washington — was prompted by a project design element that affected the public right-of-way and fell outside existing zoning regulations, requiring City approval. Community groups, concerned about the development's impact on their neighborhood, were able to leverage this approval process to advocate for community benefits.[195] Over the course of three years, there were 120 community public meetings and parties went through 12 iterations of the agreement. before a final agreement was reached through mediation by the Mayor's office.[196]

One of the developers on the project shared that many of the community benefits in the agreement reflected shared values between the community and the developer (e.g., neighborhood beautification, bike lanes) but that other requests felt disproportionate to the community impacts (e.g., subsidized rents, housing). However, ultimately the total cost of the benefits was reasonable.[197] In their estimation, the negotiation process delayed the project by one-to-two years.[198]

One of the community's signatories to the agreement shared that in the end, the community groups were satisfied with what was in the agreement.[199] Individual organizations submitted letters withdrawing their opposition and in two cases, expressing explicit support for the project.[200]

Following the agreement, the project received the necessary approvals from the City. However, the project was ultimately cancelled in 2009 due to the economic downturn.[201]

Key Takeaways:

- Community opposition can lead to delays and even project cancellation. Addressing

195 Interview with Community Signatory.

196 Interview with Dearborn Street Developer; Interview with Community Signatory.

197 Interview with Dearborn Street Developer.

198 Interview with Dearborn Street Developer.

199 Interview with Community Signatory.

200 "Dearborn Street Community Benefits Agreement."

201 Cohen, "Developer Walks Away from Little Saigon Goodwill Project."

community concerns and needs can lead to reduced opposition and even explicit support.

  - Toolkit Connections:
    - The Case for Collaborating with Communities and Tribes in Clean Energy Development—collaborating with community can reduce opposition

- Developers should go into the development process expecting that they will need to negotiate community benefits, even if it is not legally required and there is no precedent in the community for them. Community benefits help ensure that a project mitigates community concerns and provides direct benefits to the community. Developers should build time for the benefits negotiation process into their project development timeline.
  - Toolkit Connections:
    - Community Engagement Best Practices and Actions—Community engagement provides an opportunity for developers and communities to work together to develop projects that at a minimum, do not harm host communities and, **at best, provide mutual and equitable benefits to developers and communities**.
    - Community Benefits Plan Guidance—CBPs can be a valuable way for communities to engage with developers and influence the development process

- Developers should determine what dollar amount of community benefits their project can reasonably support. Developers may choose to share this number with communities in order to place realistic bounds on the scope of benefits negotiations.
  - Toolkit Connections:
    - Community Engagement Best Practices and Actions, BP #3: Be transparent about the project development process, Action #4 — Sharing this type of information with communities may allow for more frank conversations about community benefits.

Project: Port of Seattle

Project Description: The Port of Seattle has "facilities and property ranging in scope from a half-acre park to a large airport and container terminals."[202]

Location: Seattle, WA

Community Context:

"The Duwamish Valley Community (Community) consists of a group of people and organizations that live, work, play, study, or worship in the near-Port neighborhoods of South Park and Georgetown along the Duwamish River and have been historically or are currently impacted by economic, racial, and environmental injustices, including the Duwamish People the first people of Seattle; and the 2013 Cumulative Health Impacts Analysis published by Just Health Action and the Duwamish River Cleanup Coalition/Technical Advisory Group characterizes the Duwamish Valley Community as experiencing environmental justice issues such as disproportionate exposure to air pollution, lack of greenspace, and high poverty rates contributing to a life expectancy in South Park and Georgetown that is 13 years lower than wealthier communities in Seattle; and the City of Seattle's 2017 Preparing for Climate Change Strategy Report identifies this community as one of the communities that will be most impacted by climate change conditions such as extreme heat, rising sea levels, and flooding."[203]

Benefits Framework: Community Benefits Commitment

Framework Adoption Date: December 10, 2019

Parties to the Framework:

- Port of Seattle Commission (Port)
- Duwamish Valley Port Community Action Team (PCAT)

Primary Community Concerns: Displacement, access to greenspace, air pollution

Benefits: A partial list, the complete set of benefits can be found in the Community Benefits Commitment.[204]

The Community Benefits Commitment guides implementation of the Duwamish Valley Community Equity Program (DVCEP) and other port operations that impact the Duwamish Valley Community. The DVCEP has three goals:

- Goal 1: Community and Port Capacity Building for Ongoing Collaboration

202 EPA-420-F-20-025, "Case Study: Seattle Pilot."

203 "Port of Seattle Commission Resolution 3767 - Duwamish Valley Community Benefits Commitment."

204 "Port of Seattle Commission Resolution 3767 - Duwamish Valley Community Benefits Commitment."

- Adjust port communication strategies to proactively include the community such as advertising events or news in ethnic news outlets, providing translation and interpretation services for port events, and increasing multimedia storytelling to demonstrate impact and opportunities through multicultural social media, radio, video, and online platforms to reach new audiences.
- Maintain PCAT as the environmental justice-oriented advisory group representing the community voice and funded through the DVCEP.

- Goal 2: healthy environment and communities
  - In coordination with the Northwest Seaport Alliance (NWSA), implement programs to reduce air emissions from port and tenant activities that affect community health outcomes, such as the NWSA Clean Truck Program and its future expansion at domestic terminals.
  - Improve port properties along the Duwamish River to create and maintain robust river habitat, safe greenspaces, recreational amenities, and river access.

- Goal 3: economic prosperity in place
  - Increase equitable access for employment and jobs at the port. Provide outreach about career opportunities at the port and in port-related industries. Continue the port's Priority Hire Policy to increase access to jobs, training, and apprenticeships.
  - Invest in youth workforce development programs that prepare youth in the community for opportunities in port-related career pathways.

Process: In 2017, the Port of Seattle and the Duwamish Valley community were selected by the U.S. Environmental Protection Agency to participate in a pilot project aimed at strengthening engagement between ports and communities facing environmental justice challenges.[205] The project began with a two-day visit hosted by the EPA that included tours of Port facilities and surrounding neighborhoods, along with facilitated discussions to assess community needs and priorities.[206] These conversations laid the groundwork for a shared understanding of local challenges, engagement history, and short- to long-term goals.[207]

Community members formed the Duwamish Valley Port Community Action Team (PCAT), a community-led advisory group that actively engaged with Port staff and commissioners. The PCAT played a key role in shaping policy discussions, setting project priorities, and expanding outreach across the community.[208] Their efforts helped ensure that the initiative reflected local

205 EPA-420-F-20-025, "Case Study: Seattle Pilot."

206 EPA-420-F-20-025.

207 EPA-420-F-20-025.

208 EPA-420-F-20-025.

voices and needs.[209]

A local nonprofit, Just Health Action, supported the community's involvement by helping coordinate participation and providing resources typically available only to institutional partners.[210] This enabled community members to engage on more equal footing in trainings and negotiations.[211]

The success of the pilot led the Port Commission to formally establish the Duwamish Valley Community Equity Program (DVCEP).[212] With continued collaboration between Port staff and PCAT, the Port adopted Resolution 3767, a policy that guides the DVCEP and other Port initiatives affecting the Duwamish Valley.[213] This resolution reflects a sustained commitment to community benefits and equitable engagement.[214]

Key Takeaways:

- Continuous engagement with a community advisory committee throughout the life of the project, even after a benefits framework has been adopted, can help ensure that commitments are implemented and can support developers with future community engagement.
- "Establishing relationships within a "core team" of leaders can help overcome "bumps in the road." Port staff and representatives from both neighborhoods participated in an EPA-hosted introductory meeting and established shared principles that would govern their interactions with each other throughout the project. This early dialogue set up ground rules for communication and conflict resolution that proved useful when significant challenges or differences in perspective threatened the project."[215]
    - Toolkit Connections:
        - Community Engagement Best Practices and Actions, BP #2: Identify and collaborate with community leaders—Collaborating with community leaders gives developers an opportunity to design hydrogen projects in partnership with host communities. Collaborating with community leaders can also help focus engagement efforts around community-identified points of contact. This approach can enable more efficient and coordinated collaboration throughout the project.

209 EPA-420-F-20-025.
210 EPA-420-F-20-025.
211 EPA-420-F-20-025.
212 EPA-420-F-20-025.
213 EPA-420-F-20-025.
214 EPA-420-F-20-025.
215 EPA-420-F-20-025.

Appendix B
Relevant State Laws

The following laws outline Washington's environmental justice, climate change and clean energy-related commitments.

The Healthy Environment for All (HEAL) Act

The Healthy Environment for All (HEAL) Act was introduced as Senate Bill 5141[216] and codified into law on July 25, 2021. The intent of the HEAL Act is to "reduce environmental and health disparities in Washington state and improve the health of all Washington state residents." Chapter 70A.02 RCW implements the recommendations of the environmental justice task force[217] that was established in section 221(48), chapter 415, Laws of 2019.[218]

The HEAL Act adds new requirements to the Departments of Commerce, Health, Ecology, Agriculture, Natural Resources, Transportation, and the Puget Sound Partnership under Chapter 90.71[219] to each perform the following duties:[220]

- Incorporate EJ into agency strategic plans (RCW 70A.02.040).[221]
- Create and adopt a community engagement plan that describes how it will engage with overburdened communities and vulnerable populations as it evaluates new and existing activities and programs (RCW 70A.02.050).[222]
- Conduct an EJ assessment to inform and support the agency's consideration of overburdened communities and vulnerable populations when making decisions about significant agency actions (RCW 70A.02.060).[223]
- Incorporate EJ principles into its decision processes for budget development, making expenditures, and grant or withholding environmental benefits (RCW 70A.02.080);[224]
- annually update the council on the development and implementation of EJ in agency

216 "ENGROSSED SECOND SUBSTITUTE SENATE BILL 5141."

217 Rasmussen, Lopez, and Fernald, "Environmental Justice Task Force Recommendations for Prioritizing EJ in Washington State Government."

218 "2019 Session Laws of the State of Washington."

219 "Chapter 90.71 RCW: PUGET SOUND WATER QUALITY PROTECTION."

220 "Chapter 70A.02 RCW: ENVIRONMENTAL JUSTICE."

221 "RCW 70A.02.040: Incorporating Environmental Justice into Agency Strategic Plans."

222 "RCW 70A.02.050: Equitable Community Engagement and Public Participation."

223 "RCW 70A.02.060 Environmental Justice Assessment."

224 "RCW 70A.02.080 Environmental Justice Obligations of Agencies Relating to Budgets and Funding."

strategic plans pursuant sections 12, 13, and 16 (RCW 70A.02.090).[225]

- Develop a consultation framework in coordination with Tribal governments that include best practices, protocols for communication, and collaboration with federally recognized Tribes (RCW 70A.02.100).[226]

The HEAL Act further adds section 815[227] to chapter 43.70 RCW[228] to require the Department of Health to continue to develop and maintain an environmental health disparities map with the most current available information necessary to identify cumulative environmental health impacts and overburdened communities (RCW 43.70.815).[229] Lastly, RCW 70A.02.110 establishes an EJ council comprised of 14 members appointed by the governor to advise covered agencies on incorporating EJ into agency agencies.

Washington Clean Energy Transformation Act (CETA)

The Washington Clean Energy Transformation Act (CETA) was introduced as SB 5116[230] and codified as RCW 19.405[231] in May 2019. CETA requires the state in RCW 19.405.010[232] to "eliminate coal-fired electricity [by 2025] (RCW 19.405.030),[233] transition the state's electricity supply to one hundred percent carbon-neutral by 2030 (RCW 19.405.040),[234] and one hundred percent carbon-free by 2045 (RCW 19.405.050).[235] In implementing this chapter, the state must prioritize the maximization of family-wage job creation, seek to ensure that all customers are benefiting from the transition to a clean energy economy, and provide safeguards to ensure that the achievement of this policy does not impair the reliability of the electricity system or impose unreasonable costs on utility customers."

To demonstrate compliance with these requirements, electric utilities must submit four-year clean energy implementation plans every four years starting January 1, 2022 that detail how it plans to:

- meet the standards under RCW 19.405.040[236] and propose interim targets;

225 "RCW 70A.02.090 Reporting Requirements."

226 "RCW 70A.02.100 Tribal Consultation."

227 "RCW 43.70.815: Environmental Health Disparities Map."

228 "Chapter 43.70 RCW: DEPARTMENT OF HEALTH."

229 "RCW 43.70.815: Environmental Health Disparities Map."

230 CLEAN ENERGY--ELECTRIC UTILITIES.

231 "Chapter 19.405 RCW: WASHINGTON CLEAN ENERGY TRANSFORMATION ACT."

232 "RCW 19.405.010: Findings—Intent—2019 c 288."

233 "RCW 19.405.030: Coal-Fired Resources—Depreciation Schedule—Penalties."

234 "RCW 19.405.040: Greenhouse Gas Neutrality—Responsibilities for Electric Utilities—Energy Transformation Project Criteria—Penalties."

235 "RCW 19.405.050: Clean Energy Implementation—Hydroelectric Facilities—Special Contracts."

236 "RCW 19.405.040: Greenhouse Gas Neutrality—Responsibilities for Electric Utilities—Energy Transformation Project Criteria—Penalties."

- meet the standards under RCW 19.405.050;[237] and
- propose specific targets for energy efficiency, demand response, and renewable energy.[238]

Lastly, CETA offers a range of tax exemptions for state and local taxes on machinery, equipment, labor and services (RCW 82.08.962) used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, or technology that converts otherwise lost energy from exhaust:[239]

SS HB 1988: Tax Deferrals for Investment Projects

SS HB 1988, passed in 2022 and codified as RCW 82.89,[240] provides tax deferrals and tax reductions for clean alternative fuels production, **including renewable hydrogen, green electrolytic hydrogen and green hydrogen carriers**. They mirror the tax exemptions provided in CETA. Projects can receive reductions of up to 100% of sales and use taxes on purchases of materials and equipment, labor, or services if they comply with certain requirements related to procurement, apprenticeship utilization, local hiring, prevailing wages and community workforce agreements or project labor agreements.

Eligible projects can receive tax reductions as follows:

- a) Fifty percent of the state sales and use tax deferred, if the "project includes procurement from and contracts with women, minority, or veteran-owned businesses; procurement from and contracts with entities that have a history of complying with federal and state wage and hour laws and regulations; apprenticeship utilization; and preferred entry for workers living in the area where the eligible investment project is being constructed;"
- (b) Seventy-five percent of the state sales and use tax deferred, if the project additionally "compensates workers at prevailing wage rates determined by local collective bargaining as determined by the department of labor and industries;" or
- (c) One hundred percent of the state sales and use tax deferred, if the "project is developed under a community workforce agreement or project labor agreement."

Climate Commitment Act (CCA)

The Climate Commitment Act was introduced as SB 5126[241] and codified as Chapter 70A.65

237 "RCW 19.405.050: Clean Energy Implementation—Hydroelectric Facilities—Special Contracts."

238 "RCW 19.405.060: Clean Energy Implementation Plan—Compliance Criteria—Incremental Cost of Compliance."

239 "RCW 82.08.962: Exemptions—Sales of Machinery and Equipment Used in Generating Electricity. (Expires January 1, 2030.)."

240 "Chapter 82.89 RCW: TAX DEFERRALS FOR INVESTMENT PROJECTS."

241 GREENHOUSE GAS EMISSIONS—CAP AND INVEST PROGRAM.

RCW[242] in May 2021. The CCA establishes a cap-and-invest program to help meet the state's greenhouse gas reduction target of 95% below 1990 levels by 2050.[243] The program sets emissions caps, which are lowered over time, that highly emitting businesses must adhere to by purchasing or selling emissions allowances.[244] The CCA aligns with the HEAL Act by requiring 35% of revenues generated from allowances to be invested in overburdened communities, and 10% of revenues to support Tribes.[245] Further, RCW 70A.65.010 defines *Climate Commitment* as, "the process and mechanisms to ensure a coordinated and strategic approach to advancing climate resilience and environmental justice and achieving an equitable and inclusive transition to a carbon neutral economy."[246]

SB 5910: Renewable Hydrogen

SB 5910: Renewable Hydrogen[247] was signed into law in June 2022 and accelerates the availability and use of renewable and green electrolytic hydrogen in Washington by:

- establishing a statewide Office of Renewable Fuels housed in the Department of Commerce (RCW 43.330.560,[248] RCW 43.330.565,[249] and RCW 43.330.570);[250]
- directing the Department of Revenue to issue guidance to county assessors on how to best appraise renewable energy facilities (RCW 84.40.420);[251] and
- authorizing public utility districts to produce, use, sell, and distribute green electrolytic hydrogen (RCW 54.04.190).[252]
- authorizing cities or towns to own, maintain, and operate green electrolytic hydrogen facilities and manage the use and distribution of the hydrogen produced (RCW 35.92.050).[253]

The bill references "renewable hydrogen" and "green electrolytic hydrogen" as defined in RCW

242 "Chapter 70A.65 RCW: GREENHOUSE GAS EMISSIONS—CAP AND INVEST PROGRAM."

243 Washington Department of Ecology, "Reducing Greenhouse Gas Emissions."

244 "Climate Commitment Act (CCA)."

245 "Climate Commitment Act - Washington State Department of Ecology."

246 "RCW 70A.65.010: Definitions."

247 RENEWABLE HYDROGEN.

248 "RCW 43.330.560: Office of Renewable Fuels—Definitions."

249 "RCW 43.330.565: Office of Renewable Fuels—Established."

250 "RCW 43.330.570: Office of Renewable Fuels—Duties."

251 "RCW 84.40.420: Valuation of Renewable Energy Property."

252 "RCW 54.04.190: Production and Distribution of Biodiesel, Ethanol, and Ethanol Blend Fuels—Crop Purchase Contracts for Dedicated Energy Crops—Production and Utilization of Renewable Natural Gas and Renewable Hydrogen—Sale of Renewable Natural Gas, Green Electrolytic Hydrogen, Renewable Hydrogen, and Biogenic Carbon Dioxide."

253 "RCW 35.92.050: Authority to Acquire and Operate Utilities."

54.04.190[254] and further explained on Commerce's Hydrogen and Renewable Fuels webpage.[255]

- **"Renewable hydrogen** is defined as hydrogen produced using renewable resources both as the source for the hydrogen and the source for the energy input into the production process."
- **"Green electrolytic hydrogen** is defined as hydrogen produced through electrolysis and does not include hydrogen manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock."

HB 1216: Clean Energy Project Siting

HB 1216: Clean Energy Project Siting[256] was signed into law in July 2023. The law "enable[s] more efficient and effective siting and permitting of clean energy projects with policies and investments that protect the environment, overburdened communities, and Tribal rights, interests, and resources, including cultural resources; bring benefits to the communities that host clean energy projects; and facilitate the rapid transition to clean energy". The law enacts:

- an Interagency Clean Energy Siting Coordinating Council to improve siting and permitting of clean energy projects (Chapter 43.394 RCW);[257]
- several agencies to create, in collaboration with Tribes, a training for clean energy project developers on consultation and engagement processes for federally recognized Indian Tribes (RCW 43.394.020);[258]
- the designation of Clean Energy Projects of Statewide Significance (CEPSS) (Chapter 43.158 RCW);[259] and
- a fully coordinated permit process for clean energy projects (Chapter 43.158 RCW).[260]

254 "RCW 54.04.190: Production and Distribution of Biodiesel, Ethanol, and Ethanol Blend Fuels—Crop Purchase Contracts for Dedicated Energy Crops—Production and Utilization of Renewable Natural Gas and Renewable Hydrogen—Sale of Renewable Natural Gas, Green Electrolytic Hydrogen, Renewable Hydrogen, and Biogenic Carbon Dioxide."

255 "Hydrogen and Renewable Fuels," April 19, 2024.

256 CLEAN ENERGY PROJECT SITING.

257 "Chapter 43.394 RCW: INTERAGENCY CLEAN ENERGY SITING COORDINATING COUNCIL."

258 "RCW 43.394.020: Duties—Reports."

259 "Chapter 43.158 RCW: CLEAN ENERGY PROJECTS OF STATEWIDE SIGNIFICANCE—CLEAN ENERGY COORDINATED PERMITTING PROCESS."

260 "Chapter 43.158 RCW: CLEAN ENERGY PROJECTS OF STATEWIDE SIGNIFICANCE—CLEAN ENERGY COORDINATED PERMITTING PROCESS."

Appendix C
Glossary—Environmental Justice (EJ) Related-terms

Community Terms

The term "overburdened communities" is used in this toolkit when referring to communities experiencing environmental injustices, as recommended by the State's Environmental Justice Task Force.[261] Similar terms one may hear, and which may have legal definitions depending on the state or jurisdiction, include, but are not limited to:

- vulnerable populations
- highly impacted communities
- disadvantaged communities
- environmental justice communities
- fenceline communities
- frontline communities
- marginalized communities
- underserved communities

Overburdened Communities

Washington Definition

As defined in RCW 70A.02.010,[262] "***overburdened community*** means a geographic area where vulnerable populations face combined, multiple environmental harms and health impacts, and includes, but is not limited to, highly impacted communities as defined in RCW 19.405.020."[263]

Federal Definition

As defined by the U.S. Environmental Protection Agency (EPA),[264] ***overburdened communities*** are "the minority, low-income, Tribal and indigenous populations or communities in the United States that potentially experience disproportionate environmental harms and risks due to exposures or cumulative impacts or greater vulnerability to environmental hazards. This increased vulnerability may be attributable to an accumulation of negative and lack of positive environmental, health, economic, or social conditions within these populations or communities."

261 Rasmussen, Lopez, and Fernald, "Environmental Justice Task Force Recommendations for Prioritizing EJ in Washington State Government," 79.

262 "RCW 70A.02.010: Definitions."

263 "RCW 19.405.020: Definitions."

264 US EPA and OAR, "What Is the Definition of 'Overburdened Community' That Is Relevant for EPA Actions and Promising Practices?"

Vulnerable Populations

As defined in RCW 70A.02.010,[265] ***vulnerable populations*** are "Population groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to:

1. adverse socioeconomic factors, such as unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms, and
2. sensitivity factors, such as low birth weight and higher rates of hospitalization.

'Vulnerable populations' includes, but is not limited to:

1. racial or ethnic minorities,
2. low-income populations,
3. populations disproportionately impacted by environmental harms, and
4. populations of workers experiencing environmental harms."

Highly Impacted Communities

As defined in RCW 19.405.020[266], **highly impacted community** means "a community designated by the Department of Health based on cumulative impact analyses of communities highly impacted by fossil fuel pollution and climate change as identified in RCW 19.405.140,[267] or a community located in census tracts that are fully or partially on "Indian country" as defined in 18 U.S.C. Sec. 1151.[268]

Disadvantaged Communities

As defined in H.R.5376 - Inflation Reduction Act of 2022, Page 136 STAT. 2036 (d)(1),[269] "the term ***'disadvantaged community'*** means a community that the Secretary determines, based on appropriate data, indices, and screening tools, is economically, socially, or environmentally disadvantaged."

265 "RCW 70A.02.010: Definitions."

266 "RCW 19.405.020: Definitions."

267 "RCW 19.405.140: Department of Health—Cumulative Impact Analysis."

268 "18 USC Ch. 53: INDIANS."

269 Rep. Yarmuth, H.R.5376 - 117th Congress (2021-2022): Inflation Reduction Act of 2022.

Environmental Terms

Environmental Harm

As defined in RCW 70A.02.010,[270] ***environmental harm*** means "the individual or cumulative environmental health impacts and risks to communities caused by historic, current, or projected:

1. exposure to pollution, conventional or toxic pollutants, environmental hazards, or other contamination in the air, water, and land;
2. adverse environmental effects, including exposure to contamination, hazardous substances, or pollution that increase the risk of adverse environmental health outcomes or create vulnerabilities to the impacts of climate change,
3. loss or impairment of ecosystem functions or traditional food resources or loss of access to gather cultural resources or harvest traditional foods, or
4. health and economic impacts from climate change."

Environmental Benefits

As defined in RCW 70A.02.010,[271] ***environmental benefits*** means "activities that:

1. prevent or reduce existing environmental harms or associated risks that contribute significantly to cumulative environmental health impacts,
2. prevent or mitigate impacts to overburdened communities or vulnerable populations from, or support community response to, the impacts of environmental harm, or
3. meet a community need formally identified to a covered agency by an overburdened community or vulnerable population that is consistent with the intent of RCW 70A.02."[272]

Environmental Impacts

As defined in RCW 70A.02.010,[273] ***environmental impacts*** means "environmental benefits or environmental harms, or the combination of environmental benefits and harms, resulting or expected to result from a proposed action."

270 "RCW 70A.02.010: Definitions."

271 "RCW 70A.02.010: Definitions."

272 Chapter 70A.02 RCW: ENVIRONMENTAL JUSTICE.

273 "RCW 70A.02.010: Definitions."

Environmental Health Disparities

As defined by Washington's Environmental Justice Task Force,[274] ***environmental health disparities*** are, "Inequities in illnesses that are mediated by disproportionate exposures associated with the physical, chemical, biological, social, natural and built environments."

Least-Conflict Sites

As defined by Washington State University,[275] ***least-conflict sites*** are clean energy infrastructure development areas which aim to minimize impacts to Tribal lands, culturally significant lands, natural habitats and farmlands.

Justice Terms

Environmental Justice (EJ)

As defined in RCW 70A.02.010,[276] ***environmental justice*** means "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, rules, and policies. Environmental justice includes addressing disproportionate environmental and health impacts in all laws, rules, and policies with environmental impacts by prioritizing vulnerable populations and overburdened communities, the equitable distribution of resources and benefits, and eliminating harm."

Energy Justice

As defined by the Initiative for Energy Justice,[277] ***energy justice*** refers to "the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system. Energy justice explicitly centers the concerns of marginalized communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities.

Energy justice has several dimensions, including:

1. **Energy burden**, which refers to the expense of energy expenditures relative to overall household income,
2. **Energy insecurity**, which refers to the hardships households face when meeting basic

274 Rasmussen, Lopez, and Fernald, "Environmental Justice Task Force Recommendations for Prioritizing EJ in Washington State Government," 79.

275 "Report to the Washington State Legislature: Least-Conflict Solar Siting on the Columbia Plateau."

276 "RCW 70A.02.010: Definitions."

277 Baker, DeVar, and Prakash, "The Energy Justice Workbook," 9–10.

household needs,

3. **Energy poverty**, which refers to a lack of access to energy itself, and
4. **Energy democracy**, the notion that communities should have a say and agency in shaping their energy future."

Equitable Distribution

As defined in RCW 70A.02.010,[278] ***equitable distribution*** means "a fair and just, but not necessarily equal, allocation intended to mitigate disparities in benefits and burdens that are based on current conditions, including existing legacy and cumulative impacts, that are informed by cumulative environmental health impact analysis."

Distributional Justice

As defined by the Department of Commerce[279] and sourced from *Energy justice: A conceptual review* by Jenkins et al,[280] "***distributional justice*** investigates where energy injustices emerge, recognizing injustice in both the physical distribution of impacts, as well as the unequal allocation of the responsibilities for these impacts."

Procedural Justice

As defined by the Department of Commerce[281] and sourced from *Energy justice: A conceptual review* by Jenkins et al,[282] "***procedural justice*** considers the ways in which decision-makers engage with communities and promotes the equitable and holistic engagement of interested parties throughout the development process."

Recognition Justice

As defined by the Department of Commerce[283] and sourced from *Energy justice: A conceptual review* by Jenkins et al,[284] "***recognition justice*** seeks to understand which sections of society are ignored or misrepresented and promotes fair representation of individuals, equal and complete political rights, and protection from physical threats."

278 "RCW 70A.02.010: Definitions."

279 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington," 99.

280 Jenkins et al., "Energy Justice."

281 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington," 99.

282 Jenkins et al., "Energy Justice."

283 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington," 99.

284 Jenkins et al., "Energy Justice."

Tribal Terms

Indian Country

As defined in 18 USC Ch. 53 Sec. 1151,[285] and except as otherwise provided in sections 1154 and 1156 in the same chapter, "the term ***Indian country***, as used in this chapter, means

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation.
2. All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state.
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same."

Federally Recognized Tribe

As described by the U.S. Office of Tribal Justice[286], "***Recognition*** is a legal term meaning that the United States recognizes a government-to-government relationship with a Tribe and that a Tribe exists politically in a "domestic dependent nation" status. Federally recognized Tribes possess certain inherent powers of self-government and entitlement to certain federal benefits, services, and protections because of the special trust relationship."

Government-to-Government Relations

As described in the Final Bill Report for ESHB 1753[287], "Indian Tribal governments are sovereign, self-governing entities. Washington has established several agreements with federally recognized Indian Tribes to facilitate government-to-government relations, including the Centennial Accord[288] (1989) and New Millennium[289] (1999) agreements.

Under RCW 43.376.020,[290] in establishing a ***government-to-government relationship*** with federally recognized Indian Tribes with traditional lands or territories in Washington, state agencies must:

285 "18 USC Ch. 53: INDIANS."

286 "Office of Tribal Justice | Frequently Asked Questions about Native Americans."

287 "FINAL BILL REPORT ESHB 1753."

288 "Centennial Accord | GOIA."

289 "Institutionalizing the Government-to-Government Relationship in Preparation for the New Millennium | GOIA."

290 "Chapter 43.376 RCW: GOVERNMENT-TO-GOVERNMENT RELATIONSHIP WITH INDIAN TRIBES."

1) make reasonable efforts to collaborate with Indian Tribes in the development of policies, agreements, and program implementation that directly affect Indian Tribes,
2) develop a consultation process used by the state agency for issues involving specific Indian Tribes,
3) designate a Tribal liaison who reports directly to the head of the state agency, and
4) submit an annual report to the Governor on the activities of the state agency."

Non-Federally Recognized Tribe

Tribes that have no government-to-government relationship with the federal government.

Tribal Sovereignty

According to the National Congress of American Indians,[291] "The essence of ***Tribal sovereignty*** is the ability to govern and to protect and enhance the health, safety, and welfare of Tribal citizens within Tribal territory. Tribal governments maintain the power to determine their own governance structures and enforce laws through police departments and Tribal courts. The governments exercise these inherent rights through the development of their distinct forms of government, determining citizenship; establishing civil and criminal laws or their nations; taxing, licensing, regulating, and maintaining and exercising the power to exclude wrongdoers from Tribal lands."

Trust Responsibility

As defined by the U.S. Bureau of Indian Affairs (BIA),[292] "the federal Indian ***trust responsibility*** is a legal obligation under which the United States "has charged itself with moral obligations of the highest responsibility and trust" toward Indian Tribes (Seminole Nation v. United States, 1942). The federal Indian trust responsibility is also 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."

Trust Land

As defined by the U.S. Bureau of Indian Affairs (BIA),[293] "***trust land*** is territory, whereby one party agrees to hold title to the property for the benefit of another party. Placing Tribal land into a trust is the process where the Department of the Interior acquires the title to a land and holds it for the benefit of a Tribe or individual Tribal members."

291 "Glossary of Terms."

292 "What Is the Federal Indian Trust Responsibility? | Indian Affairs."

293 "Benefits of Trust Land Acquisition (Fee to Trust) | Indian Affairs."

Federal Indian Reservation

As defined by the U.S. Bureau of Indian Affairs (BIA),[294] "A ***federal Indian reservation*** is an area of land reserved for a Tribe or Tribes under treaty or other agreement with the United States, executive order, or federal statute or administrative action as permanent Tribal homelands, and where the federal government holds title to the land in trust on behalf of the Tribe."

Culturally Significant Lands

Culturally significant ***lands*** are traditionally used territories (including water and air) that Tribes recognize a relationship with, in addition to lands owned by the Tribe or lands held in trust by the federal government on behalf of the Tribe. Each Tribe may define this term differently. In many instances, more than one Tribe can recognize a territory as being culturally significant.

Tribal Lands

As defined in RCW 70A.02.010,[295] "***Tribal lands*** has the same meaning as 'Indian country' as provided in 18 U.S.C. Sec. 1151, and also includes sacred sites, traditional cultural properties, burial grounds, and other Tribal sites protected by federal or state law."

Traditional Ecological Knowledge (TEK)

As defined by the U.S. Fish & Wildlife Service,[296] ***Traditional Ecological Knowledge (TEK)***, also called by other names including Indigenous Knowledge or Native Science, refers to the evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is specific to a location and includes the relationships between plants, animals, natural phenomena, landscapes and timing of events that are used for lifeways, including but not limited to hunting, fishing, trapping, agriculture, and forestry.

294 "What Is a Federal Indian Reservation? | Indian Affairs."

295 "RCW 70A.02.010: Definitions."

296 "Traditional Ecological Knowledge Fact Sheet | FWS.Gov."

Appendix D
Glossary—Hydrogen Supply Chain

The hydrogen supply chain consists of materials extraction, production, storage, transportation, end-use and decommissioning. This toolkit focuses on the middle portions of the supply chain, but the bookends of materials extraction and decommissioning are described below for context.

Materials extraction is the initial step of acquiring materials used in hydrogen facility construction and the manufacturing of key equipment and infrastructure (i.e., electrolyzer materials).[297] Environmental and social justice concerns arise in this phase particularly in mining practices in the Global South.[298] While this toolkit does not focus on materials extraction, Washington still encourages recognizing and considering justice in the entire project lifecycle.[299]

The decommissioning phase occurs at the end of the hydrogen facility's useful life which can range from 20-50 years. Decommissioning actions include dismantling and removing structures, piping, roads, distribution lines, and other facility components. A green hydrogen facility site would need to be restored to its pre-project conditions and uses unless the project developer, permitting authority and regulatory agencies agree on alternate actions.[300] Decommissioning plans may or may not be required to be developed during the permitting process, but should be considered as an avenue of restorative justice to ensure negative impacts to the surrounding community are mitigated as much as possible.[301]

The following overview of the hydrogen supply chain describes how hydrogen can be produced, stored, transported and used. The production methods, storage and transportation methods and end-uses described below are not exhaustive. Rather, they are those methods and end-uses that are aligned with Washington's statewide modeling for hydrogen production and demand through 2050, envisioned as part of the PNWH2 Hub and/or otherwise likely to occur in Washington based on public announcements.[302]

297 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington."

298 Washington Department of Commerce; "The Hydrogen EJ Framework – Just Solutions."

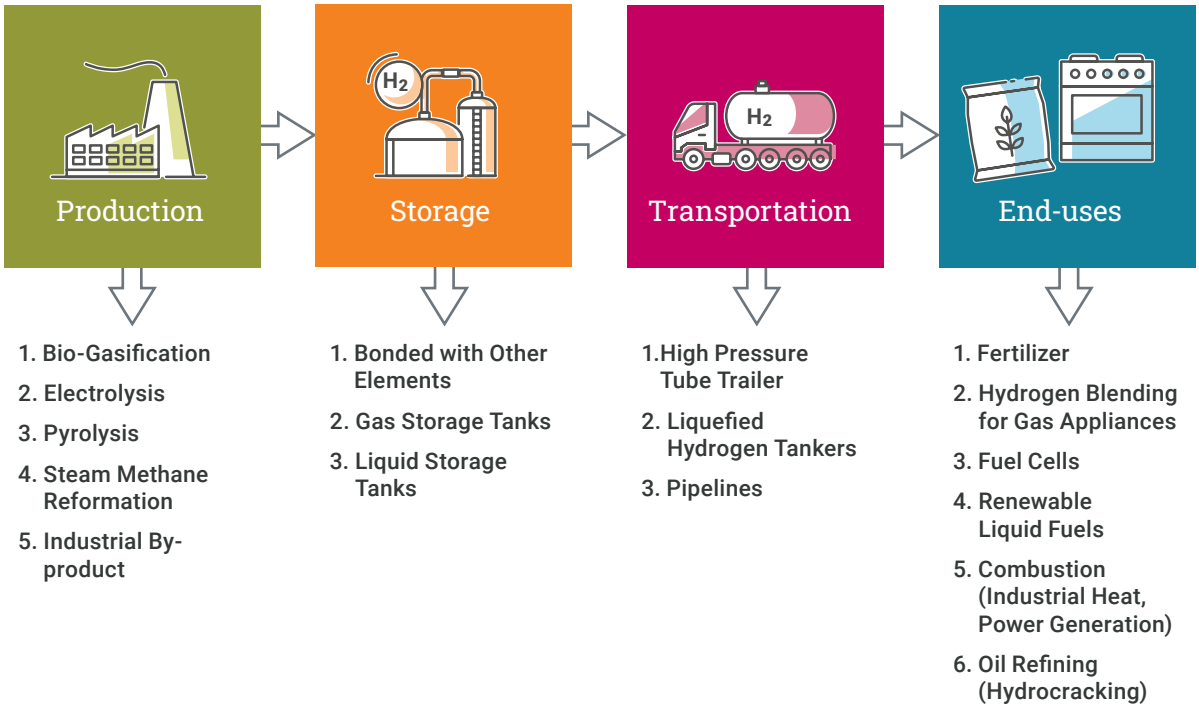
299 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington."

300 Washington Department of Ecology, "Programmatic EIS."

301 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington." Washington Department of Commerce.

302 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington." Washington Department of Commerce.

Figure 5. Hydrogen Supply Chain Diagram



Production Methods

There are four production methods that meet Washington's definition of green hydrogen and are further studied in the Department of Ecology's Programmatic Environmental Impact Statement on Green hydrogen energy facilities ("PEIS").[303] These four methods include bio-gasification, electrolysis, methane pyrolysis, and steam-methane reformation with renewable natural gas as its feedstock. Additionally, production through industrial by-product is explored in this toolkit. Production processes could be powered by dedicated renewable energy, by grid energy, or by dedicated nuclear energy.

- **Bio-gasification**: As defined by the Department of Ecology, "Bio-gasification is a controlled process involving heat, steam, and oxygen to convert biomass into hydrogen and other products. State law requires biomass used for green hydrogen production to come from solid organic fuels, including forest or field residues, wood, or from dedicated energy crops, such as switchgrass, that do not include wood pieces that have been treated with chemical preservatives."[304]
- **Electrolysis:** As defined by the Department of Ecology, "Electrolysis is a process that uses electricity to split water into hydrogen and oxygen. This reaction takes place in a device called an electrolyzer. An electrolyzer consists of an anode and a cathode separated by

303 Washington Department of Ecology, "Programmatic EIS."

304 Washington Department of Ecology.

a membrane (also known as an electrolyte)." The feedstock for electrolyzers is water and there are no direct GHG emissions associated with operation of an electrolyzer.[305]

- **Pyrolysis**: As defined by the Department of Ecology, "Green hydrogen produced using pyrolysis occurs when methane from renewable natural gas or biomass is heated and decomposed, creating hydrogen and solid carbon. The process requires high temperatures of approximately 1,000°C. Once the hydrogen is produced, it is cooled by the ambient atmosphere. Several processes are currently used, and new processes continue to be developed. Some of these processes include thermal cracking, thermocatalysis, plasma, liquid metal, and molten salt."[306]
- **Steam-Methane Reformation (SMR)**: SMR meets Washington's definition of green hydrogen when using renewable natural gas (RNG) as the energy source. As defined by the Department of Ecology, "RNG can be obtained from the decomposition of organic material in landfills, wastewater treatment facilities and anaerobic digesters. SMR involves three stages:

    1. High-temperature (700 to 1,000°C) steam reacts with methane from the renewable natural gas in the presence of a catalyst to produce hydrogen, carbon monoxide, and a small amount of carbon dioxide.
    2. Carbon monoxide and steam react using a catalyst to form carbon dioxide and hydrogen.
    3. Hydrogen gas is purified by removing carbon dioxide and other impurities through a purification unit. The remaining gas is essentially pure hydrogen, and the separated carbon dioxide would be vented."[307]

- **Industrial Byproduct**: Hydrogen can be produced from industrial waste gases rich in carbon monoxide (CO) through a process called water-gas shift reaction (WGSR), driven by Fischer-Tropsch synthesis or microbial fermentation. Desired waste gases are sources from the iron and steel industry, coal-fired power plants and crude oil refineries.[308]

Storage Methods

- **Bonded with other elements**: Hydrogen can be stored by being bonded with other elements such as carbon, metals, and chemicals then reconverted to hydrogen at the point of energy use. A common chemical to use as a hydrogen energy carrier is ammonia. Although converting hydrogen to ammonia would add an additional 10 to 12% to the energy required to make hydrogen, the resulting ammonia would be easier to transport

305 "Hydrogen and Renewable Fuels," April 19, 2024. "Hydrogen and Renewable Fuels."

306 Washington Department of Ecology, "Programmatic EIS."

307 Washington Department of Ecology.

308 Fatimah et al., "Industrial Waste Gases as a Resource for Sustainable Hydrogen Production." Fatimah et al.

than hydrogen because it is denser. Transporting hydrogen in the form of ammonia is most useful if the ammonia can be used directly at its destination, instead of needing to be converted back into hydrogen. Here, the main use case of transported ammonia would be combustion to produce electricity. On paper, burning hydrogen-derived ammonia is a zero-emissions process, creating only water and nitrogen (N2).[309]

- **Gas storage tanks**: Gaseous hydrogen can be stored in stationary, aboveground, cylindrical storage tanks. Storage is typically at high pressure, ranging from 5,000 to 10,000 pounds per square inch gauge (350 to 700 bar gauge), requiring approximately 2–3 kWh of electricity per kg of hydrogen stored. Compressed hydrogen storage has two significant advantages: it can be kept at room temperature and the cylinders can be filled/emptied at a wide variety of gas flow rates.[310, 311]
- **Liquid storage tanks**: Greater quantities of hydrogen can be stored in a given volume by liquefying it.[312] Due to its extremely low boiling point of -423°F (-253°C), liquid hydrogen is stored in double-walled, vacuum-insulated cryogenic (very low temperature) storage tanks, requiring approximately 7–12 kWh of electricity per kg of hydrogen stored. These can be either cylindrical or spherical tanks, with spherical tanks used for larger storage volumes. Cryogenic storage tanks are equipped with pressure relief devices and automated vents.[313]

Transportation Methods

- **High-pressure tube trailer:** As described by the U.S. Department of Energy, "Gaseous hydrogen can be hauled by trucks called tube trailers. Gaseous hydrogen is compressed to pressures of 180 bar (~2,600 psig) or higher into long cylinders that are stacked on a trailer that the truck hauls, giving the appearance of long tubes."[314]
- **Liquefied hydrogen tankers**: As described by the U.S. Department of Energy,"Cryogenic liquefaction is a process that cools hydrogen to a temperature where it becomes a liquid."[315]
- **Pipelines**: There are two instances when hydrogen is expected to be transported via pipeline in Washington in the near- and mid-term: 1) blended with natural gas in existing

309 Arjun Makhijani and Thom Hersbach, "Hydrogen: What Good Is It? - A Technical Exploration of the Potential of Hydrogen to Contribute to a Decarbonized Energy System" (for Energy and Environmental Research (IEER), January 2024), https://justsolutionscollective.org/wp-content/uploads/2024/11/What-Good-Is-Hydrogen-IEER-report-for-Just-Solutions-January-2024.pdf. Arjun Makhijani and Thom Hersbach.

310 Washington Department of Ecology, "Programmatic EIS."

311 Arjun Makhijani and Thom Hersbach, "Hydrogen: What Good Is It? - A Technical Exploration of the Potential of Hydrogen to Contribute to a Decarbonized Energy System." Arjun Makhijani and Thom Hersbach.

312 Arjun Makhijani and Thom Hersbach, "Hydrogen: What Good Is It? - A Technical Exploration of the Potential of Hydrogen to Contribute to a Decarbonized Energy System." Arjun Makhijani and Thom Hersbach.

313 Washington Department of Ecology, "Programmatic EIS."

314 "Hydrogen Tube Trailers." "Hydrogen Tube Trailers."

315 "Alternative Fuels Data Center." "Alternative Fuels Data Center."

natural gas pipelines and 2) pure hydrogen being delivered in small, intra-site pipelines between a hydrogen production facility and relatively close end-use application.

End-Uses

- **Fertilizer:** To make nitrogenous fertilizers, ammonia needs to be produced (typically through the Haber-Bosch Process), which requires hydrogen.[316]
- **Hydrogen Blending for Gas Appliances**: Hydrogen can be blended into the fossil gas fuel mix to provide energy to appliances that currently use fossil gas (e.g., space heaters, water heaters, dryers, stoves).[317]
- **Fuel Cells:** Hydrogen fuel cells can be used to store energy and generate electricity, similar to an electric battery. They can be used in place of gasoline, diesel, or natural gas for vehicles, planes and machinery. [318]
- **Renewable Liquid Fuels for Hard-to-electrify Transportation Methods:** The Fischer-Tropsch method can be used to develop liquid fuels such as gasoline, diesel, aviation fuel blends and liquefied petroleum gas. These fuels can be used in on-road, maritime and aviation transportation. Further, the Haber-Bosch method can be used to produce ammonia used in maritime transportation.[319]
- **Industrial Heat (combustion):** Industrial heat can be produced through the combustion of hydrogen. Particularly for high heat processes needed to make steel, cement, glass, and chemicals, industrial stakeholders often look to lower-carbon fuels like hydrogen to reduce their emissions. This is because hydrogen readily achieves high temperatures and—as a fuel—is a more familiar concept that might not require as many changes to equipment and processes (relative to electrification).[320]
- **Power Generation (combustion):** Hydrogen can be combusted to power turbines in place of natural gas for electricity generation.[321]
- **Oil Refining (hydrocracking):** Hydrogen is produced at oil refineries via steam-methane reformation. The hydrogen is then used in hydrocracking processes to break down hydrocarbons, a step in developing diesel, gasoline and aviation fuels.[322]

316 Mills, "The Five Dimensions of Hydrogen." Mills.

317 Wu, "Hydrogen Literature Review." Wu.

318 Washington Department of Ecology, "Programmatic EIS."

319 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington." Washington Department of Commerce.

320 Esposito, "Hydrogen Policy's Narrow Path." Esposito.

321 Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington." Washington Department of Commerce.

322 "Hydrocracking Is an Important Source of Diesel and Jet Fuel - U.S. Energy Information Administration (EIA)." "Hydrocracking Is an Important Source of Diesel and Jet Fuel - U.S. Energy Information Administration (EIA)."

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