

Facilitating a sustainable future

STAKEHOLDER PARTICIPATION IN THE CONTEXT OF POWER-TO-X



Consider stakeholder participation as a tool to unlock the potential for Power-to-X (PtX) projects and factor in regional/local conditions to foster social acceptance and to mitigate community opposition



Ensure an assessment and allocation of financial and human resources to the participation process in order to avoid unexpected project drawbacks



Establish regulatory frameworks integrating all relevant steps of stakeholder participation in project planning including stakeholder mapping, discussion formats, transparency, decision-making methods, grievance mechanism, as well as monitoring and evaluation

Developments and chances

The use of Power-to-X (PtX) technologies offers opportunities for enhancing energy security, promoting economic growth, and addressing climate change. Green hydrogen and PtX projects are likely to raise high expectations, for example for jobs creation (with safe working conditions), access to clean energy, water supply (during and after project implementation), capacity building, technology transfer and money (Green Hydrogen Organisation, 2023). However, PtX projects may not only have positive effects on the local population, but can also be associated with negative, socio-economic consequences (see e.g. the situation with the population affected by the Neom project in Saudi Arabia; DW, 2023; tagesschau.de, 2023). These include, for instance, human rights violations, displacements, corruption, expropriations, the loss of tradition and culture or health effects (e.g. toxicity of hydrogen derivatives) (acatech, 2023).

Therefore, with the planning of a project, it is crucial to minimise the negative effects and strengthen the positive ones. To fully realise these benefits, it is essential to involve a broad range of stakeholders, including public authorities, industries, communities and civil society, workers (and their families), social and environmental organisations, trade unions, banks and academia.

When planning and implementing a PtX project, the initial question that arises is the potential consequences (opportunities/risks) for the local community, but also for the company. Early and continuous engagement with affected communities will help the project in acquiring and maintaining a 'social license to operate' (Green Hydrogen Organisation 2023). In this regard, stakeholder participation can be understood in material or immaterial terms. Material participation implies both the financial involvement of civil society and local value creation. In contrast, immaterial participation involves the political integration of stakeholder groups in project planning and implementation (acatech, 2023). A potential benefit of stakeholder participation is an improved project acceptance. Furthermore, involvement in clean energy projects (e.g. solar photovoltaics) can empower communities to take ownership and responsibility for their energy needs.

This can lead to increased self-reliance and economic development. Many companies have an interest in stakeholder participation due to own policy requirements or because they have recognised the advantages of stakeholder participation (see below). However, in many countries, international standards, guidelines or regulatory requirements (like due diligence regulations) exist, that regulate (voluntary or obligatory) stakeholder engagement (e.g. the pilot databank¹ on stakeholder engagement practices by the OECD). Compliance with these requirements is essential to avoid legal challenges and regulatory hurdles.

Another benefit is the access to financing. Some international funding organisations and donors require evidence of stakeholder participation before providing financial support to energy projects. Ansong (2017) analysed and confirmed that there is a link between stakeholder engagement and access to finance. In addition, in some cases, the local community has first-hand information and is much more familiar with local circumstances which may not have been considered or have been wrongly assessed by the project developers (Green Hydrogen Organisation, 2023). Input from stakeholders can also lead to more effective project designs, taking into account local preferences and priorities. This can result in more successful and efficient projects.

However, adequate stakeholder participation is not always the case and there are several examples that show that seemingly positive projects can have adverse consequences (Columbia Center on Sustainable Investment, 2022). Some examples are illustrated in the following list. Although these examples mostly come from renewable/energy transition projects, they may offer insights for PtX projects:

¹ <https://www.oecd.org/gov/regulatory-policy/pilot-database-on-stakeholder-engagement-practices.htm>

- Hydroelectric dams were established in the Democratic Republic of Congo without involving the local population and without providing sufficient information (Teske et al., 2022), which led to considerable social and environmental damage (displacements, small number of new jobs, remaining energy poverty) (Brot für die Welt, 2021).
- In Mexico, communities in Oaxaca affected by the Mareña Renovables Wind Project raised objections. They cited reasons such as the lack of adherence to the Free, Prior, and Informed Consent (FPIC) principles, inadequate compensation for their land, disruptions to traditional fishing practices and cultural ceremonies, and allegations of corruption in the issuance of project permits. This led to the abandonment of the project, originally budgeted at 1.2 billion dollars (Columbia Center on Sustainable Investment, 2022).
- The High Court in Meru, Kenya, invalidated land titles for the Lake Turkana Wind Power Project as the project was executed without proper consultation and compensation for the indigenous community (Columbia Center on Sustainable Investment, 2022).

The above-mentioned examples elucidate that it will be essential to involve local communities in the planning, implementation, and monitoring of PtX initiatives from an early stage. Only when relevant stakeholders are not just informed and included but actively engaged and empowered, the transition to a renewable and PtX-based energy system can mitigate risks and lead to a stronger and more sustainable economy and society (International PtX Hub, 2022). Shutdowns, regulatory investigations, or land lawsuits are less likely to

occur when companies proactively implement effective human rights management. Moreover, the costs associated with such effects mentioned above can often skyrocket, while the expenses for stakeholder engagement and the implementation of measures to mitigate negative impacts are relatively low in comparison (estimated at only 2 % of project costs, equivalent to approximately 10 % of the Net Present Value) (Columbia Center on Sustainable Investment, 2022). Anggraeni et al. (2019) tried to calculate the costs of stakeholder participation and concluded that it is very challenging due to the costs being tangible and intangible, short and long term, direct and indirect. Moreover, these costs are subject to varying perceptions among different stakeholders.

Although, experts often argue that stakeholder participation leads to less resistance to constructed facilities (Teske et al., 2022), such an approach is not uncontroversial. Some experts call for a simplification of planning procedures, which would be more difficult to reconcile with the concept of stronger participation (acatech, 2023). Furthermore, comprehensive stakeholder engagement can also lead to delays, increased costs, financial and personnel resources. This applies in particular to large and complex projects, as is often the case with PtX projects that also involve a complex value chain (with various actors).

Regarding the PtX-specific value chain, all production processes and activities are relevant because each part can have an impact on the local population also including the development of transmission grids and pipelines. Projects and technologies are always situated within a social context, and therefore, social, ecological, political, economic, and technical factors must be constantly negotiated (Teske et al., 2022).



Realising opportunities

Based on different guidelines, handbooks and reports (Green Hydrogen Organisation, 2023; OECD, 2017; United Nations Environment Programme, 2020; Wesso & Brandt, 2023), a number of steps are needed for a comprehensive and successful stakeholder participation. Even though stakeholder participation also plays an important role at the general and strategic level, the steps described below focus on specific projects.

The different interests and opinions of stakeholders, but also the design of the project and country-specific characteristics make it clear that there is no one-fits-all solution. Nonetheless, the following description of steps can be seen as starting points for the stakeholder participation process.

General steps of stakeholder participation

 Preparations	 Stakeholder Mapping	 Planning and Method	 Consultation (and Implementation)	 Monitoring, Evaluation, Learning
Stakeholder mapping	Stakeholder identification	Method development	Consultation and negotiation	Indicator development
Planning and method	Partnership assessment	Timing and capacities	Conflict resolution and grievance mechanism	Interviews etc.
Consultation (and implementation)	Engagement strategy	Documentation	Agreement/community action plans	Evaluation

Figure 1: Based on Green Hydrogen Organisation (2023); OECD (2017); United Nations Environment Programme 2020; Wesso & Brandt (2023)

The first step is the **'preparation'** of stakeholder participation. In this phase, the project developers should be defined, and the participants' skills should be utilised. Furthermore, it is crucial to define the project's objectives and to announce or communicate the participation process to inform stakeholders about the upcoming initiative. Additionally, it is advisable to be aware of existing community rights early on and to take them into consideration throughout the subsequent process. Various PtX projects (e.g. where land/water use questions or ancestral property rights arise) are covered by a memorandum of understanding (MoU), framework agreement, cooperation agreement, or comparable arrangements between the project developers and, for example, the host country. Stakeholders must decide whether the MoU/agreement should carry legal binding status (and if so, what is the dispute resolution process) and how detailed and binding the agreement should be in relation to individual projects (Green Hydrogen Organisation, 2022).

The next step is the **'stakeholder mapping'**. This includes identifying relevant stakeholders who are directly or indirectly affected (positively or negatively) by the project. The equal treatment of all participants should always be taken into account, and disadvantaged, marginalised, or discriminated population groups should be given special consideration in this assessment (International PtX Hub, 2022). Particular attention should also be paid to a gender-equitable design of the consultation. It is essential to guarantee that everyone in local communities has a voice and that decisions are not made unilaterally by one gender, thus addressing gender-related disparities and discrimination (Villagrasa, 2022). The identification of relevant stakeholders in the planning of a project is not an easy task and should be examined carefully. For instance, engagement with local banks may also have a role to play in order to identify investment risks through a local lens. It is important that this is defined at the beginning

of the project, before the first conflicts arise (Green Hydrogen Organisation, 2023). Subsequently, a (preliminary) engagement strategy should be developed on how these individuals and groups (or legitimate representatives) can be heard and cooperate with the promoters (European Investment Bank, 2022).

Based on this identification and the analysis of risks and opportunities, appropriate methods for engagement, consultation, and consensus-building should be established in the **'planning and method'** phase, ranging from public hearings to interactive collaborative workshops that facilitate sincere participation, negotiation, or mediation (International PtX Hub, 2022). The initial question is what has already been clarified in advance and whether there is an agreement, e.g. with the state (in terms of due diligence, stakeholder participation, local development, transparency), and how this is to be implemented in the project (Green Hydrogen Organisation, 2023).

Involvement should be structured in such a way that it allows influence on the process and makes a sincere effort to secure the community's consent. It should not be carried out merely as a requirement, since a significant added value is evident to all. In this regard, the promoter must interact with stakeholders in a manner that is devoid of intimidation, coercion, or violence, especially when dealing with individuals who clearly express their opinions regarding the projects (European Investment Bank 2022; Villagrana, 2022). The frequency and duration of stakeholder consultations depend heavily on the individual project and specific circumstances and must be determined on a case-by-case basis. It should persist throughout the project's entire life cycle, starting from the moment project developers commit to the project until the project is decommissioned, and the environment has been adequately restored and rehabilitated (Green Hydrogen Organisation, 2023).

From the beginning, it should be ensured that stakeholders have timely access to information on the project's environmental, climate and/or social risks and impacts. In this regard, the documentation and disclosure of essential information and decisions are necessary requirements. Education materials can be useful to ensure a basic understanding of what the PtX project includes and what its implications are (Villagrana, 2022). All of this should be presented in a culturally appropriate and understandable manner, with particular attention to people who require special support (European Investment Bank, 2022; Green Hydrogen Organisation, 2023). The stakeholder engagement process should be coordinated and monitored, for example by a neutral coordinator or a group of stakeholders (Bremere et al., 2019).

During the **'consultation and implementation'** phase, the project enters a critical stage marked by consultation and negotiation processes. Engaging stakeholders through open dialogue is of great importance. Regular and public consultations must provide a meaningful input to the decision-making process (Villagrana, 2022). The consultation phase can include the development of an agreement with the local community. These are commonly known as 'Community Development Agreements' or 'Local Benefit Agreements' (Green Hydrogen Organisation, 2023). The consultation also includes conflict resolution and the establishment of a grievance mechanism (including effective enforcement) to address concerns and issues that may arise during the implementation. Stakeholders should also be given the opportunity to seek legal remedies. Particularly, disadvantaged communities should receive legal support to negotiate on an equal footing with project developers.

The following figure is based on Bremere et al. (2019) and the United Nations Environment Programme (2020) and summarises important aspects of stakeholder participation.



Key principles of stakeholder participation



Figure 2: Based on Bremere et al. (2019) and United Nations Environment Programme (2020)

Stakeholder relationships can be strengthened through regular review and reporting in the **‘monitoring, evaluation and learning’** phase. It is an opportunity to clearly document what has been discussed and decided in the past. It is also often helpful to have results recorded in writing. This also includes a continuous monitoring and evaluation of all stakeholders.

The last step of stakeholder participation should be a feedback loop, which is especially challenging with regard to PtX as some projects have a very long duration often spanning over 20 years. An ongoing feedback loop ensures that opinions were exchanged and considered. This can also ensure long-term collaboration. Feedback, such as a questionnaire, is an essential component of the stakeholder engagement process. It should encompass feedback from the project partners and especially from the stakeholders regarding the progress, objectives, results, and challenges/difficulties (Bremere et al., 2019).

Principles

Worldwide, there are numerous principles, regulations and guidelines that deal in detail with stakeholder participation in various contexts. Some of the sources used in the following give general information, whereas specific information on PtX projects is also available (see chapter on handbooks and guidelines).

An important principle in stakeholder engagement is the ‘do-no-harm’ principle, which avoids adverse effects and ensures that actions do not have a negative impact on affected interest groups. Another principle is the Free, Prior, and Informed Consent (FPIC) principle. This principle states that indigenous communities and other affected communities have the right to be involved in decisions that affect their

land rights, environment, and livelihoods. This includes being comprehensively and clearly informed in advance, having time to review and discuss the information, and being able to provide their explicit consent before actions are taken. Some examples for product certification where FPIC principles are considered are the sustainable principles of the International Sustainability and Carbon Certification (ISCC, 2020) and the RSB Principles and Criteria by the Roundtable on Sustainable Biomaterials (RSB, 2016). The Food and Agriculture Organization of the United Nations has published a ‘Manual for Project Practitioners’ that provides background information and outlines the key steps for considering FPIC, along with a complementary tool kit (Food and Agriculture Organization of the United Nations, 2016).

The Role of Governments

Policies and standards have an effect on the success of PtX projects. It is crucial to provide policymakers with a set of agreed-upon standards and recommendations to ensure the sustainable and mutually beneficial development of green PtX production and trade. These standards and regulations should not only consider economic and ecological criteria but also take into account social aspects. An environmental and social impact assessment is a good starting point for analysing the current situation and the project’s effects. Stakeholder participation can be considered directly in legislation to ensure that affected stakeholders are involved and have a say in the planning and beyond. In this process, regional and local governments/policymakers play a crucial role, as they have a deep understanding of the region and can facilitate communication between project developers and stakeholder groups. Potential for public-private partnerships can also be taken into account. When developing standards and regulations, it should also be made clear how compliance will be ensured.

Several regulations and standards pertaining to stakeholder participation at national and international levels are available. International standards and regulations that consider social aspects are the International Labor Organization (ILO) Convention No. 169 (that is based on FPIC), the Convention on Biological Diversity (CBD), and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). These regulations create clear requirements for policy makers and provide guidance for the energy transition in a way that leaves no one behind and protects and respects the rights of indigenous peoples (The Danish Institute for Human Rights, 2021). It is applied in cases such as population relocations, dispossession of cultural and spiritual property, lands and resources taken or damaged, legislative or administrative measures, and project approvals affecting lands, territories, and resources, particularly in mineral, water, or resource development, utilisation, or exploitation.

Other standards were published by the European Investment Bank (EIB) which, in addition to other social aspects (e.g., cultural heritage and involuntary resettlement), also encompass the rights and interests of vulnerable groups and stakeholder engagement (European Investment Bank, 2022). Additionally, one of the ten Equator Principles² (number 5) focuses on stakeholder engagement (Equator Principles, 2020). The standards of the EIB and the Equator Principles are also used for the Fair-Fuel Standards (atmosfair, 2021). Specifically, with respect to green hydrogen, labels and standards are being developed. For instance, the Green Hydrogen Standard of the Green Hydrogen Organization (GH2) includes the principles of 'Transparency' and 'Consultation,' demanding clear evidence of proactive and broad-based stakeholder consultation. Both governments and investors should be aware of these developments and take them into account in order to mitigate negative project impacts and ensure the long-term success of PtX projects.

² <https://equator-principles.com/about-the-equator-principles/#EquatorPrinciples>

Ways forward

The International PtX Hub (2022) has developed a conceptual framework for assessing PtX sustainability. The comprehensive scheme distinguishes various clusters of concern and opportunities in four dimensions: Environmental, Economic, Social and Governance (EESG). Stakeholder participation is part of the 'governance' dimension and includes various aspects. According to the EESG effective PtX policies and projects require stakeholder engagement, considering their views, interests, and concerns. Although, there are some challenges with regard to stakeholder participation (e.g. time delays and resources), a detailed stakeholder mapping is essential, with a focus on

vulnerable groups and based on analyses of land and water rights. Two-way communication mitigates conflicts and maximises co-benefits. Grievance mechanisms, whistleblowing channels, and ombudsperson can promote inclusive PtX development. Risk-based due diligence reduces bribery and corruption risks. Transparent grievance mechanisms open to all stakeholders are vital, alongside integrity, accountability, and anti-corruption safeguards. The report recommends that hydrogen and PtX exporting countries and companies follow rules similar to those of the Extractive Industries Transparency Initiative (EITI) to track payments and financial revenues to public budgets.

PtX Sustainability – the EESG Framework

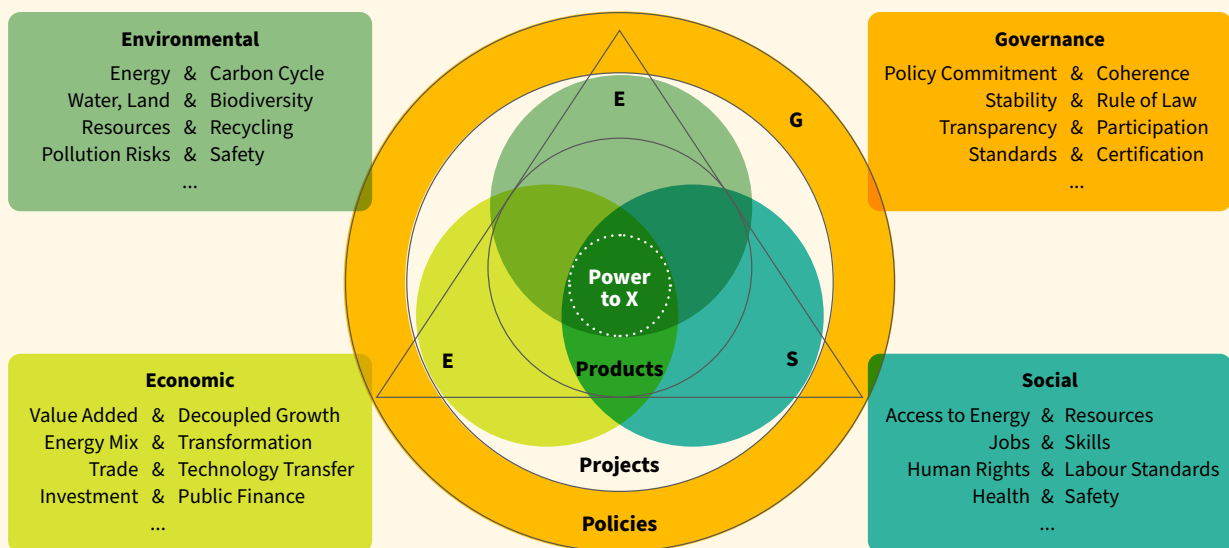


Figure 3: International PtX Hub (2022)

Several handbooks and guidelines offer a wealth of information on how to plan and implement stakeholder participation. The following overview may provide details for a way forward, even though evidence for PtX projects is emerging in the wake of further projects realised.

- United Nations Environment Programme (UNEP) (2020): “Handbook for Stakeholder Engagement at the United Nations Environmental Programme,” which provides guidance and tips for stakeholder engagement
- International Labor Organization (2020): Guidance Note 4.5: Stakeholder engagement
- OECD (2017): OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector
- OECD (2023): OECD Guidelines for Multinational Enterprises on Responsible Business Conduct
- Green Hydrogen Organisation (2022): Green Hydrogen Contracting for People and Planet
- International Finance Corporation (2007): Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets
- Columbia Center on Sustainable Investment (2022): Respecting the Human Rights of Communities. A Business Guide for Commercial Wind and Solar Project Deployment
- Green Hydrogen South Africa (2023): Green Hydrogen Community Development Toolkit
- The Danish Institute for Human Rights (2019): Respecting the rights of indigenous peoples: a due diligence checklist for companies
- EITI (n.d.): Protocol: Participation of civil society

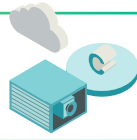


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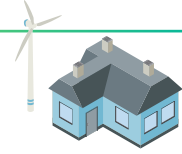
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This document is part of a series of six briefings which are intended to provide an initial overview of the relevant topics. To this end, expert interviews were conducted and a three-part discussion series was held in October and November 2023 to capture the key points of discussion within the various topics. We would like to thank all interviewees and participants in the online discussion for their time and effort.

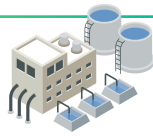
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→ **Briefing #4: Benefits for local communities**



→ **Briefing #2: Desalination**



→ **Briefing #5: Skills & Jobs**



→ **Briefing #3: Land use**



→ **Briefing #6: Stakeholder participation**



As a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development.

Published by:

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

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Bonn and Eschborn, Germany

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peppermint werbung berlin gmbh, Berlin

The International PtX Hub is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Affairs and Climate Action (BMWK). Financed by the International Climate Initiative (Internationale Klimaschutzinitiative, IKI), the International PtX Hub is a contribution to the German National Hydrogen Strategy of 2020 and represents one of the four pillars of the BMUV's PtX action programme initiated in 2019.

The opinions and recommendations expressed do not necessarily reflect the positions of the commissioning institutions or the implementing agency.

Berlin, February 2024