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Green Hydrogen Contracting for People and Planet

Guidance and good practice for decision makers (overview)

The Green Hydrogen Organisation (GH2)

The Green Hydrogen Organisation (GH2) is a not profit foundation under Swiss law.

The mission of GH2 is to dramatically accelerate the production and utilisation of green hydrogen across a range of sectors globally. It will push to rapidly decarbonise industries like steel, cement, fertilisers, shipping and aviation that have so far made limited progress reducing their emissions.

This preliminary set of guidance is aimed to support governments, communities and companies in It is under development and is currently being shared with stakeholders for consultation. GH2 welcomes comments and feedback on the guidance to be sent to Ines Marques (ines.marques@gh2.org).

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The Green Hydrogen Organisation

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“We are now designing and implementing a global green hydrogen system. We can use this moment of trade deals and new contracts to let green hydrogen contribute to the Sustainable Development Goals.”

Nienke Homan, President, Sustainable Hydrogen Club

Acknowledgments

This consultation version of the guidance has been developed by a working group consisting of governments, law firms, companies and civil society groups. This group has collaborated on identifying good practices and guidance for contracting in the green hydrogen sector which is set to scale up massively around the world to address climate change.

Working group members include: African Development Bank, Bird&Bird, Curtis, Mallet-Prevost, Colt & Mosle, Energy for Growth Hub, Fortescue Future Industries, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Herbert Smith Freehills, Inter-American Development Bank, International Lawyers Project, Latham & Watkins, Linklaters, Ministry of Petroleum and Energy of Mauritania, Office of the President of Namibia, Open Contracting Partnership, Schjødt and the UNFCCC Climate Champions.

“My country, Mauritania, is blessed with (i) huge wind, solar and hydraulic energy resources, (ii) vast non-inhabited areas, (iii) more than 700 km of coastline on the Atlantic ocean and (iv) a strategic location that is very close to the European market. With such great potential, Mauritania is developing its strategy to become a leading green hydrogen producer. The ambitious “Good Green Hydrogen Contracts” project can help governments preparing to host green hydrogen projects to develop good contracting practices and negotiate durable contracts at the outset, to ensure positive and tangible impacts on their economies and citizens.”

Tourad Abdel Baghi, General Director, Société Mauritanienne des Hydrocarbures (SMH)

Contents

The importance of good green hydrogen contracting	4
Guidance and principles for good green hydrogen contracting	5
1. Policy and regulatory developments	6
2. Financing of green hydrogen projects	6
3. Fiscal terms and incentives	7
4. Community engagement and transparency practices	8
5. Land acquisition and use	9
6. Infrastructure access and common use	9
7. Sustainable development contribution	10
8. Dispute resolution	11
Next steps and forthcoming guidance	12

The importance of good green hydrogen contracting

The world needs vast amounts of renewable energy and green hydrogen. **Green hydrogen is key to rapidly decarbonising the global economy and 'hard to abate' industries.** It is estimated that green hydrogen will supply 25% of the world's energy by 2050.

The green hydrogen revolution must happen extremely quickly. We will not be able to mitigate climate disaster otherwise.

The industry is moving fast. High fossil fuel prices, rapidly falling cost of renewable energy and the anticipation of falling prices of electrolysis equipment due to technological developments and large-scale production is likely to contribute to this rapid growth of the green hydrogen production.

The investments required are significant. Globally, the private sector has announced investments in hydrogen of USD 300 billion. It is likely that there will be huge inflows of private investments to countries with sun, wind and hydropower potential. Half of the green hydrogen production capacity announced in 2021 came from developing countries. Some of these may have limited experience with large private investments of the scale required.

Governments are setting green hydrogen targets, developing strategies and starting to implement policies to ensure they can benefit from the increasing demand for green hydrogen. However, **few countries have established comprehensive legal and fiscal frameworks that will govern green hydrogen projects**, and in less regulated markets, contracts signed between governments and project developers are likely to set key project terms.

While it is important to move fast, it is equally important that contracting practices reflect good practices, create conditions for long-term stable investments. These contracts must strike a balance between the needs for returns on risk-taking and investments by the private sector, and the hosting government's legitimate right and ability to raise revenue. Contracts must also provide the foundations for long-term good relations with local communities.

If done well, many countries rich with renewable energy opportunities have the opportunity to build industrial clusters around renewable energy and green hydrogen production facilities and infrastructure. There may also be **opportunities for green hydrogen project to secure domestic energy supply and local industry.** Citizens and communities have expectations that large-scale investments will contribute to increased government revenues, employment opportunities and sustainable development at the local level.

There are risks that expectations will not be met, as it may take some time for these long-term investments to yield tangible development and climate impacts. Lessons learned from the oil, gas and mining industry show how important it is to get these agreements right from the outset to avoid lengthy and costly renegotiation processes.

It is essential that contractual agreements between governments and private companies are transparent and distribute risks as efficiently as possible to build trust and bring down costs. The agreements will also need to give investors and project developers assurances that the projects will get the government support needed to make them profitable.

Guidance and principles for good green hydrogen contracting

Due to speed of industry developments and high potential for projects to generate development benefits, there is high demand for guidance to support decision makers, communities and companies in developing contracting practices for green hydrogen projects that ensure rapid expansion to everyone's benefit.

This guidance has been developed by a group of legal experts as well as government, industry, development finance and civil society representatives to draw on lessons learned from other sectors and emerging practices in the green hydrogen industry. It highlights existing international standards and good practice and provides recommendations and model clauses for contracts where possible.

The guidance initially covers eight separate briefs identified as important for decision makers in the early stages of policy and project development and contract negotiations



The Green Hydrogen Organisation is hugely grateful to all the lawyers, civil society organisations, government and company representatives who already have dedicated their valuable time to work on this project.

Over the next couple of pages, we have summarised the first set of guidance notes. They are available from gh2.org/green-hydrogen-contracting

In the summer of 2022, the Green Hydrogen Organisation will be working with its partners on rolling out, using and improving these notes. Unless they are live documents constantly improved through experience, they will have limited value.

Let us work together on making sure that we are fast, responsible and develop green hydrogen projects all over the world in a way that is to everyone's benefit.

Jonas Moberg
CEO
Green Hydrogen Organisation

Inês Schjølberg Marques
Director for the Green Hydrogen Development Plan
Green Hydrogen Organisation

1. Policy and regulatory developments

To enhance the investment attractiveness of a country's green hydrogen sector the government will need to **formulate a clear policy and create a regulatory framework which promotes predictability and certainty**. These policies and laws will form the legal basis for any contractual arrangements between governments in countries hosting green hydrogen projects and project developers.

Because the green hydrogen sector comprises various components, including the production of renewable energy, the production of hydrogen, the transport and distribution of hydrogen, and the consumption of hydrogen, **governments will need to ensure that each step in the green hydrogen value chain is suitably regulated**.

The brief on *Policy and Regulatory Developments* provides **a summary of the status of green hydrogen policies across the world** and identifies the international good practice characteristics decision makers may consider in designing green hydrogen policies. It recommends that government policies and regulations consider renewable energy sources and capacity, public finance mechanisms, production, infrastructure and consumers, and highlights policies and regulations developed in China, Chile, Denmark, France, Germany, India, South Africa, Namibia and Spain.

2. Financing of green hydrogen projects

Mobilising large-scale financing for green hydrogen projects and structuring project finance will be a key challenge for governments and project developers. There are a wide **variety of possible sources of financial support for green hydrogen projects**, including export credit agencies, development finance institutions, commercial banks and governments. It is important for sponsors to ascertain which combination of financing sources they wish to approach when determining how to structure a green hydrogen project, as these institutions have their own considerations as to required structure of a project as well as **specific environmental and social criteria** that must be met by a project before they invest.

Like all project financing transactions, especially in developing industries such as green hydrogen, the allocation of risk in finance documents will be a key consideration for all parties involved. **Lenders' will wish to see coherent projections of future demand from the project's offtakers**, especially if the production of green hydrogen is not envisioned to supply a specific project or customer.

The challenge for green hydrogen projects is to **structure an acceptable risk profile for financing by allocating risks to those best able to take them**, whether this be sponsors, insurers, financiers or governments. Governments and project developers will need to develop instruments and financing structures with features responding to certain challenges and risks associated with the hydrogen value chain.

The brief on *Financing Green Hydrogen Projects* demystifies financing mechanisms and structures for green hydrogen projects. It provides a summary of key issues relating to the financing of green hydrogen projects that stakeholders will need to address as business models across the emerging hydrogen sector develop. The brief applies lessons from transactions in the renewables and gas industries to develop the most cost-effective financing mechanisms for green hydrogen, taking advantage of both nascent business models and public support mechanisms.

3. Fiscal terms and incentives

The appropriate mix of incentives, profits and taxes will be essential in moving green hydrogen projects into production. Initially, fiscal incentives will take the front stage to ensure that the green hydrogen industry and technologies are scaled up with sufficient speed to mitigate climate change in time. As time goes on and green hydrogen is able to compete without incentives in the marketplace, taxes will become of greater importance as a source of revenue.

As governments enter into long-term contracts with project developers and may still be developing regulation governing green hydrogen projects, it will be important to ensure that contracts signed now containing **fiscal terms are set out in ways that both incentivize investments and provide long-term economic benefits for host governments**.

It will be necessary for host governments to **set clear objectives for the fiscal regime**, i.e. whether it seeks to incentivize investment, maximise government take, increase employment and infrastructure development, share revenues received by the government with local communities, or encourage and accelerate the development of green hydrogen production or use.

Governments will need to **analyse and model how fiscal decisions made today impact investments and government revenues from green hydrogen in the future**. Furthermore, a fiscal regime that is clear and transparent for the government, companies and citizens and sufficiently simple to monitor and apply for taxpayers and tax administrations will be critical, in particular in developing countries.

The brief on *Fiscal Terms and Incentives* considers what mix of incentives, profits and taxes will maximize the production of green hydrogen while also providing fair prices to the consumers of the power produced by the green hydrogen. The analysis looks at **forms of incentives that can be employed to encourage the production of green hydrogen**. The brief further examines how tax measures can both encourage the production of green hydrogen or, alternatively, discourage the production of carbon intensive forms of energy.

4. Community engagement and transparency practices

While the majority of green hydrogen projects will be international in nature given the scale of investments and global demand, these projects will also be highly local and directly impact host communities and individuals. Green hydrogen production will rely on resources such as land, renewable energy and water that may be central to the livelihoods of local communities. **In the country where the project is located, it is highly likely that expectations and hopes for green goods and energy, money, and jobs will be high.**

It is critical that project developers **start engaging local communities early and deeply**. Communities should be consulted with from the outset and need to know that they are heard, understood and valued throughout the project. The inherent dignity and importance of local communities should be a guiding principle of project development.

One mechanism that projects have used in other industries is having a contract directly with impacted communities. These are often referred to as **Community Development Agreements** or Local Benefit Agreements. This involves the project sponsor directly negotiating and agreeing on rights, roles, responsibilities and dispute resolution mechanisms directly with impacted communities. Such agreements can be helpful to a project, as the community then has firm commitments about what it will receive and how to address grievances in a way that they themselves have agreed to.

Project sponsors cannot be expected to engage directly with citizens in the entire country in which a project is located. Genuine **transparency of key project information is the most effective route of building country-wide support** for specific projects and for an industry as a whole. In the oil, gas and mining sectors, transparency of project information has included making the main agreement between the host state and the project sponsor publicly available, as well as payments made under those contracts and all major environmental and social impact assessment documentation.

The brief on **Community engagement and transparency practices** presents specific international standards and guidelines for governments and project developers that can be applied to green hydrogen projects. It highlights important principles and lessons learned from good practice in other sectors and from emerging experience in green hydrogen. It proposes model clauses relating to compliance with environmental and social standards, social impact assessment and plans, anti-corruption, local development agreements and transparency.

5. Land acquisition and use

The rapid deployment and scalability of green hydrogen has opened the door to the development of large-scale green hydrogen projects, a number of which are likely to be located in countries with less well-developed legal framework with the type of land use rights required to facilitate the assessment, appraisal, development, operation and financing of major green hydrogen energy projects.

If the green hydrogen economy is to realise its full potential, **it is vital for stakeholders to carefully consider land acquisition and use issues**. This is not just a legal matter. A good relationship with local communities often hinges on appropriate and considerate land acquisition and use. This includes using lessons that have already been learnt from the extractive and renewable energy industries. The economic costs of not doing can be high. **In addition to economic losses, land use conflicts may also bring significant reputational damage, as well as litigation and liability risk**, as a result of heightened awareness and scrutiny of environmental, social and governance-related matters.

The brief on **Land Acquisition and Use** provides an overview of key issues that stakeholders will need to consider when determining how green hydrogen projects should structure land acquisition and use, together with a review of some emerging good practices decisions makers may wish to consider. This includes ensuring it is clear to project developers what approvals and permits are needed, clear environmental regulations, and ensure appropriate compensation for land owned by private parties or inhabited by local communities.

6. Infrastructure access and common use

Infrastructure for green hydrogen will be critical to facilitate the production of green hydrogen using renewable energy as well as processing, storing and transporting green hydrogen and its derivatives to end users. **Lenders and project developers will need assurances that necessary infrastructure is in place** for both the delivery of the inputs required to produce hydrogen and the storage and transport of hydrogen to the project's customers.

Lessons learned from the oil, gas and mining industries is that it is **important to get shared infrastructure agreements and access right from the outset**, as it is harder and costlier to renegotiate access rights after a project has been developed.

The brief on **Infrastructure Access and Use** focusses on regulatory initiatives to **ensure that project developers and consumers can access and use necessary infrastructure**. It considers how to achieve access for green hydrogen to existing and operating natural gas infrastructure (specifically transportation networks, storage facilities and receiving terminals through third party access); how to regulate third party access to hydrogen infrastructure being built or planned for construction; and network planning and cooperation in the siting and construction of new hydrogen projects.

7. Sustainable development contribution

Green hydrogen projects have the **potential to advance the UN Sustainable Development Goals (SDGs)**, given that they contribute to decarbonizing hard-to-abate sectors and provide local access to new sources of clean electricity, fresh water, ammonia-based fertilizer; new employment and economic development opportunities; and other co-benefits.

There may be innovative ways for green hydrogen projects to contribute to SDG 6 on **Clean water and sanitation** or SDG 7 on **Affordable and clean energy** by considering at the feasibility stage how projects can realistically and sustainably decarbonise grids or supply excess renewable energy or desalinated water to surrounding communities.



However, the promise of green hydrogen projects to help achieve the SDGs will only be met if the projects are well planned, appropriately executed, and operated in a way that is transparent to all stakeholders.

It will be challenging to align the existing regulation of infrastructure development and operation (financing, environmental, safety and health) to the achieving of SDGs in an industry where regulations are evolving and being established as we speak. Thus, **the extent to which a particular green hydrogen project actually achieves any of the SDGs will turn in large part on project-specific contractual terms** negotiated among the relevant parties, including the host country, project developers, financing partners, offtakers, and engineering and procurement contractors, as well as various development agencies (multilateral, national and regional), and most especially host communities.

The brief on **Sustainable Development** details how SDGs can be furthered by green hydrogen projects, considers the role of private capital, development finance institutions and bilateral development support to achieve SDGs, and summarises nascent developments and unique potential for such efforts when applied to green hydrogen projects in developing countries.

8. Dispute resolution

It is common for disputes to arise between parties to a contract. This may be in relation to minor operational issues, such as where there is a delay or a defect in one of the parties' performance of its obligations, or it may relate to much larger issues, such as termination of the contract, allegations of misrepresentation or negligence, disputes over the value or quality of work performed, or disputes as to which party bears the cost or risk of a certain event.

The dispute resolution clause in a contract sets out the way in which disputes arising between the parties in connection with the contract will be resolved. A well-drafted dispute resolution clause helps disputes to be resolved in a timely and efficient way. **It is likely to be important to potential investors in a project that a robust dispute resolution clause forms part of a contract**, as this will help the investors have confidence that there is a mechanism in place to help the parties resolve any disputes which arise.

It is critical to choose the right dispute resolution clause. **At the time of contracting, parties should give proper consideration to the dispute resolution provisions in the contract** so as to **avoid being tied to a procedure** that they find at a later date is unsuited to their needs.

The brief on Dispute Resolution provides an overview of methods of dispute resolution, describes how these have typically been applied in practices in the energy industry and proposes model clauses drawing on good practice in the sector.

“We fully support the effort to combat climate change by the different methods of green energy production. We consider green hydrogen to be one of these methods and have been working with other professional organizations to develop a model set of provisions that will ensure that this source of energy is produced in a fair and equitable fashion. We look forward to more work in this emerging and exciting area.”

The International Lawyers Project (ILP)

Next steps and forthcoming guidance

The consultation version of the set of guidance is launched at the Green Hydrogen Global Assembly and Exhibition in Barcelona on 17-18 May. GH2 welcomes comments and feedback on the guidance to ensure it is as useful as possible to government, project developers, lenders, civil society and local communities.

As next steps for the project on **Green Hydrogen Contracting – for People and Planet**, GH2 will continue working with support from its expert group to:

Deliver capacity building and awareness raising in regions and countries on the topics covered in the guidance.

Complete and deepen the existing topic notes to include further practical examples and model clauses.

Cover additional topics subject to demand from governments, communities and project developers.

Explore possibility of developing guidance covering other types of agreements involving government and private sector, including offtake agreements.

Collaborate with the working group and partners to provide tailored guidance on policy questions covered by the guidance in partner countries.

GH2 welcomes any parties with interest to be involved in the next phase of the project to contact Ines Marques (ines.marques@gh2.org).

Access the set of guidance on green hydrogen contracting at
gh2.org/green-hydrogen-contracting

“In light of the findings set out in the Intergovernmental Panel on Climate Change's latest report (Climate Change 2022: Impacts, Adaptation, and Vulnerability), the world now more than ever requires sustainable energy solutions to effectively address the global community's increasing energy demands. The approach advocated by the Green Hydrogen Organisation seeks to achieve exactly that. It is an honour to support them on this novel and critical assignment. We are confident that it will provide a useful foundation for the development of green hydrogen production plants across the developed and developing world.”

Herbert Smith Freehills



gh2.org