



Overview of the Bilateral Energy Partnership Program

- Commissioned by: German Federal Ministry for Economic Affairs and Energy (BMWi)
- Lead executing agency: Energy ministries in participating partner countries
- Energy Partnerships implemented by GIZ:
 - Algeria (since 2015)
 - Brazil (since 2017)
 - Chile (since 2019)
 - China (since 2007)
 - India (since 2006)
 - Jordan (since 2019)
 - Mexico (since 2016)
 - Morocco (since 2012)
 - South Africa (since 2013)
 - Tunisia (since 2012)

Energy Dialogues:

Iran (since 2017)



Fields of activity and inputs

- Intergovernmental dialogue on energy policy with partner countries, including contributions from multilateral actors
- **Advice** on policy for the global energy transition
- Cooperation with the private sector, academia and civil society actors
- Facilitating mutual knowledge transfer on current energy policy issues
- Communication and knowledge management in relation to the energy transition



















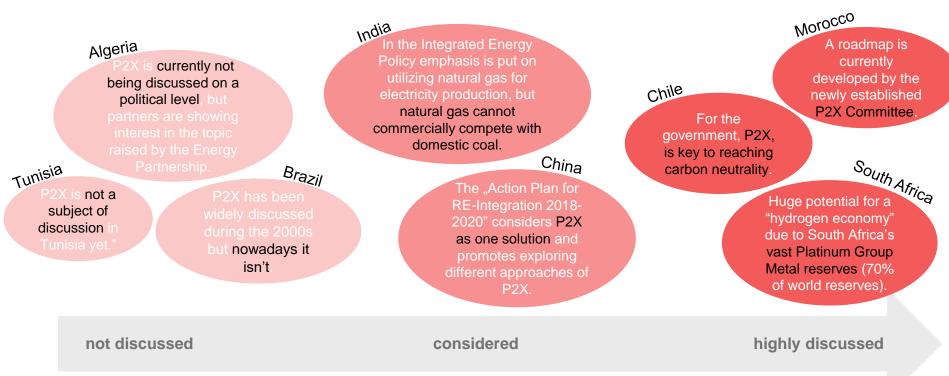
Informal survey among EP secretariats in selected countries in September 2019

Survey questions

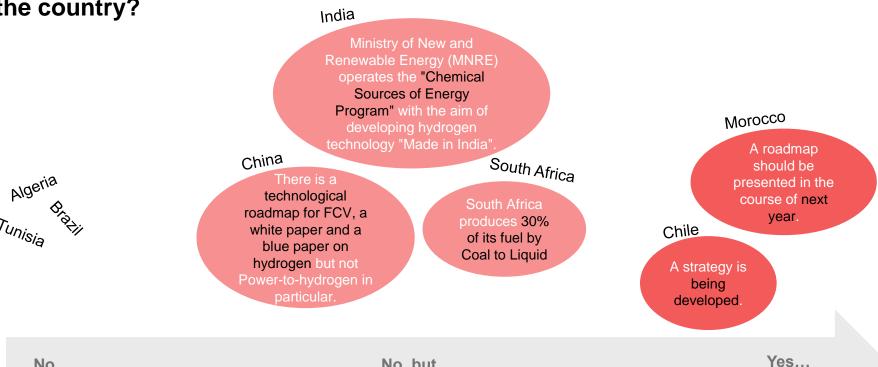
- 1. How is P2X perceived and discussed politically and technologically in the country?
- 2. Does a P2X strategy already exist (in particular concerning P2G and P2L) in the country?
- 3. Is P2X actively supported by the government or is it driven by the private sector?
- 4. Does the country already consider sustainability criteria (land and water use, environmental impacts...)?
- 5. Does the country focus on the local market or does it already consider exports?
- 6. Are first P2X projects implemented in the country?
- 7. How strong is the company landscape in this field in the country?
- 8. What support can be offered by Germany to develop a P2X market in the country?



How is P2X perceived and discussed politically and technologically in the country?



Does a P2X strategy already exist (in particular concerning P2G and P2L) in the country?



No.

No, but...

Is P2X actively supported by the government or is it driven by the private Brazil sector? Algeria Nowadays there is India still some small One private scale research The Ministry of Petroleum company (Linde (funded by the and Natural Gas sees itself Ministry of Science) as responsible for hydrogen Morocco as fuel. High overall interest by companies from the oil, It is in particular gas and coal sectors visible. China supported by the science and P2X (heating, Chile Tunisia research sector South Africa supported by the P2X is promoted by government and the private sector Yes, Department of driven by SOEs and and the government Science and but none of them big private is supporting this Innovation runs a actively drive the companies Hydrogen South Africa development R&D programme since 2008

None Private sector Both Government/Science

Does the country already consider sustainability criteria (land and water use, environmental impacts...)? China India Yes in all Tunisia Water shortage in power most regions with projects high curtailment For RE yes, it can excluding the of RE limits the be assumed that solar and development of these factors would South Africa wind PtH₂. play a role for P2X Morocco development as Water use plays an Algeria Yes, but the coal important role in lobby requests to the Integrated talk about P2X Resource Plan are generally being rather then green (power plant considered for all kind Chile Brazil P2X. development plan). of infrastructure It is intended that projects, so it is to be assumed that this all the electrical would be the case for energy for P2X will

No.

so it is not a

concern

Not yet...

P2X.

Yes...

be of renewable

origin (+ land use & water regulations)

Does the country focus on the local market or does it already consider South Africa

exports?

Algeria

currently focusses on satisfying local demand

China

gas import. So far, no consideration of

exports

India

exports of gas cannot happen

Tunisia In the first discussions. both options were considered

Japan and Europe have been identified as potential markets. The current synthetic fuel from CtL is mainly used on the local market.

Morocco

The aim is first to serve the local market. However, Morocco had always ambitions to export energy derivatives to Europe.

Chile

The short and medium term goals are for national use. In the long term, the objective is to export "renewable energy" (e.g. to California, Japan and Germany.

Local market/no exports

Both

Exports

Are first P2X projects implemented in the country?

Brazil

Pilot project in state of São Paulo using

hydrogen fuel cell bus for public transportation

Algeria

Linde Gas is implementing hydrolysis processes, however they are not using power from a renewable resource.

India

Over 25 GW of gas fired capacity installed for supplying cleaner power runs far below capacity contributing just about 5 percent to India's total power generation.

South Africa The

There are a number of small scale electrolysors active to produce hydrogen in off-grid applications.

Green synthetic fuels not yet.

Chile

There are several projects in the pipeline – the largest one comprises the generation of 350,000 tons of green ammonia

Morocco

A second pilot project with the means of BMU/GIZ should be implemented in the mid-term.

China

Yes, several pilot projects on wind power to hydrogen and fuel cell, power to heat and cooling.

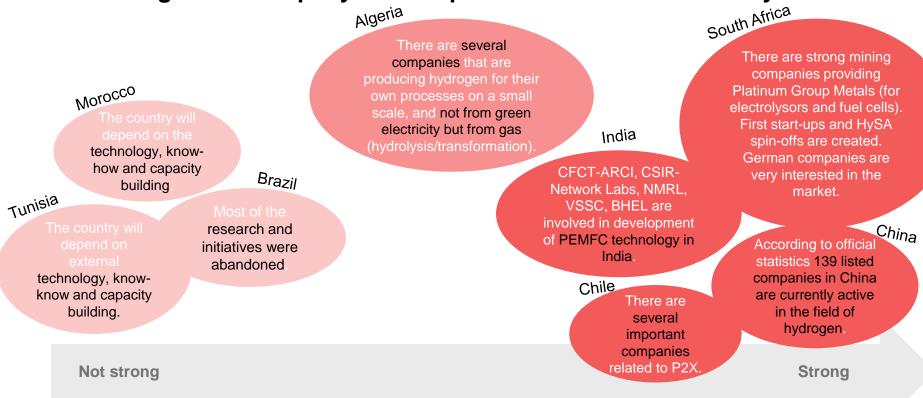
Tunisia

None

One/pilot project

Multiple projects

How strong is the company landscape in this field in the country?



What support can be offered by Germany to develop a P2X market in the

country?

Algeria

The initiation of a discussion with government officials on the perspectives of P2X and

its benefits for the energy sector and the economy is recommended.

Tunisia

information on P2X

technology and potential

Bringing back the discussion with data and applications –

Brazil

with renewable intermittent generation

German products along the value chain, capacity building, upscaling projects.

China

German products and technologies along the value chain, capacity building, up-scaling projects. South Africa

The EP developed a concept for a support organisation following the NOW-example in Germany. Further support would be needed to put pilot projects on the around.

Products related to generation, transport, storage and distribution.
Chemical transformation to several products. Scale up, regulations, technical training.

Chile

Dialogue/information

Capacity building/Products

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