



DEPLOYMENT OF **RENEWABLE HYDROGEN**

Brittany roadmap 2030

Given the challenges of the climate emergency and the energy transition, but also with the aim of redressing territorial disparities, since 2017 the Region has been working on a major venture to identify a new territorial project for Brittany: Breizh COP. The aim is to accelerate the implementation of all transitions in Brittany: green transition, climate transition, economic transition, societal transition but also the methodology transition.

Resulting from all the discussions organised and contributions received during the first phase of the project, the Regional council proposed 38 objectives which were ratified during the session of December 2018.

Four of the Breizh COP objectives concern the development of renewable hydrogen:

Objective 4 “Achieve high-performing multimodality for freight transport”, demands the development of new innovative and ethical maritime logistics, underlining that the decarbonation of road and sea transport (new hydrogen carburation, LNG, NGV, electric propulsion and supply, etc.) is an essential issue and must be combined with new innovative logistics uses, in particular to boost the appeal of the region’s maritime and port facilities.

Objective 9 “Prioritise the development of industries linked to the transitions to become a leader in these fields”, with the sub-objective of identifying a renewable hydrogen industry in Brittany.

Objective 20 “Transform and reconsider the development of mobility in light of climate challenges and air quality” indicates the necessity to act in particular on infrastructure and fleets to shift towards more energy efficient carburation (hydrogen, LNG, NGV, electric, etc.).

Objective 27 “Accelerate the green transition in Brittany”, indicates that the energy system in Brittany must use renewable storage options such as hydrogen and natural gas for vehicles.

During the plenary session of November 28th, 2019, the Regional Council approved the direction of the Breizh COP approach and therefore approved the orientations of six strategic commitments, among which the “new energy and climate strategy” for Brittany.

Now the Region intends to further develop this commitment

through a renewable hydrogen roadmap for Brittany by 2030, covering two of the themes in the Brittany energy and climate strategy:

- **Increase the use of renewable energies**, using the hydrogen medium, contributing to the region’s energy self-sufficiency:
 - Encourage and support projects in Brittany.
 - Nurture innovation dynamics with a high potential of value creation for local businesses.
 - Optimise and mutualise considerations about infrastructures.
 - Provide the possibility for deployment across our own technical transport infrastructures and in particular maritime facilities.
- **Convey the societal responsibility of the Regional Council** by progressively adapting the fleets of vehicles, busses, ships, that it owns or uses, towards carbon-free alternatives and technologies, and in particular hydrogen solutions.

I. Context and definition

1. Electrolysis, a mature technology for producing hydrogen in large quantities

The principle of electrolysis, invented in 1800, is to dissociate water molecules (H₂O), with an electric current, to produce dihydrogen (H₂) and dioxygen (O₂).

Transforming water into hydrogen with renewable electricity, and then storing this hydrogen to retransform it, when needed, into water and electricity, to power electric vehicles. This technology has been on the market since 2015, in industrial logistics, motor vehicles and even rail.

We should begin to see refrigerated trailers and heavy goods vehicles in 2021.

The carbon content of the process for producing hydrogen through electrolyses depends on the carbon content of the electricity used. Electricity costs can represent up to two thirds of production costs.

The intention to associate a renewable energy guarantee of origin (between 35 and €90/ MWh for most production plants and up to over 150€/MWh for offshore) automatically increases production costs and therefore the end cost of renewable hydrogen, observed at between 16 to €30/ KgH₂.

The current challenge is to make this technology economically accessible.

It can compete with fossil fuels, and replace them in the medium term: it is estimated that wide scale distribution of hydrogen technologies would reduce production and maintenance costs, making these technologies accessible to the wider population by around 2035.

Our actions and those of all the private and public investors must facilitate the multiplication of uses to achieve a price of around €10/KgH₂ net selling price.

2. Other processes for producing renewable hydrogen: steam reforming of biogases and thermolysis of biomass

Hydrogen is currently produced mainly from natural gas using steam reforming for refining petrol products and to produce fertilizer.

The production of hydrogen from natural gas produces a lot of greenhouse gases (nearly 10 kg of fossil CO₂ per kg of H₂ produced).

Processes are being developed to produce hydrogen from biogas.

They involve mixing purified biomethane with water vapour at extremely high temperatures (840-950°C), under pressure (20-30 bar) and in the presence of a catalyser (steam reforming process). The syngas obtained must then be cleansed of impurities (CO₂, CH₄, CO) to make it useable with a satisfactory hydrogen content.

The carbon is released into the atmosphere for a new cycle of absorption by vegetation, as it would have been released by biogas combustion in a traditional methanation system.

Brittany, which currently produces very little of its electricity (15% of its consumption), has great potential from its biomass.

In 2017, this was the source of 10% of the energy consumed in the region.

Beyond methanation and the traditional processes for value-creation of biogas (introduction into the gas and cogeneration networks) it is therefore possible to steam reform this biogas to produce renewable hydrogen (on the condition that renewable energy is used in the steam reforming process).

The cost of producing hydrogen from steam reforming of biomethane is being researched. An initial estimation from the Quimper methanation station indicates a hydrogen production cost between €5 and €7 /kgH₂, plus distribution costs.

The continuing development of this process could become a promising Breton speciality.

There are further less developed processes being studied, such as the production of hydrogen through biological pathways or the use of aquiferous hydrogen (presumed to be renewable) but also hydrolase/electrolysis processes from other organic origins, such as urea ((NH₂)₂CO) which is abundant in livestock farming.

3. A vector for sustainable economic development

The development of a hydrogen economy is a fantastic economic potential, in particular:

- Renewable hydrogen is a non-imported product, reducing transport related resources, and therefore also reducing the risks related to our continent's reliance on petrol
- Renewable hydrogen represents new possibilities for certain industries or full strategic repositioning for other industries that are already suffering or potentially at risk from future regulations

4. Potential for the environment and public health

The environmental benefits of hydrogen are conditional on two factors:

- **In terms of reducing climate change** and as a direct lever for reducing the carbon footprint of direct and indirect emissions linked to the import and consumption of energy in the transport and housing industries.
- **In terms of air quality**, by not emitting air pollutant particles. For example, when used to replace the current marine fuels, hydrogen avoids the emission of nitrogen oxide and sulphur.

For the benefits to outweigh the drawbacks, requires controlling several risks at each stage of the development of this sector:

- The capacity of water networks, in particular in highly stressed areas, the reuse of water used in hydrogen production processes, or the use of sea water, rivers or wastewater, are important in the development of sustainable projects.
- While the risks in handling and storing inflammable gas are low, they must be taken into consideration to facilitate the acceptability of projects. We must mobilise the trail-blazer stakeholders and in particular the fire and safety services who are already using hydrogen vehicles, to accompany the first generation of maintenance technicians, but more importantly project residents, the future users.
- The public investment costs required to instigate these projects could be potentially high. It will be necessary to prioritise collaborative choices with group orders and widescale processes from the very beginning to reduce the costs of possession and use through a scale effect; this will also be a line of research on the reduction of production, uses will be reserved for professional industries with a capacity to invest.

II. Brittany's potential

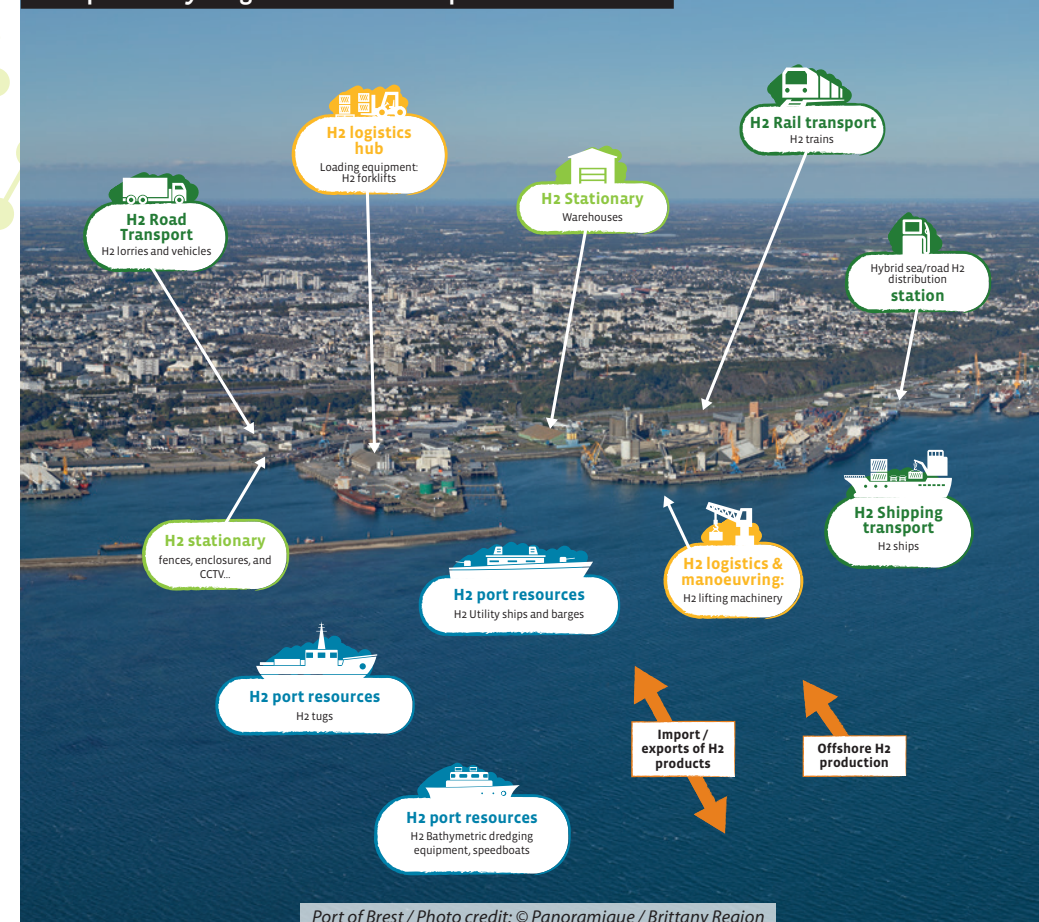
A survey, organised by the Region, BDI and ADEME Bretagne, was carried out in 2019 with the cooperation of 40 public and private structures, involving the interrogation of 200 Breton stakeholders, to meet the following challenges:

- Strategic assessment of the penetration, by 2050, of renewable hydrogen across the territories and in the industries of Brittany.
- Qualification and quantification of local renewable hydrogen production and consumption in Brittany.
- Identification and validation of opportunities and completion of projects by 2023.
- Identification of the first H2 ecosystems for implementation by 2030.
- Mapping of the capabilities of the local industry and its possibilities in France, Europe and worldwide.

This survey provided the following information (summary attached):

- Renewable hydrogen could play a major role in the energy mix in Brittany:
 - Value creation from renewable energies
 - Diversification of uses of renewable energies to replace carbon-based fuels
- Several Brittany businesses, in particular manufacturers can deliver across the entire value chain
- Brittany has many territorial advantages, and could become a leader in certain sectors of the maritime and port industrial zones
- There are several projects in development that will position Brittany as an important hydrogen player in France and Europe

Examples of hydrogen uses within a port infrastructure



Logistics uses Stationary uses Transport related uses Port uses

Port infrastructures are particularly well suited to the deployment of hydrogen as the energy consumption of the on-site activities is high and focused on a specific and continuous area. This focus makes it possible to imagine the success of structuring projects around the production and distribution of hydrogen, projects which require large volumes.

Development of hydrogen applications from the potential in renewable marine energies

The national targets for the development of offshore wind turbines written in the Multiannual Energy Plan are for a total capacity of 2.4 GW by 2023 and 5.2 to 6.2 GW by 2028. Brittany, having already implemented a dynamic around the development of this marine energy potential, mainly around the first wind farms off the coast of St Brieuc (450 MW produced in 2022) and Groix (65 MW in 2023), will continue to contribute to achieving these targets, in particular by awarding a new plot for a capacity of 250 MW in the "South Brittany" zone, in 2022, and beyond that they may award an additional 1 GW in national capacity in floating wind turbines, starting 2024.

The development perspectives for these additional renewable electricity production capacities will, in the long term, open up production potentials for renewable hydrogen to rise to a dual challenge:

- Showcase the production capacities capable of answering the growing demands for renewable hydrogen in road and sea transport.
- Establish the foundations for industrial innovation and excellence for the development of new generations of applications with high added value, from stationary storage with a large capacity for renewable energy, to maritime uses for the production and direct offshore use of hydrogen.

III. The Brittany roadmap for the deployment of renewable hydrogen

Through this roadmap, put together in partnership with the Brittany hydrogen stakeholders, the Brittany region wishes to position itself as a leading French region on the market of renewable hydrogen applications, both in terms of the expertise of its companies and in the distribution of technologies and their appropriation by citizens. The aim is to enable the structuring and development of an industry generating innovation and jobs, be they new or resulting from industrial reconversion. The aim is also to achieve the Breizh COP objectives to divide Brittany greenhouse

gas emissions by four before 2050, to reduce the proportion of fossil fuels used in transport, and to introduce production potentials for renewable and carbon-free energy linked to energy storage technologies. In 2016, transport represented the 2nd industry emitting 27% of greenhouse gasses in Brittany (equivalent to 7 million tonnes of CO₂) with the building industry taking first place.

Lastly, this roadmap aims to guarantee the sustainable development and energy self-sufficiency of the region.

A core set of foundational quantitative objectives has been determined to collectively achieve, by 2030:

- **8 local loops for renewable and low-carbon hydrogen**¹ (at least 200 kgH₂/day/site) spread across the Brittany region in the first 3 years to tend towards 400 vehicles in circulation in 2025 thus avoiding 8000 tonnes of CO₂ / year² | ~ 50 M€ public/private³.
- **3 renewable hydrogen maritime industrial zone ecosystems** between 2023 and 2030 with a production of up to 1 tH₂/day and per site⁴, or 5,800,000 litres less fuel and marine diesel and **15,000 fewer tonnes of CO₂ per year** | ~ €45M public/private.
- **A first fleet of 10 electro-hydrogen drive chain pilot ships**, on a power range between 500kW to 6 MW, for passengers, coastal freight, utility, and fishing | ~€150M public/private
- **2800 vehicles by 2030 (65% light commercial vehicles; 30% heavy goods vehicles; 30% personal vehicles; 4% bus/coaches)** to contribute to 0.002% of the SRADDET target of reducing greenhouse gasses in the transport industry (or over **45 kTeq less CO₂**), with a longer term goal of reaching up to 13% of the target GHG reduction by 2050 (or 450 000 vehicles).
- Support industrial research and development with, in particular, **the target of an offshore hydrogen production demonstrator by 2025** to prepare the industry for the challenges of the industrial hydrogen production of the future offshore wind turbine farms, by 2040 and 2050.

1. Renewable hydrogen results from renewable or low-carbon hydrogen production processes as defined in article L. 811-1 of book VIII of the energy code, on hydrogen related measures

2. Based on the hypothesis of the use of 500kW electrolyser productions per site (source Ademe)

3. Estimated average costs of production and distribution infrastructure

4. Corresponding to an average of two 100 to 150 pax ships of 500kg/day of H₂ per site or to a similar volume hybrid ship/road vehicle station with an average investment of €15M per port (source H₂ survey for the Brittany Region)

1. Main strategic themes of the Brittany roadmap for the deployment of renewable hydrogen:

The deployment of a network for the supply of renewable and low-carbon hydrogen power, consistent with the gradual putting on the market, of new vehicle offers, must be sequenced in three phases: initiation in 2025, consolidation through 2030 and generalisation through 2050 (sales of new petrol/diesel vehicles are forecasted to end in 2040). The first two phases require a high level of commitment from all public stakeholders and are the key elements of this roadmap.

The Brittany hydrogen sector will be developed around the specifics of the following industries: maritime industry, agri-food logistics and storage applications (transport and static). Be it for road, port, sea and fluvial applications or stationary sto-

rage/network services, different types of vehicles or infrastructures will correspond to each of these three phases.

The idea is therefore to seize the positioning and development opportunities of these mature or almost-mature markets (integration of existing industrial offers or development of services). In the ramping up stage of mass production and distribution, the medium-term objective is to be present in commercial markets and therefore to commit, starting 2020, to work on industrial innovations and adapted research (development of 2nd generation production solutions, offshore applications, heavyweight ships requiring reduced technical costs for storing on-board hydrogen⁵ ...)

2. There are three main focuses in the action plan for this roadmap:

FOCUS 1 Develop the first local loops to instigate the use of hydrogen (Infrastructures & uses)

FOCUS 2 Position the Brittany hydrogen sector among the region's fields of excellence and innovation (Development & innovation)

FOCUS 3 Launch a collaborative foundational investment plan in Brittany

5. Drive power of between 5 to over 10MW

The institutional, research and business spheres will be mobilised for the implementation of this roadmap.

The roadmap partners will commit to supporting actions and/or investing in projects; this will allow the offer to continue to expand and to develop.

FOCUS 1: DEVELOP THE FIRST LOCAL LOOPS TO INSTIGATE THE USE OF HYDROGEN

Through the implementation of local renewable hydrogen projects across territories with different geographical contexts (urban areas, rural areas, islands, ecodistricts), our aim is to test and circulate the technologies and services developed in Brittany and to optimise the energy systems.

To do so:

- The existing local dynamics will be amplified, and new projects will be developed (Action 1)
- The first Breton productions of renewable hydrogen will be deployed (Action 2).
- The projects will be supported and boosted by a collaborative project support resource (Action 3) and backed by a regional hydrogen focused team (Action 8).
- The entire Breton hydrogen ecosystem will be mobilised to involve the citizens and future users (Action 4).

As the leader in the energy and climate transition, the Region will contribute in its instigation and will support the development of the first territorial partnership projects (Region-EPCI/industrial unions), to mutualise hydrogen production and recharging infrastructures around use ecosystems:

- Starting in 2020, then 2021, 2022 and 2023, launch of a call for projects for regional hydrogen loops (research and investment): €10M in regional funding
- European tools, among which the Blending Facility supported by the Banque des territoires and the ERDF operational programme, will be mobilised for the foundational support for infrastructures and fleets

FOCUS 2: POSITION THE BRITTANY HYDROGEN INDUSTRY AMONG THE REGION'S FIELDS OF EXCELLENCE AND INNOVATION

Despite the extensive expertise in the region and with the absence of a laboratory dedicated to the topic, research in Brittany on the fields of energy and hydrogen is greatly lacking in visibility.

- To encourage the emergence of projects, starting 2020 the different laboratories and research teams will be mobilised on the development of technological offers with the capacity to rise to the challenges of the implementation of future commercial activities for the production and use of offshore hydrogen (Action 5).
- The anticipated projects will be based more explicitly on specific Breton capabilities: renewable energies, in particular marine energies, and methanation (Action 6), smart grid applications (Action 7), and storage (Action 10).
- The coordination and promotion of the industry's expertise will be driven on a regional and local level (Action 8).
- The strategic support for operating, maintenance and training activities, in particular through the deployment of hydrogen resource and expertise centres (Action 9) will boost the initial periods of hydrogen deployment.

The innovation and technological development context of the processes for the conversion of renewable energies into hydrogen, whether originally electricity or biomass, change quickly and regularly. The second and third technological generations provide a development potential for the academic and industrial know-how in our territories with the high stakes of French industrial competitiveness and excellence on an international level. The technological fields covering solutions at different stages of maturity will continue to widen and will go beyond the electrolysis and steam reforming processes. Thereby, we are prioritising several focuses for innovation, and in particular:

- Production, storage, transport, bunkering and offshore distribution of hydrogen or marine energies.
- Reduction of processing costs and the environmental impacts of the materials used.
- Agricultural and agri-food activities, thermolysis, and pyro-gasification of biomass (solid and liquid) or the production of biohydrogen from wastewater.
- Value creation from the by-products of hydrogen production and the reduction of the impacts of processes (on networks and the environment).
- The least mature, but most promising applications of biological hydrogen production, the use of aquiferous hydrogen sources or hydrolase/electrolysis processes from other organic resources.

The Region will mobilise its expertise in economic facilitation, support for innovation and training, to support its industrial ecosystem:

■ Starting 2020, through the implementation of a project management support system across its territory and on a European and International scale, as well as promoting its know-how by mobilising its agency Bretagne Développement Innovation (around the strategic project on energy and the climate).

To support the structuring of innovation, research, and training:

- Supporting businesses with their projects by mobilising regional support measures.
- The hydrogen related training, research and innovation lines of focus will be integrated into the Region's next smart specialisation strategy and to its energy innovation roadmap. The mobilisation of its competitiveness clusters (ID4CAR, Pole Mer Bretagne Atlantique) and the mobilisation of a technical profile within the regional facilitation team will provide the technical and financial expertise necessary for the technological success of projects through their launch to market.
- Funding for surveys on new processes for the production and application of renewable and low-carbon hydrogen.
- Massive support for industrial pilots (H2 ships, offshore H2 production, hydrogen smart grids) which could also mobilise the operational programme ERDF.

FOCUS 3: LAUNCH A COLLABORATIVE FOUNDATIONAL INVESTMENT PLAN IN BRITTANY

The regional and territorial facilitation actions will be maintained and increased

around a structuring plan for all hydrogen sectors and the hydrogen ecosystem:

- A European cooperation project will be organised on the conversion of "H2 port hubs" and their user environments (Action 11).
- To ensure the Brittany sector can be involved in this major project, a certain concentration of resources is required to ensure its financing (Action 12).

The Region also intends to make an example of its own hydrogen transition, by making it work for the transitions of private stakeholders and other public players.

The Region can thus play an important role in the specialisation of the Breton sector by inviting calls for innovation on its ports and airports, its waterways and road and sea vehicle fleets. The Region will offer to support the deployment of infrastructures, by investing ad hoc, during the instigation phase, in the first hydrogen production and use ecosystems.

By doing this, the Region and its partner authorities will rely on example to facilitate and federate ship owners and public and private fleet operators on the stakes of the H2 conversion. It will encourage local economic spin-offs and private investment alongside public authorities by supporting investment in project companies.

With this, the region is launching an ambitious programme for its ports and shipping fleets, which is foundational for Brittany, to ensure the visibility and success of future public-private partnerships. It is now launching the studies necessary to ensure that starting 2022, its own fleets can be renewed carbon-free and whenever possible and pertinent, encouraging the development of the hydrogen sector.

MARITIME FLEET CONVERSION				RIGHTS OF WAY & PORT LOGISTICS	
Ships	Connections	Target year	Reduced fuel consumption/year Power Rotations	Towns	Target year
Utility barge (Belur - 1975) 17m / Golfe - Kersea Floating bus	Ile d'Arz-Séné-Vannes	2022	20 T/year 180 kW 5 rotations / day 1094 rotations / year	Séné (Port Anna)	2022
Launch 2022 (Ile d'Or - 1972) 23m / 168 pax Golfe - Kersea Floating bus			NC 500 kW 12 rotations / day		
Roll-on/Roll-off passenger ship (Enez Eussa III - 1991) 45m / 300 pax / 2 vehicles Penn ar Bed	Brest-Le Conquet-Ouessant-Molène	2023	349 T/year 3.3 MW 260 rotations / year	Brest	2023
Coaster (Molenez - 2000) 253m³ freight / 37m / 2 vehicles Penn ar Bed	Brest-Ouessant-Molène-Sein	2026	126 T/year 1.3 MW 120 rotations / year		
Roll-on/Roll-off ferry (Vindilis - 1998) 48m / 400 pax / 40 vehicles Compagnie Océane	Quiberon-belle ile en mer	2025	548 T/year 1.7MW 5 rotations / day 1100 rotations / year	Lorient Quiberon	2025
Utility barge (Ile de Bréhat - 1984) CCI des Côtes d'Armor	Pampol Ile de Bréhat	2028 / 2030	4 T/year A few kW 370 rotations / year	Paimpol	2028
Utility barge (François André - 1980) 30m / 180 tonnes / vehicles SARL Transport de fret	Roscoff-Batz	2030	27 T/year 400 kW 370 rotations / year	Roscoff	2030

IV. Governance and assessment

Two territorial scales will be required for the impetus of project dynamics, collaborative facilitation, and organisation of partnerships:

- **On a regional scale**, under the leadership of the Region and with the support of partners among which the BDI, the partners' committee, composed of public and private stakeholders in the roadmap, will gather once or twice a year and carry out the following missions:
 - Cooperation on a regional level with public and private stakeholders
 - Supervision of project deployment, of the facilitation of collaborations and interfacing with the local level
 - Communicating the evaluation of attainment of objectives and the analysis of potential risks
 - Communicating with the "Conférence Bretonne de la Transition Énergétique" (Breton Energy Transition committee) and the supervision committee of the National Plan for Hydrogen
- Themed work groups (H2 port and maritime ecosystem; heavy vehicles; production; security, smart grid applications and static storage; research...) will get together as often as necessary and will oversee:
 - Consultation and strategic monitoring of industrial and territorial stakes and public interest projects.
 - The establishment of cooperative private and public-private projects, of their supervision, communication, and promotion.
- **On a local level**, the town or EPCI in co-management with the energy distribution authority (in particular county energy syndicates), in which the technopoles, the Region or DBI could be associated with the mission to establish a dynamic for projects on hydrogen loops, infrastructures and uses, will cover the following missions:
 - Consultation with all local stakeholders, including citizens, and project communication
 - Operational facilitation of the project across the territory and monitoring of objectives

On a supra-regional level, the development of a hydrogen industry in Brittany will be organised in synergy with the neighbouring regions. In this context, the Brittany Region and the Pays de la Loire Region, whose plans will be adopted in 2020, partnered up in their respective workgroups. The collaboration initiated will continue within the scope of the implementation of their roadmaps. Interregional partnership opportunities have already been identified around:

- The SMILE dynamic – Smart Ideas to Link Energies whose aim is to make the Great West a showcase for smart energy networks (certain hydrogen projects have already been supported and approved in this context);

- The maritime, fluvial, and port context.
- A blueprint for distribution station networks.
- Models for the production of hydrogen from renewable or carbon-free sources.
- The mutualisation of certain events.
- Collaboration around shared stakes and national levers (regulations, certifications, pricing...).
- Calls for projects or shared bids for European calls and the coordination of ERDF structuring funds to facilitate border projects.

Therefore, we are asking you to approve the orientations in this roadmap and in particular:

- **The Brittany Region's commitment to progressively, starting 2022 and through 2040, converting its entire fleet of ships** with a "zero emission" objective, with whenever possible, drive chains using onboard hydrogen supplied in part by "renewable hydrogen"⁶.
- **The Region's commitment to converting a portion of its land vehicles, in particular its intercity diesel busses and trains running outside the electric lines**, complementary to their conversion to bioNGV and to electricity, when commercial offers are available and the infrastructure up and running.
- **The Brittany Region's commitment to ensuring that its ports, stations and airports can supply their ships and vehicle fuelling stations with "renewable hydrogen" or "low-carbon"**, by implementing the support or investment necessary in its infrastructure, or by authorising such services on its properties, when considered useful and relevant on an energy or economic level.
- **The launch, starting 2021, of regional calls for research and innovation projects in the hydrogen field**, within the framework of the future strategy for the smart specialisation of Brittany and, **starting 2020, territorial calls for public-private projects for renewable low-carbon hydrogen and production and use loops.**
- **Requests for funding in the framework of the ERDF 2021- 2027 programme, co-funding or support for hydrogen development projects are included in the European funding measures (Horizon Europe, Interreg, IPCEI, Blending Facility, etc.)** considering the principles governing this ambitious regional project: shared governance, citizen awareness and involvement in projects, innovation and public and private co-funding of innovation and infrastructures, support for users and the conversion of vehicle fleets, territorial networks of renewable and low-carbon production and supply.

6. As defined in article L. 811-1 of book VIII of the energy code, concerning the provisions relative to hydrogen, and whose productions are eligible for the renewable traceability guaranties, or at the very least for renewable origins guarantees, as defined in articles R 841-1 and R 841-2 of the same code, on condition of the project's approval by Decree from the Council of State in June 2020.



Brittany Region | Rannvro Breizh - Climate and energy service | Servij an hin hag an energiezh

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