RESULTS AND LESSONS LEARNED

PROJECT DEVELOPMENT ASSISTANCE FOR REGIONS

Results and lessons learned
(public closing event)

19.10.2021
| 01 | Introduction to the PDA initiative |
| 02 | The supported regions and their projects |
| 03 | The observer network activities |
| 04 | Lessons learned and main takeaways |
| 05 | Summary and next steps |
THE PDA INITIATIVE
TEAM, PROJECT STRUCTURE AND TIMELINE

PDA REGIONS NETWORK

SPILETT new technologies
Trezors
SPILETT new technologies
WiseEuropa

OBSERVER NETWORK

SPILETT new technologies
SPILETT new technologies

 elementenergy
WiseEuropa

INTERNAL SURVEYS

 elementenergy
 elementenergy

PROJECT LEAD

SPILETT
new technologies

FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

PDA webinar on final results | 19.10.2021

PROJECT LEAD

SPILETT
new technologies

FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

PDA webinar on final results | 19.10.2021

OCT 2019
Project setup

JAN 2020
Selection of regions

MAY 2020
PDA support and observer network

MAY 2021
Closing

JUN 2021

OCT 2019

JAN 2020

MAY 2020

MAY 2021

JUN 2021

Closing
INITIAL SITUATION
THE PERSPECTIVES OF THE CITIES AND REGIONS

- A number of public authorities express significant interest in further developing local or regional roadmaps and developing their own markets; most of these projects/activities are in various stages of planning.
- Many of the public authorities do not have the level of experience or in-house expertise needed to develop these projects; public authorities have limited resources, in particular, to access financial, technical and legal expertise needed to materialise projects in hydrogen and fuel cell technologies.
- They are not familiar with hydrogen and some of its specificities, such as potential suppliers, safety aspects, permitting procedures, etc.
- Due to the premium costs associated with these early stage projects, it is necessary to consider sources of funding beyond those offered by the FCH 2 JU, at European, national, regional and local levels.

PROJECT DEVELOPMENT ASSISTANCE TO LAUNCH MATURE PROJECTS WITHIN 12 MONTHS
EXPECTATIONS AND INTERESTS FROM THE REGIONS
RESULTS OF SURVEY 1 (06/2020)

Important topics to implement the project idea:
- Understand technical feasibility: 2
- Identification of technical challenges and solutions: 8
- Understand economic viability of the project, and what influences this: 11
- Understand financing strategies and funding mechanisms: 11
- Develop procurement strategies: 7
- Develop risk management strategies: 4
- Networking with industry/suppliers: 6
- Networking with other regions: 3
- Understand and manage acceptance of hydrogen in the region: 3
- Regulation, codes, and standards: 4
- Other (please specify): 0

Main motivations to participate in the observer network:
- Get information on FCVs technology readiness and experiences in daily use: 20
- Get information on FCV market readiness and availability in my region: 18
- Participate in lessons learned from PDA regions: 23
- Receive feedback on my application: 12
- Learn about financing / funding mechanisms and programmes: 22
- Network with other regions with similar ambitions and limitations: 18
- Learn to draft proposals and concepts: 14
- Understand challenges and best practices in procuring FCVs technologies: 21
- Get in contact with FCV industry and experts: 19
- Other (please specify): 1
AGENDA

01 Introduction to the PDA initiative
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THE SUPPORTED REGIONS AND THEIR PROJECTS
OVERVIEW OF THE 11 SUPPORTED REGIONS
STANDARDISED PDA PROCESS
TAILORED TO EACH INDIVIDUAL PROJECT

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**Whole group kick-off meeting**

- **Webinar meeting** between the consultancy team, representatives of each of the 11 projects, and representatives from the FCH 2 JU.
- **Aim** was to introduce the consultancy team, explain the PDA support process and requirements of the regions, and introduce each of the projects.

**Individual kick-off meetings**

- **Webinar meeting** between the consultancy team and regional representatives.
- **Aim** was to share information on the current project status and discuss the required PDA activities and timeline.

**Forming a project delivery group**

- **Mapping the local value chain of the proposed project** to ensure that all relevant stakeholders are present and represented in the process.
- **Support the local teams** with establishing these groups, including consideration of issues such as governance, working mode, etc.
- **Where necessary: provide dedicated support in coordinating the Project Delivery Groups and managing the consortium** (e.g. preparing for and chairing meetings, circulating minutes recording points of agreement and actions arising).

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**Initial concept development**

- **Prepare initial concept paper** setting out the overall objectives of the project, the scope of activities, likely budget, the key tasks, procurement strategy, responsibilities of all partners, and timescales (from EOI and bilateral interviews, feedbacked by consultancy’s expertise and knowledge)
- **Assess feasibility of ideas and activities**, steer project in a direction that is consistent with the available resources

**Detailed project planning**

- **Process of expanding, reviewing, and refining the concept paper** into a detailed scope, which becomes the “project plan” document
  - **Form working groups** for local project development
  - **Project plan development**: including a detailed description of the technologies to be deployed, deployment locations, responsibilities, Gantt chart, milestones, governance structure of delivery phase, risk assessment
  - **Budget development**: financing and funding plan
  - **Approach to procurement and equipment ownership**
  - **Project plan sign-off (letters of commitment by senior representatives)**

**Performance monitoring**

- **Three survey to feedback on**:  
  - Type and quality of support provided and added value of the PDA support service.  
  - Extent to which the implementation plans have been advanced and any outstanding barriers to implementation.  
  - Lessons learned and challenges, willingness of the participants and timelines for implementing the projects.

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The concept paper was drafted to be a living document which evolved through time as the project develops.
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THE PDA OBSERVER NETWORK
35 REGIONS FROM 18 COUNTRIES

Coventry, Swindon, Aberdeen, Orkney Islands
Brainport Eindhoven, Midden Noord-Brabant, Texel
Limburg
Bourgogne-Franche-Comté, Normandie, Région Grand Est, Région Hauts de France
Aragón, Asturias, Cantabria
Medio Téjo
Emilia-Romagna
Western Macedonia

Gävleborg, Mariestad
Dahme-Spreewald, Stadt Aschaffenburg
4cities (Gdynia, Gdansk, Wejherowo, Tczew)
Tartu
Jelgava, Riga
Mocenok
Szentendre
Zagreb
Cluj-Napoca, Giurgiu, Iasi, Ramnicu Valcea
Ruse, Sofia
ONLINE SEMINARS
OFFERS TO PDA REGIONS

15.10.2020
Technology Web-Seminar 1: FC Trucks and Buses
(Consultancy Team & External Speakers)
Hydrogen Europe, Aberdeen City Council, RVK Cologne, Transport for London, H2energy

16.12.2020
Funding Opportunities and Application Strategies
(FCH JU & Partners)

17.11.2020
Peer Review Web-Seminar 1 1
(Consultancy Team & Regional Representatives)
Swindon & Wiltshire (U.K.), North-Brabant (The Netherlands)

11.02.2021
Technology Web-Seminar 2: HRS Suppliers
(Consultancy Team & External Speakers)
EMCEL, Hexagon Purus, Linde, McPhy, Messer Group, Maximator

26.05.2021
Technology Web-Seminar 3: Hydrogen production
(Consultancy Team & External Speakers)
LifteH2, Cummins, ITM Linde Electrolysis, Modis, Plagazi, PlugPower, Enapter, ELOGEN

02.06.2020
Supported Regions Kick-Off Event

22.06.2021
Supported Regions Closing Event

(1) Other PDA observer network regions were not yet ready to present until June 2021
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WHAT KIND OF SUPPORT IS REQUIRED?
THE REGIONS HAVE DIFFERENT NEEDS FOR SUPPORT

1. **CONFIDENCE**
   - Internal
   - "Doing the right things"

2. **CREDIBILITY**
   - External

3. **COMPETENCE**
   - Internal
   - "Doing things right"

4. **CONTACTS**
   - External

**MAIN TAKEAWAYS**

- It is essential to understand and prioritise the needs for support in each of the regions.
- A successful support empowers regional stakeholders to continue their projects after the PDA.
HOW CAN SUPPORT BE ORGANIZED AFTER PDA?
JOIN FORCES IN THE REGIONS AND WITH OTHER REGIONS

1. CONFIDENCE
   Regional stakeholders
   - internal
   - external
   “Doing the right things”

2. CREDIBILITY

3. COMPETENCE
   Regional stakeholders
   - internal
   - external
   “Doing things right”

4. CONTACTS

PDA consultancy teams

FCH Regions / Valleys
National Hydrogen Associations
FCH Industry & Research

National funding organizations
External investors

PDA seminars
RFI processes
Supplier database
CHALLENGES FROM A REGIONAL PERSPECTIVE

SCALING-UP STRATEGIES

Do the projects have the right scale?
- economic viability
- visibility
- regional expertise
- risk of failure

Do the projects have sufficient industry support?
- FCH suppliers (international)
- FCH suppliers (national)
- Service providers (regional)
“Project development” versus “stakeholder empowerment”? What is the better support activity in the long run? How to empower regions to manage and adapt to (expected) changes in the project delivery plans?

BEST PRACTICES
FOCUS OF WORK AND SUPPORT OF THE PDA CONSULTANCIES

**Facilitating processes: reflecting, structuring, validating**

- Identify roles and commitments for each of the stakeholders, include regional research and industry partners from the beginning
- Leave the project lead with the regions
- Provide expertise and share lessons learned from other regions / former projects
- Identify “blind spots” in the project approaches
- Develop and discuss alternative options (project approach, technology set-up, financing strategy, risk mitigation strategy)
- Validate assumptions with request for information (RFI) processes

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(1) NDA may be required and draft documents need to be in place
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NEXT STEPS

PROJECT IMPLEMENTATION

Limburg led by WaterstofNet
- 2 trucks
- 3 shunters
- 2 refuse truck
- 3 LCV’s
- €5,9 M CAPEX

Bourgogne-Franche-Comté led by Element Energy SARL
- 40 trucks
- 63 buses
- €78,7 M CAPEX

Asturias led by Element Energy SARL
- 200 MW onshore electrolyser
- 5 MW offshore electrolyser

Medio Téjo led by Element Energy SARL
- 12 coaches
- €86 M CAPEX

Texel led by WaterstofNet
- 1 MW Electrolyser
- €12M CAPEX

Mariestad led by Spilett
- 2 trains
- 10 buses
- €22,3 M CAPEX

Gdynia led by Spilett and supported by WiseEuropa
- 91 buses
- €65,9 M CAPEX

Mocenok led by Element Energy UK
- 2 trains
- 12 buses
- €113,5-124,8 M CAPEX

Ruse led by Element Energy UK and supported by Trezors
- 1 freight ship
- 10 buses
- €23,4 M CAPEX

Sofia led by Element Energy UK and supported by Trezors
- 24 buses
- 6 inter-city buses
- 30 trolleybuses
- €46,2 M CAPEX

Zagreb led by Element Energy UK and supported by Trezors
- 20 articulated buses
- €38-50 M CAPEX

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Thank you very much for your attention!

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