



European-wide field trials for residential fuel cell micro-CHP

WP1 presentation – Field trials Coordination

Presentation prepared by Element Energy



London, 23-24 September 2013
2nd Project Meeting

elementenergy

1. Reminder - Objectives
2. Field trials progress
3. Deliverables and Milestones status
4. Annual progress report conclusions
5. Further actions - conclusions from WS1
6. Concluding remarks & next steps
7. Q&A

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1. Reminder - Key objectives of WP1

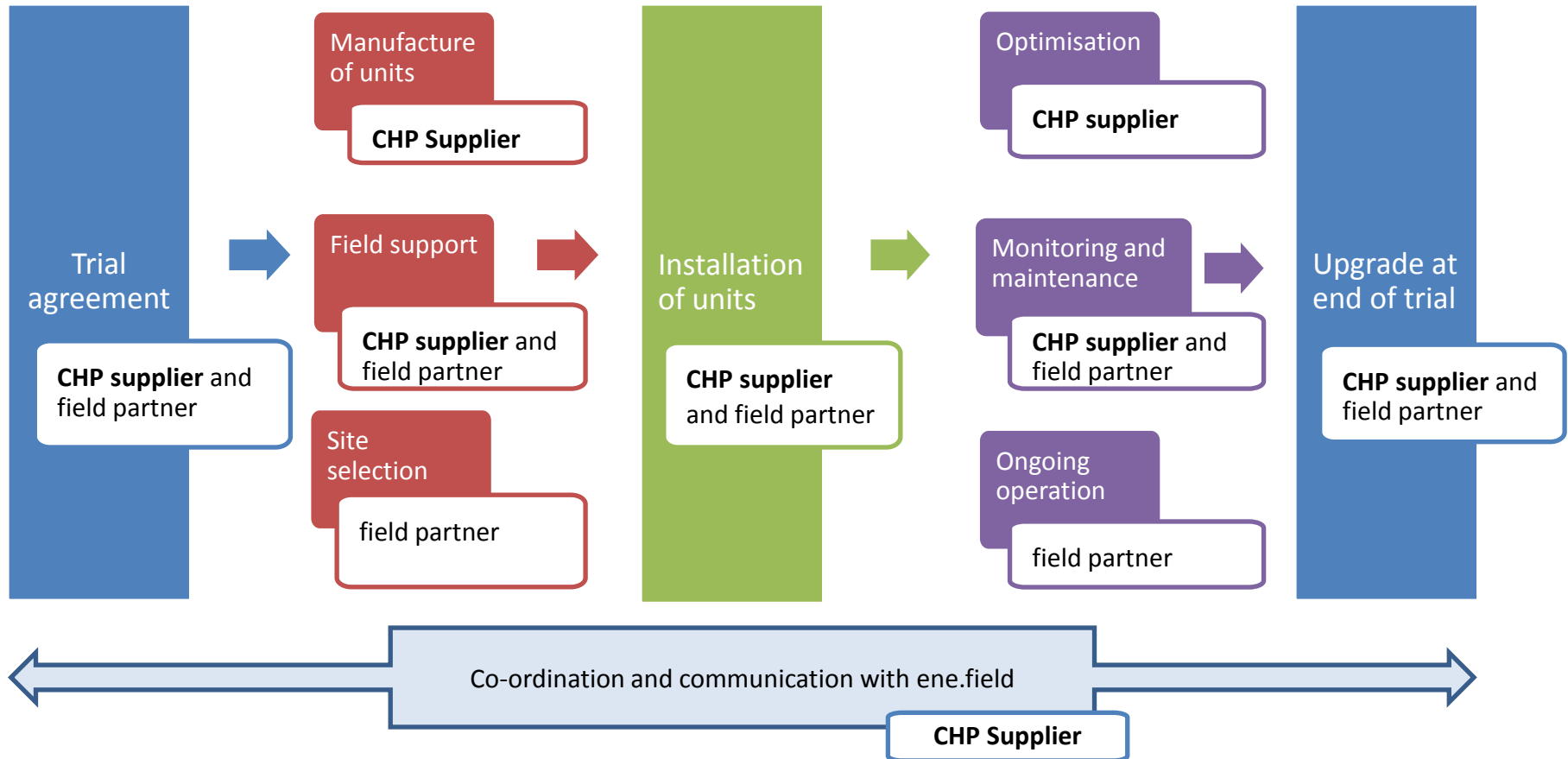
- Deploy up to 1,000 fuel cell CHP units across Europe
- Demonstrate the complete route to market
- Establish principles for deployment across Europe
- Run efficient local management for nine trial programs
- Generate baseline energy demand and performance data
- Capture issues from the various trials
- Capture lessons learned for manufacturers
- Establish co-operation between manufacturers

GAMMA PREMIO	Cerapower FC10 Logapower FC10	Dantherm	Elcore 2400	Galileo 1000 N	Inhouse 5000+	ENGEN 2500	Vaillant G5+
							
LT PEM 1 kW Baxi Innotech	SOFC 700W Bosch Thermotechnik	LT PEM 0.5 - 2kW Dantherm Power	HT PEM 300W Elcore	SOFC 1kW Hexis	LT PEM 5kW RBZ	SOFC 2.5kW SOFC Power	SOFC 1kW Vaillant

1. Reminder - Overview of WP1

WP1 is the main demonstration WP and contains all on the ground trial activities with a view to deploying **1,000 FC CHP units across Europe**.

This WP will **produce data for other work packages** and for final reports. It is key to the success of ene.field.



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2. Field trials progress - summary 1/2

- First units have been installed by Baxi Innotech and Elcore at the end of Aug. / early Sept. 2013.
- More than 60 contractual agreements are finalised but installations are scheduled for Q4 2013 or Q1 2014.
- Presently the main focus is on finalising agreements with trial partners that have an interest in deploying units.
- The finalisation of agreements with field partners has been significantly more challenging than expected at the beginning of the project.
- This confirms the 6 month report analysis of challenges for the project.



Installation of the Gamma premio (Baxi innotech) at Family Bossler (Homburg)



Installation of the Elcore 2400 system at family Aberl (Munich region)

2. Field trials progress - summary 2/2

- Progress on other tasks of the WP depend on successful conclusion of the contracts and will truly begin once a significant number of agreements have been signed.

(e.g selection of the end-users and the installation, operation and monitoring).

- Manufacturers have a small number of units already manufactured.
- The preparation of the support infrastructure has already started for most of the trials and has made good progress for the first trials that will be deploy units.

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3. Deliverables status

Deliverable	Description	Delivery date	Status
D1.1 – Summary of Installations Report	<ul style="list-style-type: none"> Summary of the installations and the lessons learned during different phases. Responsible: manufacturers 	On completion of installations + 1 month	Not started
D1.2 – Operational data	<ul style="list-style-type: none"> Each month a definitive dataset will be provided to WP2. Responsible: manufacturers (Baxi / Elcore to start) 	Monthly over the operational period	In progress
D1.3 – Final operation report	<ul style="list-style-type: none"> Report summarising the trial will be produced. Responsible: manufacturers 	On completion of 2.5 years of operation	Not started
D1.4 – Tracking system for trials	<ul style="list-style-type: none"> Log of the trials. Responsible: Element Energy 	Month 4 and on-going	Started
D1.5 – Annual report on trial progress	<ul style="list-style-type: none"> Annual summary report on the status of each trial and the demonstration as a whole. Responsible: Element Energy 	Months 12, 24, 36	1st report completed

3. Milestones status

Milestone	Description	Date of Delivery	Forecast date	Status
M 1.1	Completion of installer and field support training	36	36	Not started
M 1.2	Installation of first unit	6	12	Started (M12)
M 1.3	Installation of all units	48	48	Not started
M 1.4	1 year of operation for first systems	18	24	New target
M 1.5	2nd year of operation for first systems	30	36	New target
M 1.6	Final operational report	60	60	Not started

- The first units have been installed in August 2013, six months behind schedule (M1.4 and M1.5 will be pushed back as a result).
- The project is still on track with regards to its objective of 2 years' minimum operation time for the systems and will see between 2.5 and 3 years of operation for a significant number of units and some potential for 4 years of operation.

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4. Annual progress report conclusions - challenges

- **A difficult global economic context**
 - Evolution in the energy industry, economic crisis and Eurozone crisis .
 - Major reduction in utilities' R&D funding and limited resources for field trials that will not generate revenue and profit in the short-term.
- **Conflicting expectations between the sector's stakeholders**
 - More interested in deploying small volumes of units to test the technology as part of first field trials or are expecting to buy systems ready for market entry.
 - The deploy a higher number of units utilities expect a lower cost technology (close to market entry) and field trials with not costly monitoring activities.
- **Difficulties inherent to a large scale demonstration project**

4. Annual progress report conclusions

- risks

Ref	Description
Agreement with field partners and preparation of installation and trial deployment	
101	Utilities do not properly engage in trials/failure of route to market.
102	Field partners show interest in trials but have long decision process when it comes to financial commitments.
103	Field partners are reluctant to commit to more than 1 to 3 units from the start. They expect to test the units before committing to higher numbers of units resulting in delays in the process.
105	Monitoring concept is not completed / agreed in time. Required monitoring is more expensive than planned costs.
106	Lack of installer capacity risk not being able to meet time schedule for installations.
Political and economic context	
301	Public funding / feedback tariff etc. discontinued in certain member states.
302	New technical standards obstruct deployment of mCHP with fuel cells (example: ENTSOE Grid Code, standards for biogas feed-in).

4. Annual progress report conclusions – on-going actions

Challenges	Actions in progress
Difficulties in securing agreements	<ul style="list-style-type: none">• On-going communication and engagement efforts• Change scope and date of regional workshops
High price of the units	<i>Manufacturers are reviewing aspects of the commercial offer to utilities</i>
Preference for small field trial (1 or 2 units)	<ul style="list-style-type: none">• Field trial strategy using a two-steps approach• Dissemination offer
Lack of interest from field partners in monitoring activities	<ul style="list-style-type: none">• Dissemination offer• Project presentation for outreach

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5. Further actions - conclusions from WS1

- Further possible actions have been discussed during the WP1 workshop.

Challenges	Possible further actions
Difficulties in securing agreements	<ul style="list-style-type: none">• Continue communication and engagement efforts.• Start end-users recruitment through website.
High price of the units	<ul style="list-style-type: none">• Put together a database of funding opportunities.• Understand state aid impact on funding models and opportunities to overcome funding cap at national and regional levels.
Preference for small field trial (1 or 2 units)	<ul style="list-style-type: none">• Introduce new partner(s).
Lack of interest from field partners in monitoring activities	<ul style="list-style-type: none">• Continue communication and engagement efforts.• Discuss options with Commission.

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- **First installations in the field, shortly to be followed by the beginning of the data monitoring activities for the project.**
- **Difficulties in finalising agreements and on-going actions to facilitate commercial discussion requires common effort from Consortium partners.**
- **Consortium still has to address structural challenges e.g reallocation of Ceres' units.**
- **Ramping up of installation planned for Q1 2014 (all but 2 OEMs are aiming to deploy units for the period Q3 2013 – Q1 2014).**

 **Continue efforts for deployment**

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- **AOB**
- **Questions and answers**

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APPENDIX

Element Energy – contact details

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Field trials timescale

