

EUROPEAN COMMISSION

SEVENTH FRAMEWORK PROGRAMME

FUEL CELLS AND HYDROGEN JOINT UNDERTAKING (FCH JU)

THEME SP1-JTI-FCH.2013.3.5

Field demonstration of large scale stationary power and CHP fuel cell system

GA No. 621256



Demonstration of a combined heat and power 2MWe PEM fuel cell generator and integration into an existing chlorine production plant

| | | |
|---------------------|----------------------|------------|
| Deliverable No. | DEMCOPEM-2MW D8.4 | |
| Deliverable Title | E-newsletter | |
| Dissemination level | Public | |
| Written By | Anna Molinari (ANIC) | Dec 2018 |
| Checked by | EB members | Dec 2018 |
| Approved by | Ton Pichel (ANIC) | 20-12-2018 |
| Issue date | 21-12-2018 | |

Publishable summary

This deliverable contains the E-newsletters that have been sent out during the project.
In these newsletters all information regarding the project and the progress/results have been presented

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1 Newsletters

1.1 Newsletter 1 – April 2016

Newsletter 1 is to be viewed here:

<https://us3.campaign-archive.com/?u=8ca06370f244233911eb30c83&id=baa22c7fa8&e=d3634d447f>

DEMCOPEM-2MW Newsletter 1 - April 2016

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Facts & Figures

Full names: DEMCOntestration, COmbined heat and power (or Cogeneration), PEM fuel cells and 2 Mega Watt electrical power (MWe)

Acronym: DEMCOPEM-2MW

Duration: 48 months

Start date: 1 January 2015

Total budget: 10.5 M€

EC Funding: 5.5 M€

About DEMCOPEM-2MW

The main objective of the four years DEMCOPEM-2MW project is to design, build and operate a 2 MW power generator. For the demonstration of the DEMCOPEM's technology, a site in China by a new chlor-alkali plant has been selected. [Read more...](#)

Nedstack completes stack production for 2MW power plant

Nedstack fuel cell technology B.V. has finalized the production of all the stacks necessary to complete the 2MWe PEM Power Plant, which was sold one year ago to the Chinese customer Ynnovate. [Read more...](#)

DEMCOPEM-2MW - Consortium

The DEMCOPEM-2MW Consortium consists of 5 active partners from 3 EU countries.

Consortium

AkzoNobel - NL
Nedstack - NL
MTSA - NL
Johnson Matthey - UK
Politecnico Milano - IT



Environmentally friendly re-use of hydrogen during chlor-alkali production

MTSA Technopower B.V. designs and builds the world's largest power plant on hydrogen. Principal of the project is the Chinese company Ynnovate Shenzheng Fine Chemicals Co. Ltd. in Yingkou, China. Mid 2016 the hydrogen power plant will be commissioned. At this moment the installation is being thoroughly tested at MTSA Technopower, prior to being shipped to China. [Read more...](#)

Johnson Matthey - Becoming a High-Volume Stationary Power MEA Manufacturer

Johnson Matthey Fuel Cells (JMFC) has delivered 27,000 membrane electrode assemblies (MEAs) to project partner Nedstack Fuel Cell Technologies (NFCT). NFCT has built them into 360 fuel cell stacks and delivered these stacks to the DEMCOPEM-2MW system integrator, MTSA Technopower. [Read more...](#)

Modeling activities of the 2-MW cogenerative PEM system

Scale-up of stationary fuel cell plants is an ongoing process with many open challenges. Therefore, in the framework of the project, a modeling activity (belonging to WP3: Modeling of process, measurements and evaluation) is developed in order to evaluate the Demcopem 2MW plant expected performances. Results allow to better understand the plant behavior and optimize the operational strategies along plant lifetime. [Read more...](#)



European Commission

This project receives funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under Grant Agreement no. 621265.




Please [contact us](#) for any questions concerning this newsletter.



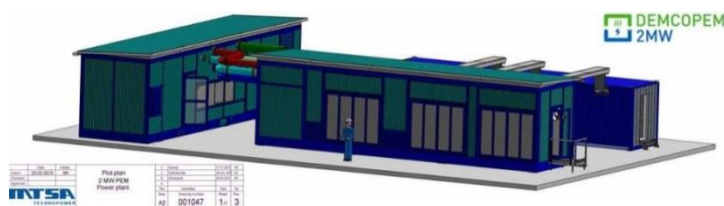
1.1.1 Subjects in Newsletter 1

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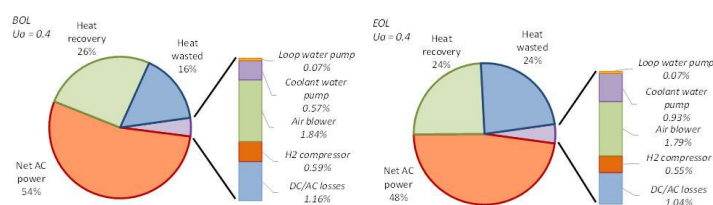
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1.2 Newsletter 2 – August 2016

Newsletter 2 is to be viewed here:

<https://us3.campaign-archive.com/?u=8ca06370f244233911eb30c83&id=3d15de7dc9&e=8d88e369cf>

DEMCOPeM-2MW Newsletter 2 - August 2016
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Facts & Figures

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Acronym: DEMCOPeM-2MW

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European Commission

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Launching ceremony of DEMCOPeM-2MW PEM power plant in China

The DEMCOPeM consortium is glad to announce the Launching ceremony of the world's largest PEM power Plant! The event which will take place on 13th and 14th October 2016 in Yingkou, China. With this message we would also like to request parties that are interested in an invitation to respond. [Read more and apply.](#)

Important project milestone has been achieved: successful FAT with customer

A delegation of the Chinese customer has visited Arnhem, the Netherlands to receive training and perform tests on the 2 MW PEM Power Plant. At the end of the period a successful FAT (Factory Acceptance Test) was performed. [Read more...](#)



Shipment of containers to China (MTSA)

After Factory Acceptance Test at MTSA, the 2 MW PEM Power Plant has been packed and shipped to the customer in China. [Read more...](#)



DEMCOPeM-2MW dedicated panel at ICAE2016

The Panel session is dedicated to introducing and celebrating the DEMCOPeM-2MW installation, which will be the world's largest PEM fuel cell power plant. [Read more about the ICAE2016...](#)







Please [contact us](#) for any questions concerning this newsletter.

1.2.1 Subjects in Newsletter 2

Launching ceremony of DEMCOPEM-2MW PEM power plant in China

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1.3 Newsletter 3 – June 2017

Newsletter 3 is to be viewed here:

<http://mailchi.mp/059cf4f216a4/demcopem-newsletter-3?e=8d88e369cf>

DEMCOPeM-2MW - Newsletter 3 - June 2017
[View this email in your browser](#)



Facts & Figures

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 Combined heat and power (or Cogeneration), PEM fuel cells and 2 Mega Watt electrical power (MWe)

Acronym: DEMCOPEM-2MW
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Project Information

www.DEMCOPEM-2MW.eu
 Newsletter #1
 Newsletter #2

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Consortium
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 Nedstack - NL
 MTSA - NL
 Johnson Matthey - UK
 Politecnico Milano - IT



Validation of model developed during the project

The numerical model of the plant has been developed during the first steps of the project aiming at optimization and prediction of plant performances. It has been built according to the previous experience of the partners in other plants (e.g. Uilo, 1 MWe) and design data. After few months of operation, the preliminary on-field measurements are available and they have been used for validation of modelling results and performances assessment. [Read more...](#)



Loop water pump 0.14%

Coolant water pump 0.65%

Air blower 1.43%

H2 compressor 1.19%

DC/AC losses 3.38%

European Commission

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Launching ceremony, first workshop and follow up

After one year of exceptional technical work in Europe, shipment of several weeks across oceans and a couple of month's intense work on location, the DEMCOPEM-2MW's system has been officially inaugurated with a spectacular **launching ceremony** for the PEM power plant on 13th and 14th of October 2016 in Yingkou. [Read more...](#)



PEM System up and running

After the Site Acceptance Test, performed mid-September 2016, the 2 MWe PEM fuel cell generator was put into operation. Since then, the operation is performed by the client. A number of small technical optimizations, based on practical experience, were performed by MTSA and Nedstack in this period as well. [Read more...](#)









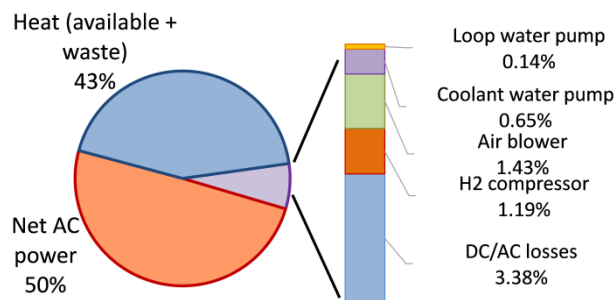


Please **contact us** for any questions concerning this newsletter.

1.3.1 Subjects in Newsletter 3

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1.4 Newsletter 4 – December 2018

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[https://us3.campaign-archive.com/?e=\[UNIQID\]&u=8ca06370f244233911eb30c83&id=f18d6c58e1](https://us3.campaign-archive.com/?e=[UNIQID]&u=8ca06370f244233911eb30c83&id=f18d6c58e1)

DEMCOPPEM-2MW - Newsletter 4 - December 2018
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Project information

www.DEMCOPPEM-2MW.eu

Newsletter #1

Newsletter #2

Newsletter #3

DEMCOPPEM-2MW Consortium

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Consortium

Nouryon - NL
(formerly known as AkzoNobel)

Nedstack - NL

MTSA - NL

Johnson Matthey - UK

Politecnico Milano - IT



Final Results -> The project has come to an end

In the past 4 years, the achieved results are:

Design, build and operate a 2MW power generator with:

- Integration of heat and power with an existing chlorine production plant
 - Heat available @ 60°C, but not used
 - Additional treatment hydrogen / air required; H2 scrubber installed
- High net conversion efficiency, i.e. > 50% electric energy on system level and > 85% for combined heat and power -> 50% electric energy, achieved 80% of combined heat and power
- Demonstration of power and heat generation for over 2 years
- On-stream availability of > 95% for over 16.000 hrs - > Achieved
 - Influenced by OSBL (H2/grid availability) and stacks but demonstrated Q'4 2017
- Fully automated way of operation and remote monitoring
- Investment < €2,500 / kWe (achieved (for €3,000 euro))

[Read more...](#)

Project Workshop: Creating more value out of hydrogen with the DEMCOPPEM technology

On November 7th the second project workshop took place in Foshan, China. The workshop has been organised in parallel to the "International Hydrogen Energy and Fuel Cell technology" Conference and Expo (CHFC 2018). [Read more...](#)



Final Meeting for the DEMCOPPEM project

On December 4th the project partners met in Amsterdam for the last face-to-face project meeting. The four years of fruitful and intense collaboration have been evaluated and analysed. [Read more...](#)



The DEMCOPPEM-team wishes you a Merry Christmas and a Happy New Year

European Commission

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1.4.1 Subjects in Newsletter 4

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[Read more...](#)

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2 General Summary

The project newsletters have been directly distributed to a contacts database of more than 50 participants. However, far more contacts have been reached by direct forwarding of the information (many Chinese customers were not included in our dissemination list due to confidentiality and privacy-related issues).

Google analytics has been implemented since the beginning of the lifetime of the DEMCOPeM website. Most of the contact and correspondence went via direct contact (personal email and phone calls) with possible customers and end users in China. Nevertheless, our project website attracted almost 4,000 users and more than 11,000-page view in total (only in Europe).

Submission of a newsletter or dates corresponding to one of the project workshops usually resulted in a slightly increase in the website-related activities.

3 Acknowledgment

This project is co-funded by the 7th FP (Seventh Framework Programme) – Fuel Cells and Hydrogen Joint Undertaking

<http://www.fch-ju.eu/>

<http://ec.europa.eu>



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