

Interim report – WP1 – Project Management

Reporting months: July 2017 – June 2018



Photo: By & Havn / Rasmus Hjortshøj

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June 14, 2018

M4: The data management system is in operation. Data streams can now be collected as access to them is established and they can be extracted by the trained user through a simple interface. A user-friendly interface is under development.

MP1: An agreement with Meny to demonstrate in the supermarket on Southhamptongade in Nordhavn has been made and hence all necessary contracts with building owners for the Danfoss demonstrations are in place.

MP2: Heat boosters have been successfully installed in Havnehuset and have passed a site acceptance test. Hence this milestone was reached in March.

The following milestones are delayed

M6: (Smart EV charging) was expected to be completed by May 2018. At the milestone review, a discrepancy in the interpretation of requirements for milestone fulfillment has appeared and needs to be resolved before a new estimate can be made.

M7: (Smart building management demonstrated) requires a bit more documentation, since the team has decided to pursue the demonstration of the building management by using automation systems for private homes, controlled through the IT systems established in the project.

KM5: Originally it was planned to establish and test the operation of two large heat pumps. It turned out to be practically impossible to establish the one planned at Fisketorvet and instead, the ambition level for the large HP at the cruise terminal has been increased. It requires a few months of a heating season to reach the milestone, and the plant was not ready before this spring. Hence the delay is expected to be until March 2019.

MP3: (Demo of heat booster) is delayed, because it requires a reference circulation heat pump to be built and tested at DTU and subsequently installed in a reference building on Strandboulevarden. Furthermore, load shift tests on the heat booster substation are still pending.

MP5: (Living connect) is expected for February 2019, since it requires demonstration of the remote set point shifting in a heating season, and this capability did not make it for the 2017/18 heating season.

Status and activities in the WP tasks

Task 1.1 Consortium operation

By June 2018, the Steering Committee members are the following:

Partner	Name
Københavns Kommune, Chair	Lene Mårtensson
ABB	Allan Andreasen, Vice President
Balslev Rådgivende Ingeniører	Carsten Sass Husum, Områdechef
By & Havn	Rikke Faaborg Jarmer, Udviklingschef, Bæredygtighed & Byliv
CleanCharge	Pouline Middleton, Adm. Direktør
Danfoss	Atli Benonysson, Vice president, District Energy
Radius Elnet	Søren Schmidt, Head of Strategic Grid Analysis
DTU BYG	Geo Clausen, Professor og sektionsleder
DTU Elektro CEE	Jacob Østergaard, Centerleder
DTU MEK	Henrik Carlsen, Institutdirektør (repræsenteres permanent af Jacob Østergaard)
GlenDimplex	Steen Reves, Adm. Direktør
HOFOR	Charlotte Søndergren, Planchef Fjernvarme
MetroTherm	Kasper Korsholm Østergaard, Udviklingschef
The project	Christoffer Greisen, Project manager
Support to the Chair, KK	Jørgen Abildgaard

The Steering Committee has seen three replacements over the past year:

- Lene Mårtensson (City of Copenhagen, Chair of SC) replaced Jacob Møller Nielsen from September 28
- Carsten Sass Husum (Balslev) replaced Benny Andersen in march 2018
- Allan Andreasen (ABB) replaced Martin Jørgensen in april 2018

The Steering Committee has convened quarterly with excellent levels of appearance (>80%), proving a strong anchoring of the project within the partners.

An important activity in this regard was the midterm review with the EUDP board, held in December 2017.

In the reporting period, 6 change requests have been submitted to EUDP. The following changes are the most important:

Date (appr)	Topic	Justification
27/10-2017	Changes to deliverables in WP6	Primarily changes in the detailed plans for tests on the battery (task 6.3)
19/12-2017	Project extension by 7 months with budget adjustments	A full heating season and time to test new roles and use cases.
2/5-2017	Change in HOFOR budget (equipment to man power)	More effort was needed in relation to the Flexheat heat pump at the cruise ship terminal
6/7-2018	New WP8 description and budget adjustments	More operational setup for WP8.

The external QA team issued in August 2017 a report to the Steering Committee with their assessment of the project status and achievements. An important suggestion was to declassify the technical progress reports to allow the skilled public a better insight into the project. This has been implemented this year in that all WP reports are public, while possible confidential material is placed in non-disclosed annexes.

Task 1.2 Project management

The WP Leader group convenes once a month to follow up on cross-cutting issues and share progress across the project.

WP/Partner	Navn
WP1, Projektet, CEE	Christoffer Greisen, Projektleder
WP2, WP8, ABB	Benny S. Hansen
WP3, Balslev - Rådgivende Ingeniører	Palle Holdt
WP4, CEE	Magnus Klintström
WP5, HOFOR	Kristian Honoré
WP6, Radius Elnet	Poul Brath
WP7, CleanCharge	Claus Bildsøe Astrup
WP8, ABB	Henrik Vestergaard
WP9, By & Havn	Jane Hegner Mortensen
WP10, Danfoss	Jan Eric Thorsen
DTU BYG	Carsten Rode

DTU CEE	Anders Laage Kragh
DTU MEK	Brian Elmegaard
GlenDimplex	Steen Reves
PLG, HOFOR	Jørgen Boldt
MetroTherm	Kasper Korsholm Østergaard
Københavns Kommune	Julie Bülow Appelqvist

In some of the meetings, researchers are also participating to allow direct interaction between these and WP's that they are not formally contributing to. Since the opening of the showroom (see WP9) it has become very easy to meet close to the demonstrations of the project and the showroom is often used for project meetings and external meetings alike.

A significant effort has been made by the project manager and one of the co-PL's together with a group of SC members in order to agree on a complete new structure of WP8 and significant changes of its scope.

Task 1.3 Administrative support

Reporting to EUDP is done quarterly together with requests for payment. Partners are reporting the effort spent per work package. No changes to the reporting format and administrative plan have been made in the reporting period.

Task 1.4 Advisory Board operation

On 16 November 2017, the EnergyLab Nordhavn Advisory Board met in Nordhavn in the new Energy Lab Nordhavn showroom. The main theme of the day was a follow up and status since the last meeting in February 2017. At this meeting, a few of the Advisory Board members had been invited to give an inspirational presentation about a theme related to their expertise. In the morning session Michael Koller from EKZ shared experience with the use of batteries in the Swiss power systems. Menno Janssen from Elia in Belgium gave his view on innovation and new roles in the electric grid. Four group sessions were facilitated during the day. The themes were: 1) Innovations in the DSO business, 2) Use Cases and how to demonstrate solutions in Nordhavn, 3) Denmark as a Pioneer country and 4) how can EnergyLab Nordhavn contribute to fulfill the potential for Danish export of solutions in energy technology. The sessions facilitated many interesting discussions not least due to the participation from both Switzerland and Holland allowing also a foreign perspective on the agenda.

Task 1.5 Dissemination support

The communications group meet every second month totaling five times in the period 1 July 2017- 30 June 2018. During this project period several activities have been ongoing. In the autumn, the group spent time developing a so-called message map outlining all the key messages from the project as well as defining potential news stories. To mention just a few stories CleanCharge and By & Havn announced the quick charging installations in P-hus Lüders, Radius published first year results from the battery. DTU BYG and HOFOR announced the first results from flexible district heating.

Again, this year many interesting delegations (around 50) have visited Nordhavn to get an introduction to how the future energy system might look like. To mention a few: in August 2017 a group of 100 talents from the UNLEASH program met in Nordhavn to get an introduction to the EnergyLab Nordhavn project. Later that month the City of Copenhagen

hosted the CPH Climate Solutions where a guided tour of Nordhavn was part of the agenda. Just before Christmas, the EnergyLab Nordhavn showroom and EnergyHub was inaugurated in an event where both Anders Bjarklev, President of DTU and Jens Kramer Mikkelsen, CEO, CPH City & Port Development participated.

In the spring 2018, EnergyLab Nordhavn was awarded with the Danish 'Energi og miljøprisen 2018' by Energiforum Danmark. The recognition that followed the award was very appreciated in the project but more importantly both the nomination and the actual award created a sense of community among the project participants.



It has been a busy year in EnergyLab Nordhavn which culminated with the Nordic Energy Experience in May. As part of the Nordic Clean Energy Week from 21-25 May 2018 EnergyLab Nordhavn joined forces with the Danish Society of Engineers (IDA) and Association of Nordic Engineers (ANE) to create a one week event with multiple activities related to sustainable energy. One of the main activities was the third 3rd Mission Innovation Smart Grids Workshop with speakers such as the Indian Union Minister for Science & Technology and the Chinese Vice Minister of Science and Technology.

A total of around 600 participants joined the eight official events, close to 500 stopped by By & Havn's exhibition Himmel og hav! and more than 100 energy enthusiast stopped by unannounced to get a feeling of the Nordic Energy Experience. The Nordic Energy Experience platform has definitely proved its potential to be reused at a later stage in the project.

The project news are issued on the project website and through LinkedIn under <https://www.linkedin.com/company/energylab-nordhavn/> and #EnergyLabNordhavn respectively.

Task 1.6 Final project report

Not started yet.

Deliverable status

D #	Deliverable title	Planned completion month	Status 1 = on schedule 2 = completed 3 = delayed
D1.1c	Project steering group meetings	Quarterly	1
D1.2	Risk report delivered to steering group	twice pr year	3
D1.4	Advisory board meetings	Yearly	1

As for D1.2 Risk follow up reports have been delivered to the Steering Committee. A second thorough risk analysis was initiated in the spring 2018, but is not concluded by June 30.

Dissemination

Scientific articles and conference proceedings are covered under the technical work packages. Other more general news and press coverage are listed as follows

Date	Published in/at	Title
30-aug	Børsen	Energikilderne kan udnyttes mere intelligent
15-sep	CSR.dk	New incubator and accelerator for Energy start-ups in Nordhavn
October	Foresight	An urban energy big battery trial in Copenhagen
12-dec	Energy Supply	EnergyLab Nordhavn åbner showroom
12-dec	Licitationen	EnergyLab Nordhavn åbner showroom
12-dec	Stateofgreen.com	New European innovation hub in Nordhavn, Copenhagen to become epicentre for tomorrow's energy technologies
12. dec	DTU.dk	DTU i spidsen for nyt innovationsmiljø for smart energi
13-dec	Byens Ejendom	30 virksomheder flytter ind i Nordhavns epicenter for fremtidens energiteknologi
13-dec	DBDH.dk	New European innovation hub in Nordhavn, Copenhagen to become epicentre for tomorrow's energy technologies
13-dec	Energiwatch	København vil skabe energihub i ny havnebydel
13-dec	Installator.dk	EnergyLab fremviser fremtidens bæredygtige løsninger
13-dec	Techsavvy	Nyt innovationshub sætter strøm til fremtidens bæredygtige byudvikling
12-dec	byoghavn.dk	Nordhavn bliver epicenter for fremtidens energiteknologi
12-dec	Hofor.dk	Nu åbner showroom for bæredygtige energiløsninger i Nordhavn
12-dec	Energylabnordhavn.com	New European innovation hub in Nordhavn, Copenhagen to become epicentre for tomorrow's energy technologies
02-jan	Technologist	Sustainable Buildings
11-jan	Energy supply	EnergyLab Nordhavn blandt nominerede til energipris
12-jan	Energiwatch.dk	Tre kandidater kæmper om Energi- og miljøprisen 2018
12-jan	mmf.dk	Tre kandidater til Energi- og miljøprisen 2018

12-jan	Byens Ejendom	De nominerede til Energi- og miljøprisen 2018
12-jan	Elfokus	Stem på din favorit
15-jan	Dagens Byggeri	Her er de nominerede til Byggeriets Klimapriser
16-jan	csr.dk	Kandidaterne til årets Energi- og Miljøpris er fundet
16-jan	Metal supply	EnergyLab Nordhavn nomineret til Energi- og miljøprisen
24-jan	HVAC	Ny Europæisk innovationshub i Københavns Nordhavn
29-jan	DBDH	District Energy 4.0
04-feb	Berlingske - Boligen	Stor interesse for grønt byggeri
07-feb	TV2 Lorry	Nordhavn får Danmarks hurtigste elbil-tankstation
07-feb	EnergiWatch	Nordhavn får Danmarks første 150 kW-ladestander
07-feb	ING.dk	Nordhavn får landets kraftigste oplader til elbiler
07-feb	Energy-Supply	Nu kan man lade elbilen på 8 minutter i Nordhavn
07-feb	ELFokus	Turbotank til elbiler
12-feb	ltreload.dk	Danmark får sin første eltankstation med 150 kW i Nordhavn
12-feb	elektronikfokus.dk	Danmark har fået sin første 150 kW-eltankstation
01-mar	stateofgreen	3 Examples of Holistic Urban Solutions: An Energy Perspective EnergyLab Nordhavn - et prisværdigt udsyn til fremtidens energi systemer
06-mar	Energiforum	
06-mar	Dagens Byggeri	EnergyLab Nordhavn vinder Energi- og miljøprisen 2018
07-mar	CSR	EnergyLab Nordhavn får Energi- og Miljøprisen
06-mar	By & Havn	EnergyLab Nordhavn får Energi- og miljøprisen 2018
07-mar	Radius	EnergyLab Nordhavn vinder Energi- & Miljøpris
07-mar	DTU	EnergyLab Nordhavn modtager Energi- og miljøprisen 2018
07-mar	Elfokus	Her er vinderen af Energi- og miljøprisen 2018
07-mar	Licitationen	Her samles forsyning, forbrug, bygninger og by i ét
19-mar	Energy Supply	Et år med batteri i det københavnske elnet One Year with Large-Scale Battery in Copenhagen's Electricity Grid
19-mar	Stateofgreen.com	
04-maj	DTU.dk	DTU a natural part of Nordic Clean Energy Week
23-maj	danskenergi.dk	Lagring bliver en del af det smarte elnet
01-jun	stateofgreen.com	
01-jun	Energy Supply	Ukraines energiminister besøger Danmark Ny forskning: Boligers temperaturudsving kan udnyttes i grøn omstilling
06-jun	EnergiWatch	
09-jun	hbl.fi	Köpenhamns energismarta Nordhavn ser mot hav och framtid

Next steps

Focus will be on finalizing the risk analysis, ensuring that the new WP8 will succeed in integrating the work package elements, and how stakeholders should be managed towards the completion of the project. This includes an initiative to create formal and dedicated exploitation plans for relevant project results, to ensure (1) lasting value of the project and (2) that such value is visible to the sponsors and others.

Quality Assurance

Status of deliverable		
Action	By	Date
Sent for review	Christoffer Greisen	June 19, 2018
Reviewed	Jørgen Boldt	20 June, 2018
Approved	WPL	10 July, 2018

Author	Reviewer	Approver
Christoffer Greisen	Jørgen Boldt	WPL grp

The project "EnergyLab Nordhavn – new urban energy infrastructures" will develop and demonstrate future energy solutions. The project utilizes Copenhagen's Nordhavn as a full-scale smart city energy lab and demonstrates how electricity and heating, energy-efficient buildings and electric transport can be integrated into an intelligent, flexible and optimized energy system. The project participants are: DTU, City of Copenhagen, CPH City & Port Development, HOFOR, Radius, ABB, Balslev, Danfoss, CleanCharge, METRO THERM, Glen Dimplex and the PowerLab facilities. The project is supported by EUDP (Energy Technology Development and Demonstration Programme), grants 64014-0555 and 64015-0055 and runs from 2015-2019.

