



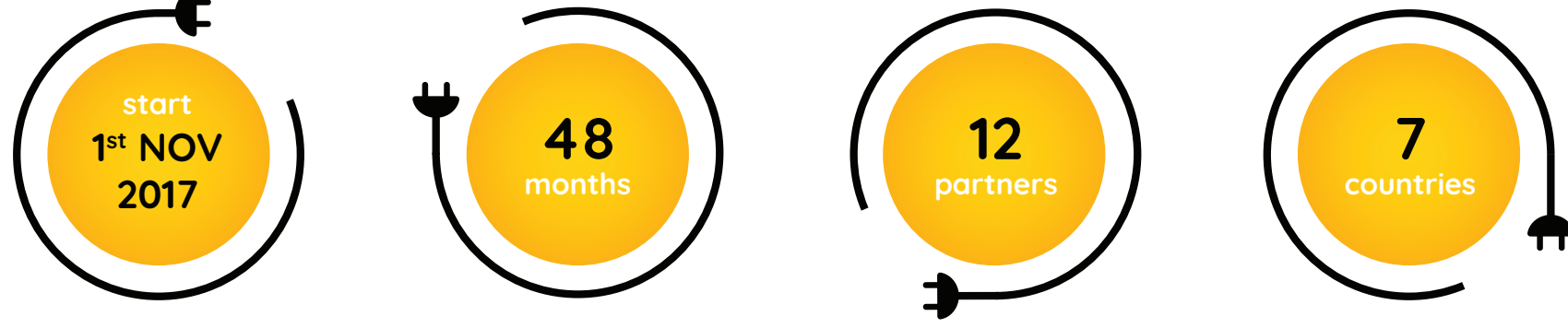
Dear Reader,

We are delighted to introduce the second edition of the SCORES newsletter. In this edition, we will tell you about ideas behind the SCORES project & update you on its progress. You will also learn more about TNO's redox heat battery. In the last part of the newsletter we would like to invite you to upcoming events and share with you reports from events that have passed recently.

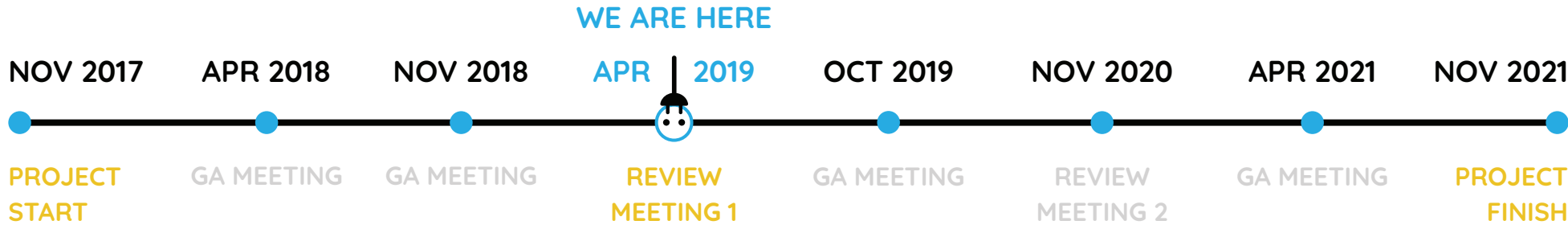
## BRIEFLY ABOUT THE PROJECT

The main aim of the SCORES project is to develop and demonstrate a building energy system including **new compact hybrid storage** technologies, that **optimizes supply, storage and demand of electricity and heat** in residential buildings, increasing self-consumption of local renewable energy in residential buildings at the lowest cost and deferring investments in the energy grid.

Combination and optimization of multi-energy generation, storage, and consumption of local renewable energy (electricity and heat) bring new sources of flexibility to the grid and give options for tradability and economic benefits, enabling reliable operation with a positive business case in European building stock.



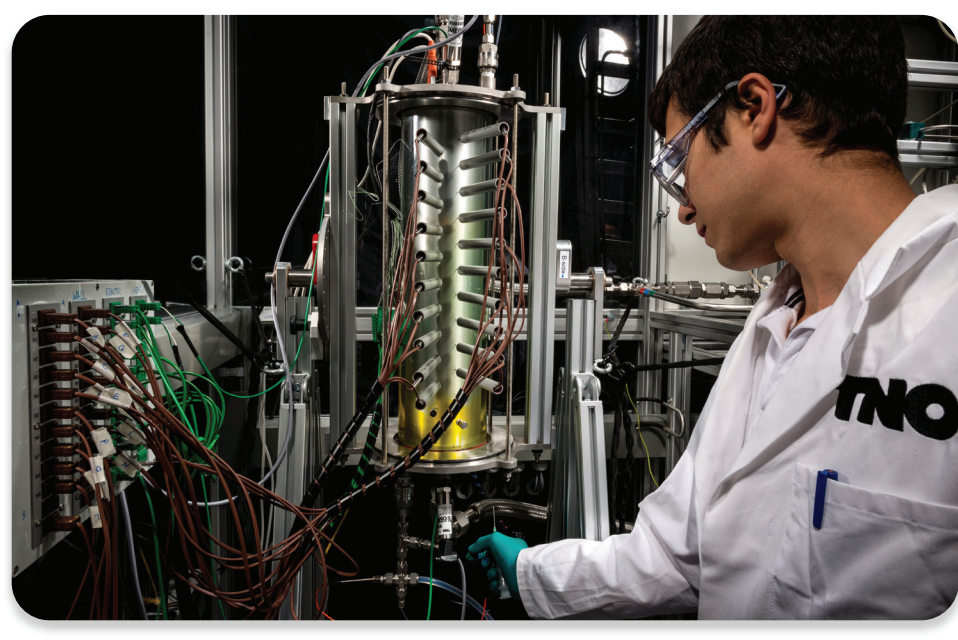
## TIMELINE



## REDOX HEAT BATTERY

One of the main challenges of the renewable energy sources such as solar and wind is their intermittency on daily and seasonal cycles. It is envisaged that a large deployment of these technologies will take place in the following years as part of the energy transition. In the course of the energy transition, some of the renewable technologies are implemented into the market at a faster pace than others. This can cause imbalances in the energy grids and cause additional technological and commercial challenges which can ultimately restrict the use of renewables. In order to balance the energy systems and limit the effects of intermittency of renewable energy sources, various energy conversion and storage solutions need to be developed at relevant scale.

Within the framework of the SCORES project, hybrid energy harvesting – conversion and storage technologies are being developed and demonstrated in two relevant climate regions for Europe: south of France and Austria.

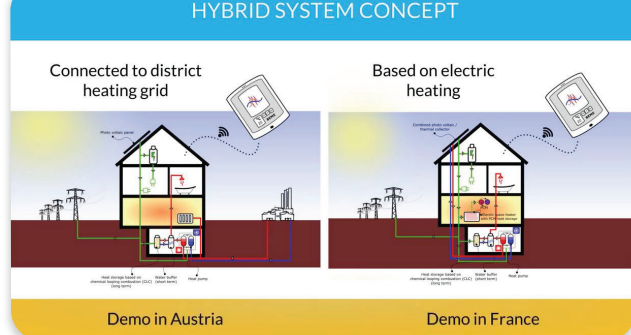


REDOX heat battery laboratory setup

One of the key technologies to be demonstrated is a **Power – to – heat concept developed in the SCORES project**. A team of engineers and scientists from the Dutch research organization TNO has built a laboratory scale setup for testing a heat storage technology based on redox reactions of metals. (see image) At TNO we have named this technology **REDOX heat battery** as it uses the REDuction and OXidation reactions to store heat. In our REDOX heat battery the metal core is oxidized using air and the heat generated is used for supplying domestic hot water and space heating. After the reaction, the core is regenerated by supplying hydrogen produced by renewable electricity. This cyclic operation enables the use of this energy storage system in a similar way as we currently use standard rechargeable batteries at home, with the difference of storing heat rather than electricity.

In the course of the SCORES project, the REDOX heat technology will be developed from the current TRL 4 to TRL 6 and demonstrated in a relevant working environment.

## PROMO VIDEO



We have released the first **PROMO VIDEO!** You can learn about the idea behind SCORES, about our plans, partners & much more. Click on the images above to see the video on YouTube. Do not forget to follow our channel!

## PARTNERS



[WWW.SCORES-PROJECT.EU](http://WWW.SCORES-PROJECT.EU)



The project leading to this application has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 766464.

## WHERE CAN YOU SEE OUR PROJECT?

### Seventh TESSe2b Workshop

We are planning to attend another TESSe2b Workshop, this time in **Warsaw, Poland**. TESSe2b workshops are always a great opportunity to meet with both the scientific community and project designers and discuss our thoughts and ideas.

Save the date **12<sup>th</sup> June 2019** and be there with us!



### EU sustainable energy week

Have you already noticed the EU Sustainable Energy Week in June?

Some of our partners are planning to attend the TESSe2b Conference in Brussels, Belgium and it is the biggest European conference dedicated to renewables and efficient energy use in Europe.

You can find more information on the #EUSEW19 website: <https://www.eusew.eu/>.

## PAST EVENTS

### General Assembly & Review Meeting in Brussels

SCORES project General Assembly and Review meeting was held from **9<sup>th</sup> to 11<sup>th</sup> April**. The assembly gathered in the Czech Liaison Office for Research (CZELEO) in **Brussels, Belgium**. Project Officer Monica Spinu and Project Technical Advisor Jean-Yves Quinette attended the first day of the project review meeting.

During the following days, we have discussed our achievements and future goals. We are really happy that the project is running smoothly and we want to thank all the people involved in it.

Now, we look forward towards the future of the SCORES project and we cannot wait to meet again!



### New cluster project - HEAT4COOL

We have started cluster cooperation with **Heat4cool project!**

The Heat4Cool concept proposes innovative, efficient and cost-effective solutions that support EU energy efficiency policies through optimal integration of relevant rehabilitation systems. The project develops, integrates and demonstrates an easy to install and highly energy efficient solution for building retrofitting.

Looking forward to fruitful cooperation!



### SCORES at TESSe2b workshop in Nottingham

Both industry and academia joined together at the **TESSe2b workshop** to discuss current innovations in the field of energy storage and efficiency in the built environment. The workshop took place on **24<sup>th</sup> January 2019** at the University of Nottingham and was organized in association with World Society of Sustainable Energy Technologies.

SCORES project was introduced by Luis Coelho from Instituto Politécnico de Setúbal (IPS).

### WSED 2019 - SAVE TODAY, USE TOMORROW!

Presentation of SCORES project was a part of **"SAVE TODAY, USE TOMORROW! - Thermal Energy Storage Systems"** workshop, that was held on **28<sup>th</sup> February** in **Wels, Austria** and was organized the European projects: **CREATE, HYBUILD, SCORES, TESSe2b, THERMOSS** and **SUNHORIZON** within the **World Sustainable Energy Days 2019**.

Christophe Hoegaerts from TNO introduced the audience to Scores project and continued with explaining our goals during the interactive poster sessions.

It was a great opportunity to talk with fellow professionals, colleagues, partners and the general public.



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