

The AIChE Netherlands / Belgium Section is pleased to invite you  
to attend the Lecture Dinner Meeting:

## 'Electrification of Heat'

*Peter Rop, Head of Product Development, and Ed Roovers, Senior Key Specialist –  
NEM Energy*

**Thursday April 25<sup>th</sup>, 2024 – Golden Tulip, Zoetermeer**

### Program

17.30 – 18.00	Registration
18.00 – 19.00	Lecture
19.00	Dinner

### Summary

Since about 80 percent of energy use in industry is related to generation of heat, green electrification of the heat demand is key to decarbonize the sector. Respectively key to reducing Scope 1 (direct) and Scope 2 (indirect, from purchased energy) emissions.

The electrification of industry is a complex puzzle. Electrification of Heat has a wide range of temperatures, from 80 °C to above 1000 °C for heating and/or endothermic reacting. Furthermore, there are many different fluids, including air, water / steam, olefins or molten salts, either as process fluid or heat transfer fluid. Finally, a variety of capacity sizes, from kilowatts to megawatts or even gigawatts have to be considered.

During the presentation, insight will be shared into:

1. Electrification of heat principles and potential use cases,
2. Basic principle of Thermal Energy Storage for energy arbitrage,
3. Comparing three E-heater principles (resistive, inductive and radiative) and relevant design aspects.

NEM Energy is a globally renowned Dutch company interested to share its view on potential future solutions in the field of heat decarbonization. Developments are derived from their experience in heat transfer equipment for the power industry and large-scale industrial customers. This experience together with the late activities in Concentrated Solar Power (CSP) projects. NEMs focus is on medium and high temperature (200 °C to 1000 °C), beyond the reach of industrial heat pumps. And this is considered in combination with large-scale heating solutions in the 20 MW to 200 MW capacity range, in a single shell.

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To gain deeper market insight and details on potential applications, NEM is reaching out to various stakeholders in the industry to understand their needs. Opportunities are investigated in the area of using electricity for heat demand.

## Professional Background of the Speakers

### *Peter Rop, Head of Product Development, NEM Energy*

Peter's education is MSc in Mechanical Engineering at the Technical University of Delft, specialty in Energy Technology. He started his career in the Oil & Gas industry in 1995 and started working for NEM in 2000. He first developed dynamic models of steam generators, then became R&D manager and worked on several innovative steam generator designs.

After NEM was merged into Siemens Energy, Peter Rop has been involved in many Siemens-wide development programs like the development of an offshore combined cycle. This led to a patented new once-through power cycle, which is lighter, simpler, and thus more robust. When NEM became independent again in 2022 his new role is Head of Product Development, responsible for all product technology, both existing and new.

### *Ed Roovers, Senior Key Specialist, NEM Energy*

Ed Roovers is currently working on the technology development for Electrification of Heat and Thermal Energy Storage and on the associated business cases for potential users. He has a strong focus on understanding the customer's needs and challenges to steer the technology developments.

He holds a master's degree in Mechanical Engineering from Delft University of Technology. He started his career at NEM in 1995 and worked in different R&D, engineering, sales and management positions. In the recent past he was team lead at NEM Energy for the technology development and prototyping of Concentrated Solar Thermal Power plants (CSP) with integrated thermal energy storage.

## Registration Form

*Yes, I would like to attend the Lecture Dinner Meeting with the subject 'Electrification of Heat' on Thursday, April 25<sup>th</sup>, 2024.*

Company:

Name:

Job Title:

Email:

Diet:

### **Please send the invoice to:**

Company:

Attn.:

Address:

City:

Reference:

### **Fees**

Participant: 95 Euro

Sponsor: 60 Euro

**Registration by mail:** [aiche@kborganisatietalent.nl](mailto:aiche@kborganisatietalent.nl)

*A week before the start of the Lecture Dinner Meeting you will receive a confirmation with practical information and your invoice. Free cancellation is possible, when in writing, 48 hours prior to the event.*

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