

# Smart Urban Energy Systems conference

TU Delft Science Centre, Mijnbouwstraat 120, Delft, Friday 9<sup>th</sup> of November, 14:00-15:30

Parallel session

## **Heating and Cooling our cities: planning for the second energy transition**

Keywords: renewable heating and cooling; urban energy transition; urban energy masterplanning; urban energy atlas; roadmap

Organisers: Andy van den Dobbelsteen & Michiel Fremouw, chair of Climate Design & Sustainability, Faculty of Architecture and the Built Environment, TU Delft

### **Background**

Sixty years ago, the discovery of Europe's largest gas field in the Northern Netherlands initiated a transition from coal, fuel oil, city gas and wood to a nationwide gas network. Within ten years, most houses in the Netherlands were connected to this cheap and (then) comparatively clean source of heat.

This long relationship with natural gas has to come to an end however: limits to available supply, questionable reliability of foreign sources, the Paris Agreements and earthquakes caused by gas extraction have early this year prompted a definitive call to become independent from natural gas ('van het gas af').

The debate on this energy transition has been a topic of discussion ever since the oil crises of the 1970s and the subsequent increasing awareness of the consequences of our energy systems.

There are many renewable (local) sources of heat and cold, but their suitability and potential depend on the local characteristics of the urban fabric, and therefore require a different kind of planning. Actual implementation is therefore lagging behind greatly and needs to pick up speed.

### **Aim**

The aim of this session is to discuss and present approaches for the urban energy transition towards a carbon-neutral provision of heat and cold, with special focus on the problematic for Dutch cities, which have to diverge from a system based on natural gas. In the Netherlands several alternatives to natural gas are currently debated sharply: natural or green gas, district heating (and cooling), all-electric solutions (heat pump based), either centralised or decentralised. All of these will be discussed during the session.

### **Content**

In this session, results will be presented from two European research projects that aim to support the acceleration of energy transition: City-zen and PLANHEAT. This introductory part will be in English.

The second part will focus specifically on Dutch cities and will involve Dutch stakeholders from various backgrounds, who will pitch their solutions for Dutch cities, and engage in discussion with each other and the audience. These pitches and discussions will be in Dutch.

## Agenda

(in English)

14:00 Intro: City-zen methodology + Amsterdam Roadmap Andy van den Dobbelsteen

14:10 PLANHEAT mapping, planning and simulation toolkit Michiel Fremouw

(in Dutch)

5-minute pitches, followed by short response by Tjalling de Vries (Ministerie van EZK) and by the rest of the panel, in draft order:

14:20 Jannis van Zanten (Project leader Heating at AEB Amsterdam)

14:30 Pauline Westendorp (Co-initiator of 02025 in Amsterdam)

14:40 Ad van Wijk (professor of Future Energy System, TU Delft)

14:50 Jan Willem van de Groep (founder of Factory Zero, co-initiator of Stroomversnelling)

15:00 Henri Bontenbal (senior consultant Strategy and Innovation, Stedin)

15:10 Panel discussion, led by Andy van den Dobbelsteen

15:30 Finalisation