



# Water-Energy-Food Nexus at Local Level

**Self-sufficiency as a driver for  
sustainability in urban territories**

**7 - 8th November 2024**

(Two half-days, mornings)

## **Organizers**

NOVA FCT, NOVA University of Lisbon

ICS, University of Lisbon

*University of Groningen* (Rudolf Agricola

School for Sustainable Development &

Wubbo Ockels School for Energy and Climate)

## Hybrid/Online Conference

Location: Sala Maria de Sousa - ICS-ULisboa



# Scope

**Cities and other urban areas** play a fundamental role in human prosperity, albeit with environmental and societal externalities such as resource depletion, pollution, climate change and inequalities that are likely to increase in the future. They are home to about 55% of humanity and 70% of global economic income. By 2050, these shares will increase to 70% and 85%, respectively (Jiang and O'Neill, 2017). A **growing trend of urban transformation** to provide resources such as energy, water, food, and services has been observed globally. Increasing **self-sufficiency** by linking local productivity with local consumption, embedded in a more cross-sectoral perspective, could be one of the ways to advance technological, social and economic innovation. In addition, **local water-energy-food models** align and drive social change by increasingly involving citizens and families as both producers and consumers. This is a consolidated trend in the case of energy, but not yet for local food and water systems. The deepening of this trend requires the **study of cities and other urban areas as social-natural integrated systems**, aiming to coexist in equilibrium for the sake of sustainable present and future generations. The **CitySelfy** project, funded by FCT-Fundação para a Ciência e Tecnologia (Project PTDC/CTA-AMB/6629/2020), has explored how local water-energy-food resources and services in urban areas may be managed and expanded, including resource sharing conflicts, technology costs, social acceptance, new behaviors and policy gaps, to assure high standards of sustainability for the generations to come.

The **two-half days conference** will bring together invited speakers to set the scene and formulate a **comprehensive understanding** of the inter-related challenges and opportunities on **water, energy and food systems at the local level**. Participants will be encouraged to actively engage in structured discussions around the following **themes/questions**:

- Balancing Water, Energy and Food in urban areas: Achieving a **Human-Nature Balance**?
- Are current generations **willing to change their behavior** toward local consumption? What are the key factors for this change?
- How can **shared resources** in urban areas be managed efficiently, given multiple and sometimes conflicting objectives?
- How should **local policies** be designed to align sustainability goals and promote inclusivity by addressing the diverse needs and perspectives of urban populations?
- Urban and peri-urban **land-use conflicts**: how to choose between solutions competing for the same area (e.g., urban development rooftop solar PV vs. solar thermal; agriculture vs. utility-scale solar PV)?
- How can urban areas implement effective strategies to increase the **social acceptance and engagement** of urban citizens and families and encourage their active participation in local resource production? And how can these strategies be extended to water, energy and food supply?
- How can **municipalities** influence external WEF sources towards more sustainable forms of production/supply without compromising safe and secure access to citizens?
- How to **measure sustainability performance** of WEF self-sufficient production systems?

## 7th November

8:30 (PT)

9:30 (NL)

Opening Session

Júlia Seixas (NOVA FCT), Luísa Schmidt (ICS-ULisboa), RUG  
representative

### SESSION 1: SOCIAL ASPECTS ON WATER-ENERGY- FOOD NEXUS AT LOCAL LEVEL

8:45 (PT)

9:45 (NL)

Monica Truninger (ICS-ULisboa)

Ellen van der Werff (RUG)

Coffee Break (10 min)

### SESSION 2: TECHNOLOGICAL PERSPECTIVES ON WATER-ENERGY-FOOD NEXUS AT LOCAL LEVEL

9:45 (PT)

10:45 (NL)

Luís Dias (NOVA FCT)

Thomas van Huyssteen (RUG)

Joana Portugal Pereira (IST-ULisboa)

### GENERAL DISCUSSION/ROUND TABLE

10:35 (PT)

11:35 (NL)

Moderator: Júlia Seixas (NOVA FCT)

### KEYNOTE AND CLOSING

11:15 (PT)

12:15 (NL)

*Towards Evidence-based community-Engaged WEF Systems*

*Transformation* by Dr. Bassel Daher, Texas A&M University

(Keynote speaker)

Closing remarks



## 8th November

8:30 (PT)

9:30 (NL)

Opening Remarks Luísa Schmidt (ICS-ULisboa)

### SESSION 3: GOVERNANCE/POLICIES ON WATER- ENERGY-FOOD NEXUS AT LOCAL LEVEL

8:35 (PT)

9:35 (NL)

CitySelfy key outputs to boost innovation at local level  
Alois Mugadza (RUG)  
João Dinis (CM Cascais)

### GENERAL DISCUSSION/ROUND TABLE

09:10 (PT)

10:10 (NL)

Moderator: L. Schmidt (ICS-ULisboa)

### SHOWCASE: INVITED PROJECTS ON WATER- ENERGY-FOOD NEXUS AT LOCAL LEVEL

10:00(PT)

11:00 (NL)

Akkord van Groningen  
B-WaterSmart  
Food link  
Bonex

### WRAP - UP

10:40(PT)

11:40 (NL)

Júlia Seixas (NOVA-FCT), Luísa Schmidt (ICS-ULisboa) RUG  
representative

### RESEARCH SPEED DATE (UPON REGISTRATION)

10:45(PT)

11:45 (NL)

Connecting academics to discuss research opportunities