

IWA WATER, CLIMATE AND ENERGY PROGRAMME

OVERVIEW



THE IWA VISION, MISSION AND VALUES

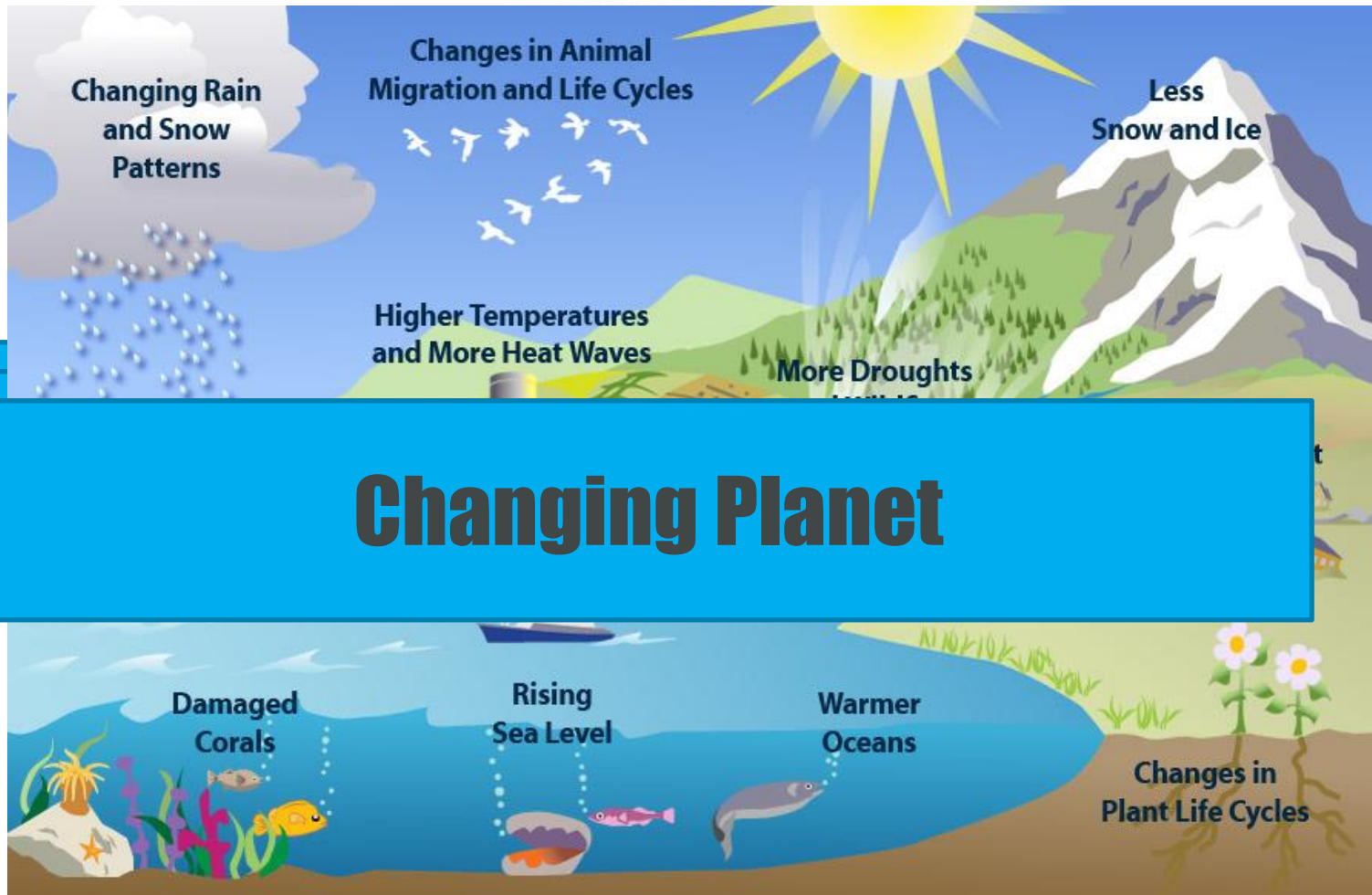


- **Vision** The IWA's vision is the global source of knowledge, experience and leadership for urban and basin-related water solutions.
- **Mission** Our mission is to service the IWA members, the community of water professionals, external organisations and opinion leaders through:
 - Knowledge and expertise
 - Best practice based on science and global experience
 - Innovation and the application of emerging technologies
 - Pioneering and leading new solutions

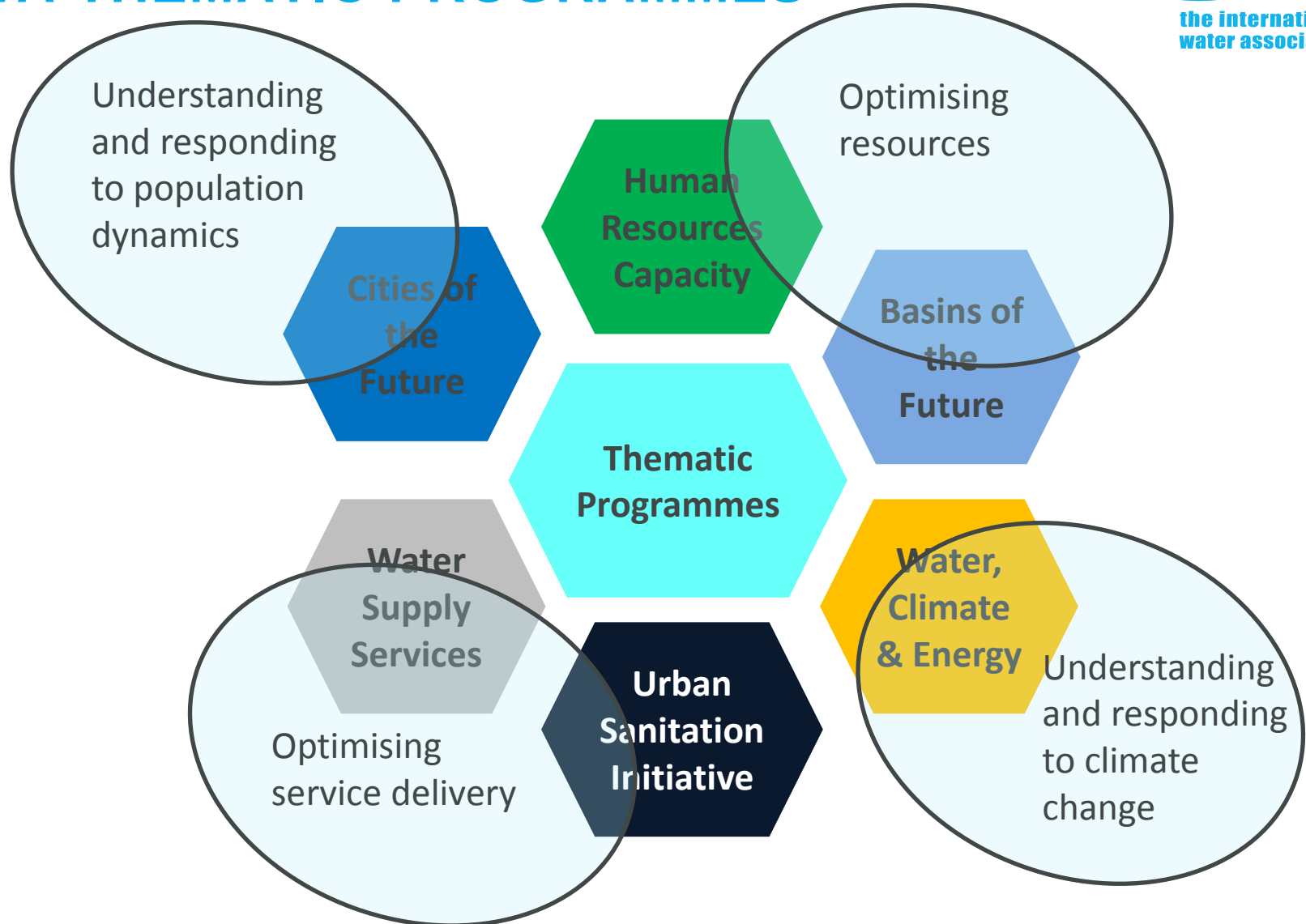
Ambition

- We will achieve our ambition of changing the future of water management by putting inspiration into action as we connecting people, pioneering science, innovating technology and leading practice

GLOBAL CHALLENGES



IWA THEMATIC PROGRAMMES



WCE PROGRAMME RATIONALE

- Regulatory pressure is encouraging water and wastewater utilities to become energy and carbon neutral
 - **10 – 35%** of operating expenditure are on energy bills,
 - Many utilities will need to reduce GHG emissions up to **90%** compared to 1990 emission levels
 - Water and wastewater services are responsible for **5-8%** total anthropogenic GHG emissions worldwide
 - Energy conservation and production can cover up to **80% - 100%** of energy demand.



- Cities and their utilities are experiencing more frequent flooding and droughts due to climate change
 - Creating local urban water storage in combination with adequate urban drainage
 - Diversification of water supply options – link to BoF programme

GOAL AND OBJECTIVES

Goal: To explore pathways for water and wastewater utilities to achieve energy and carbon neutrality while adapting to changing water availability.

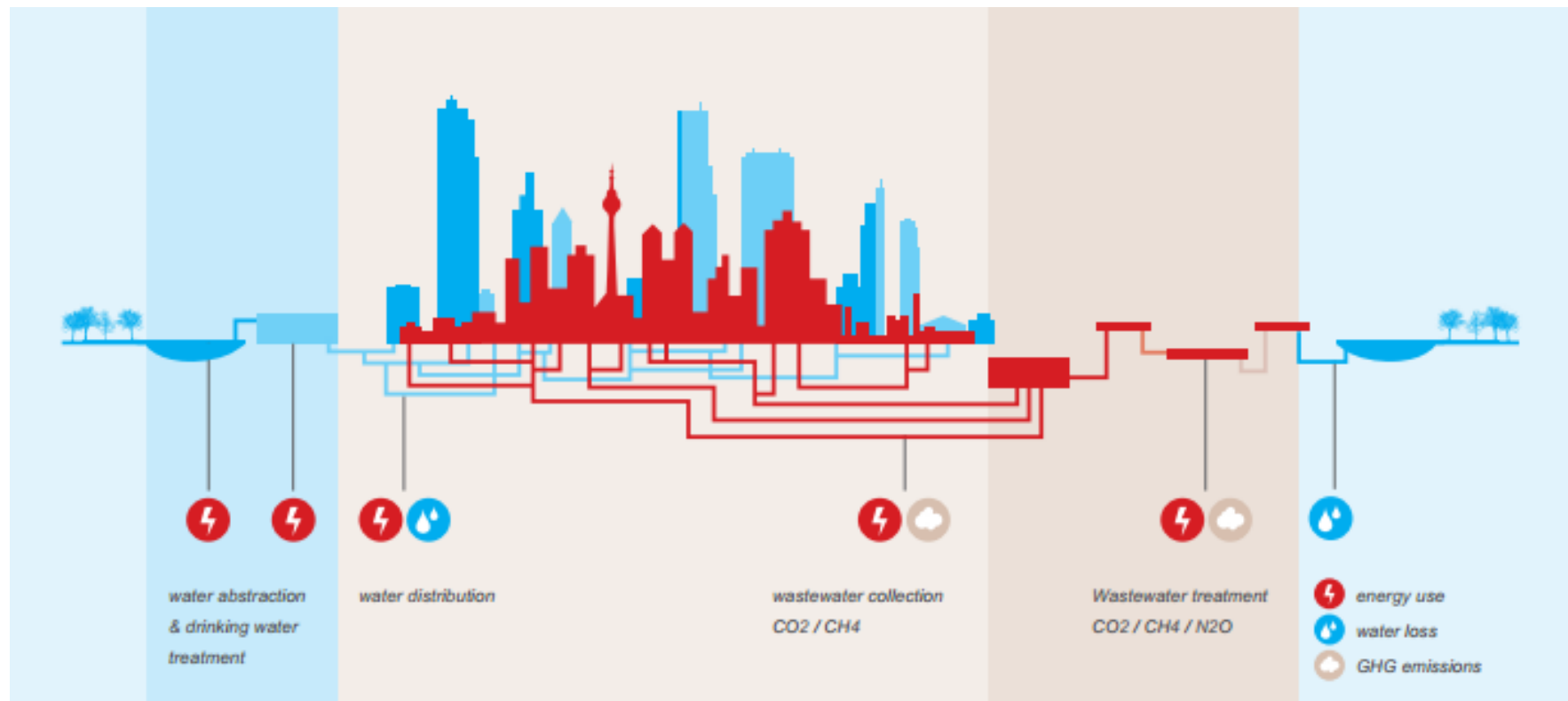
1. To facilitate **improvement of utility water-energy efficiency and energy production**
2. To develop a communication approach that will **inform decision makers on urban mitigation and adaptation**
3. To support cities to develop approaches for adapting to climate change through **urban water storage and a ‘portfolio’ of water supply options.**

MEMBER, PARTNER & REGIONAL DIMENSIONS

- Generate knowledge and mobilise expertise (members)
- Influence policy and decision makers (partners)
- Have impact on the ground (Regions)



URBAN WATER-ENERGY NEXUS

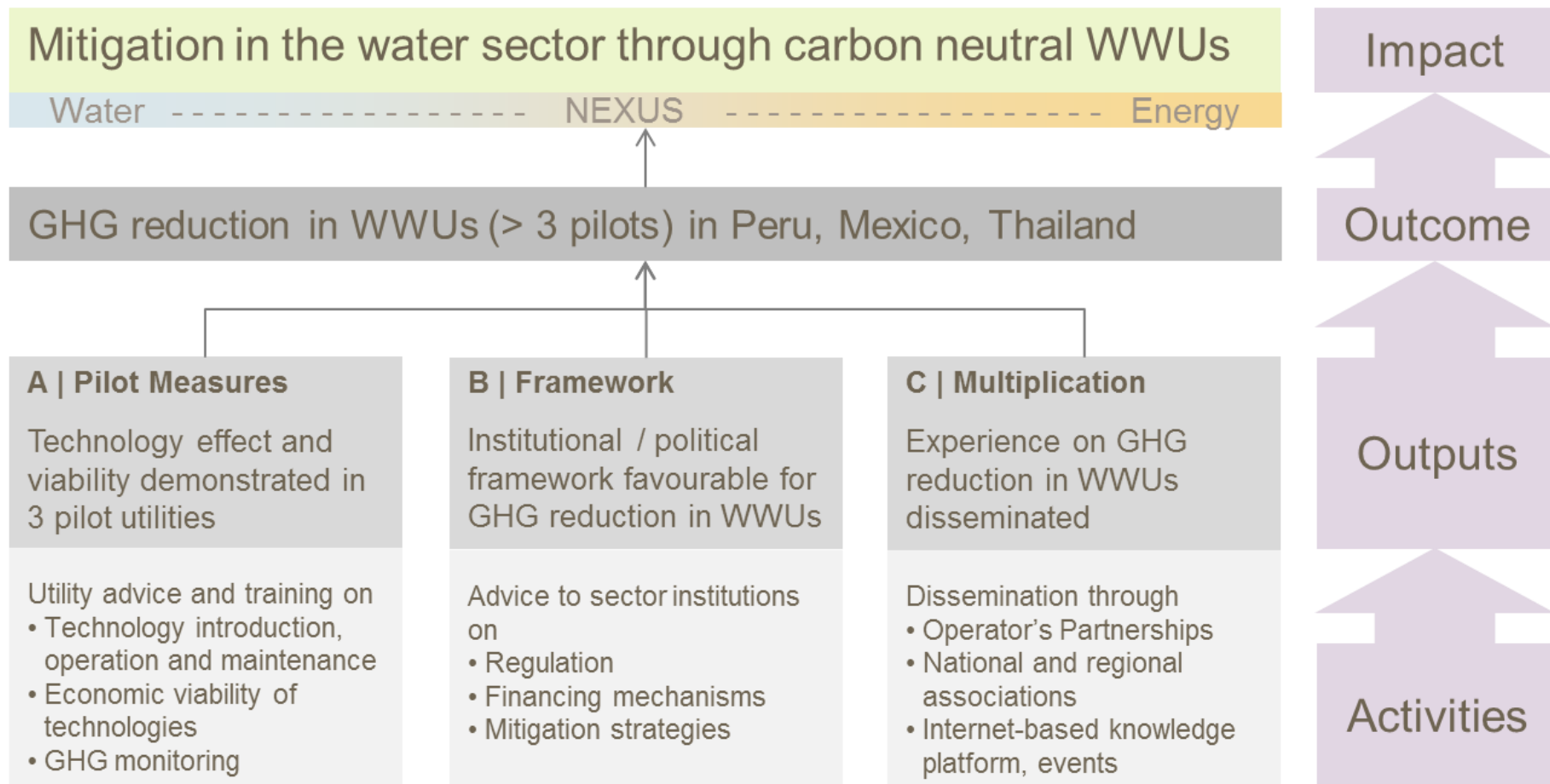


Inefficiencies



Direct and
Indirect
Emissions

WATER AND WASTEWATER COMPANIES FOR CLIMATE MITIGATION



HOW CAN GREENHOUSE GASES BE REDUCED IN WATER SUPPLY AND WASTEWATER TREATMENT?

- Requiring less energy for the same service or product
Reducing water losses by replacing pipes and using energy efficient pumps
Optimizing operations
- Producing and using renewable energy
Producing biogas from wastewater (produce heat and electricity)
- Reducing or preventing direct greenhouse gas emissions
Reducing GHG emissions from treatment tanks and sludge
- Substituting processes that would use energy elsewhere
Recovering nutrients from wastewater instead of producing fertilisers

WHAT IS THE WATER AND WASTEWATER SECTOR'S BENEFIT OF REDUCING ENERGY USE AND GHG EMISSIONS?

- Reduced operational costs of utilities
- Less dependency of the water sector on fluctuations of energy prices
- Future smart grid integration
- More efficient use of water resources (competing less with other water uses such as energy production)
- Contribution to the country's climate mitigation goals

PARTNERS

A | Pilot Measures

Technology effect and
viability demonstrated in
3 pilot utilities

NN

NN

NN

B | Framework

Institutional / political
framework favourable for
GHG reduction in WWUs

Ministry of Natural Resources
and Environment (MoNRE)



องค์การจัดการน้ำเสีย
Wastewater Management Authority

Secretaría de Medio Ambiente y
Recursos Naturales (SEMARNAT)

CONAGUA
COMISIÓN NACIONAL DEL AGUA



PERÚ

Ministerio de Vivienda,
Construcción y
Saneamiento

Dirección Nacional de
Saneamiento (DNS)

C | Multiplication

Experience on GHG
reduction in WWUs
disseminated

SEAWUN?

ANEAS, ADERASA?

ANEPSSA, ADERASA?



DEVELOPING A COMMUNITY OF PRACTICE

- Multidisciplinary group of experienced professionals, from academia and practice
- Provide guidance on how climate mitigation technologies and processes can be implemented
- Use of existing knowledge platforms
 - Sustainable Sanitation Alliance (SuSaNa)
 - Agriwaterpedia



EVENTS

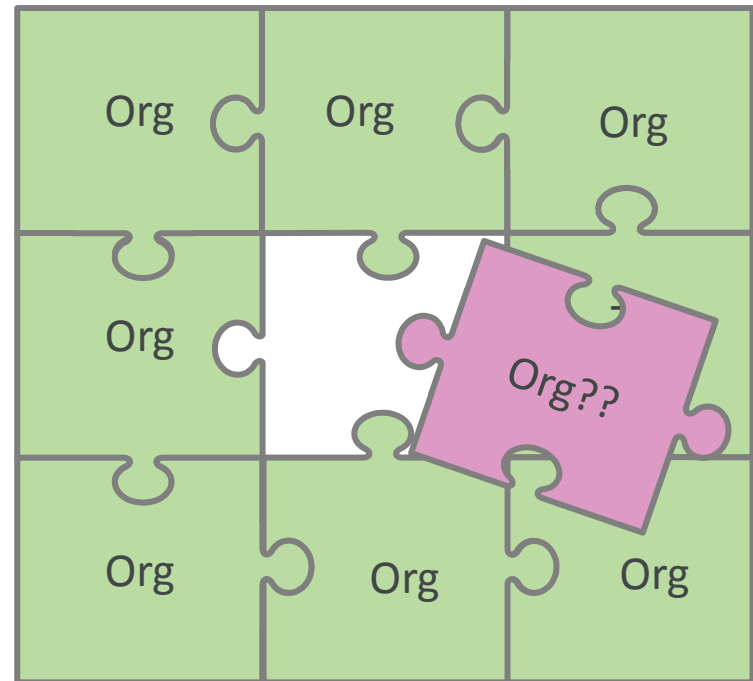
- **Water, Energy and Climate Conference, May 21-23 2014 | Mexico** <http://wecmexico2014.org/>

- **IWA World Water Congress - Lisbon, Portugal Sept 21-26, 2014**
 - Energy and Carbon Neutral Utilities –an opportunity for knowledge exchange on approaches that have been used to achieve and measure energy neutrality in utilities and industry.

 - Adaptation to climate change impacts: Urban resiliency

POSSIBLE BOTTLENECKS

- Access to data
- Enabling environment – “NIMTIO” effect
- Local partner motivations
- Low value of Carbon



QUESTIONS?



THANK YOU FOR YOUR TIME

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