




# **Empowering a sustainable and inclusive digital future: A holistic approach to responsible Internet**

Cambodia Youth Internet Governance Forum 2023, Jaewon Son  
September 24<sup>th</sup>, 2023

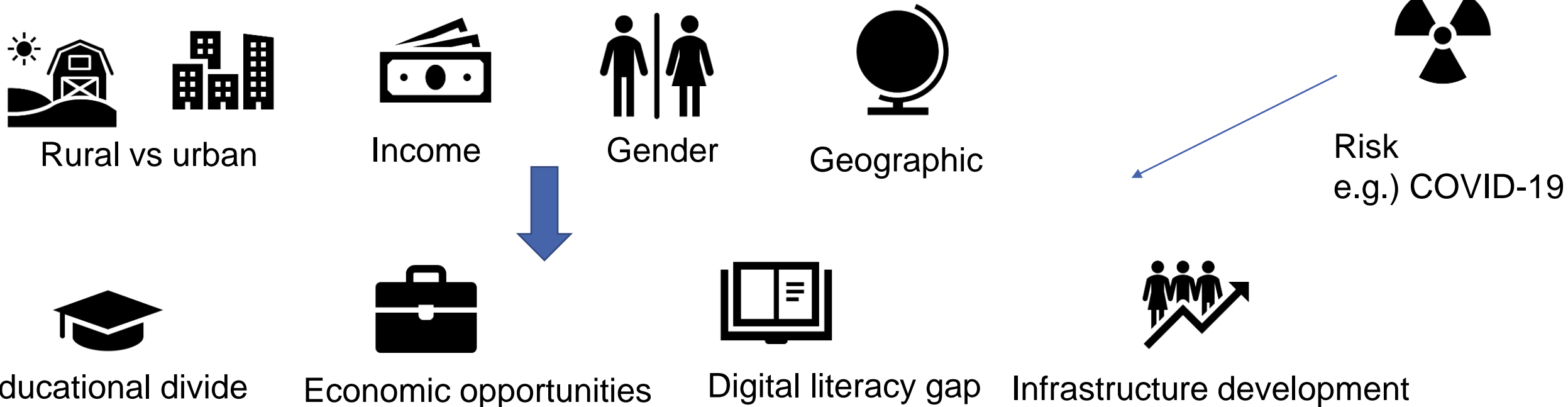
# Introduction

- Equitable internet access 
- Digital inclusion & stakeholder participation 
- Ecological impacts & fostering sustainability 

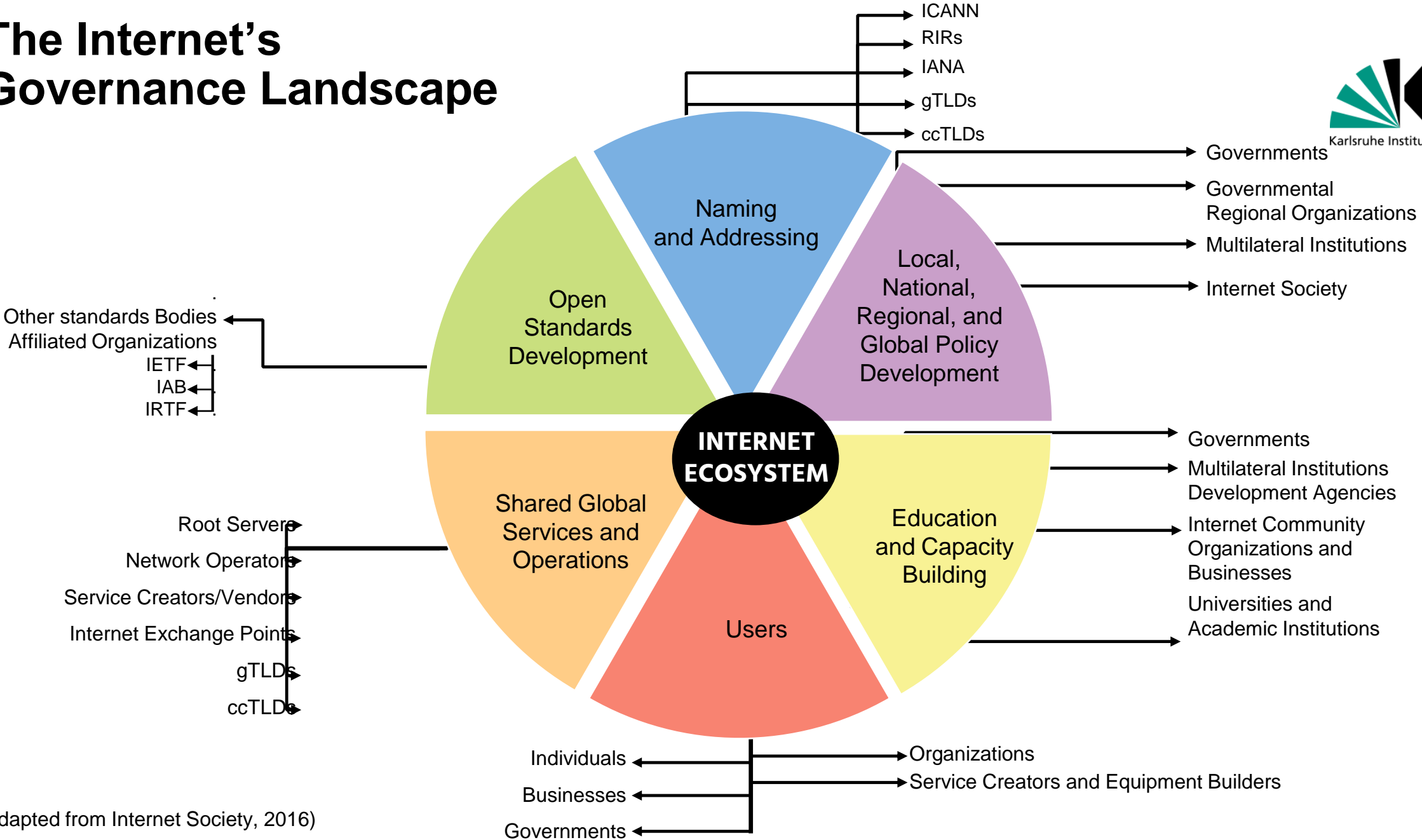
 Social-Ecological-Technological System

# Internet access: Factors and impacts

- Around 2.9 billion people have never used the Internet and 96% of them are living in developing countries (ITU, 2021).



# The Internet's Governance Landscape



(Adapted from Internet Society, 2016)



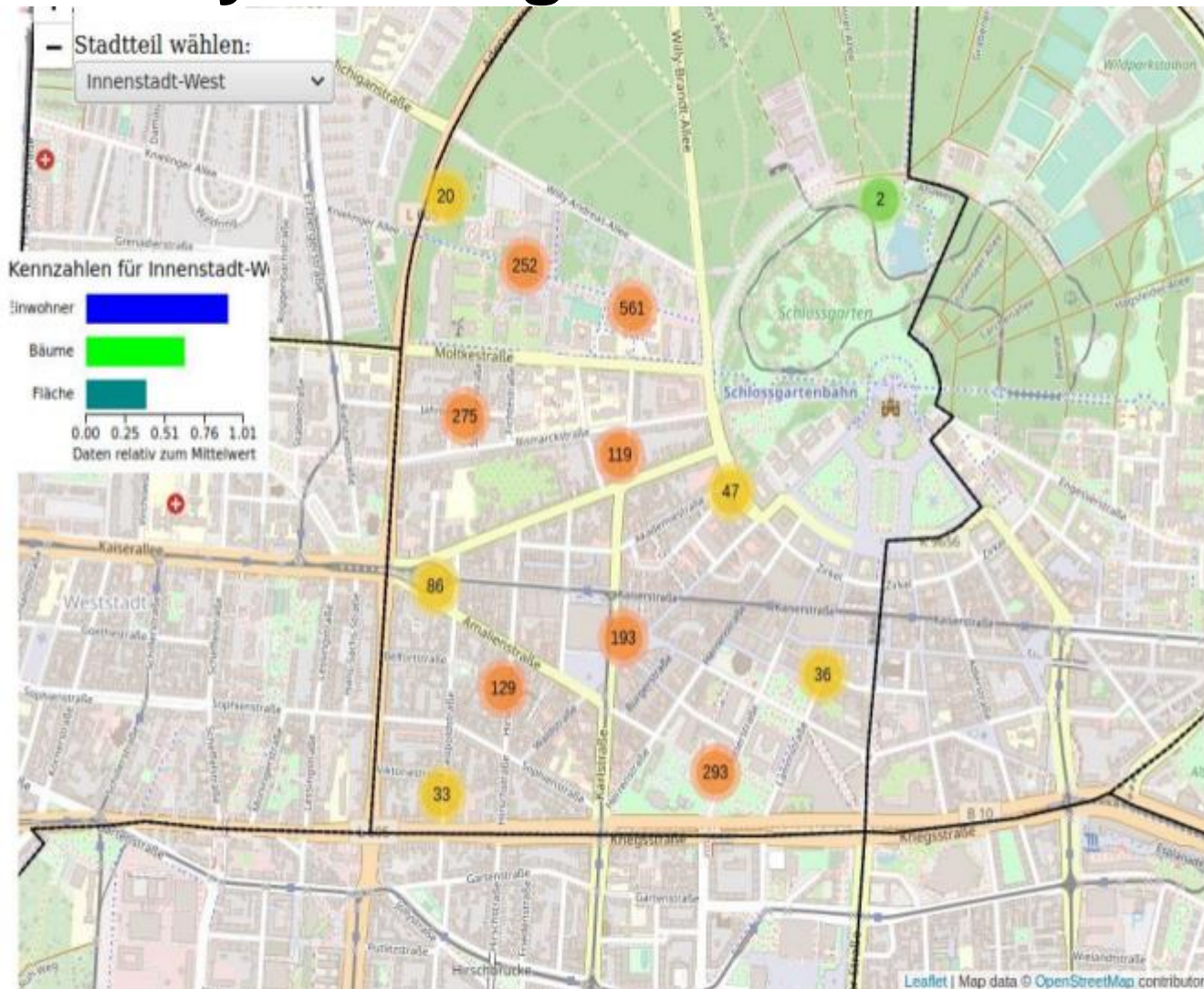
# Multi-stakeholder approach

- When decisions affect diverse groups & interests
- Shared responsibilities & rights across sectors and borders
- When multiple forms of expertise are required
- For decisions where legitimacy & acceptance directly influence implementation

# Internet and environment: Friend or Foe?

- The Internet emits 1 billion tonnes of greenhouse gases a year (BBC Science Focus, 2023).
- Recognizing the Internet's Positive Potential to Minimize Trade-offs and Enhance Synergies
- Eco-friendly practices: remote work, virtual meetings, reduced paper, and emissions

# The city tree registrar of Karlsruhe and Rheinstetten

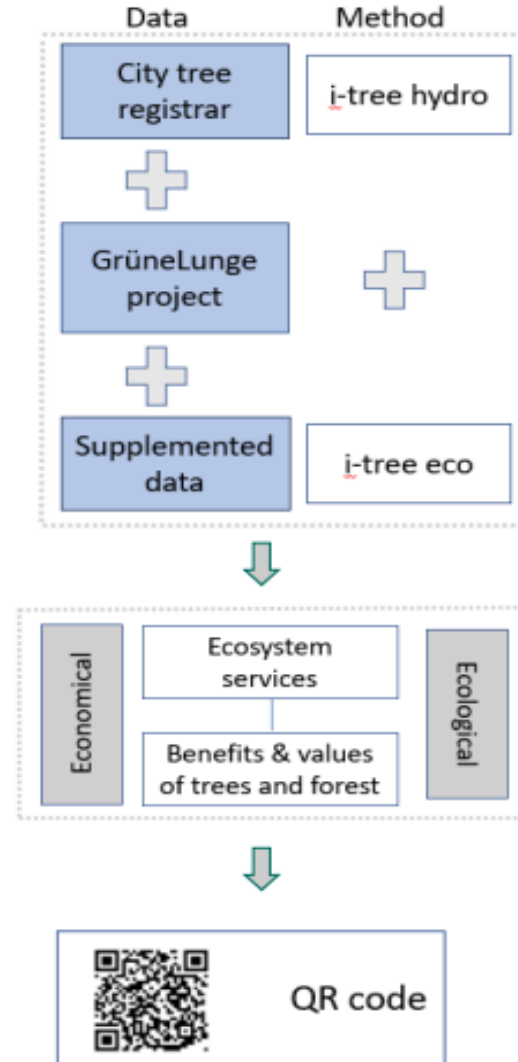


- Tree register ("Baumkataster") digital map using the GitHub: all the tree data including location and species of the 88634 trees
- i-Tree (Java-based software applications): calculate the ecosystem services from trees

[codeforkarlsruhe.github.io/baumkataster](https://codeforkarlsruhe.github.io/baumkataster)

# Digitalization of urban trees

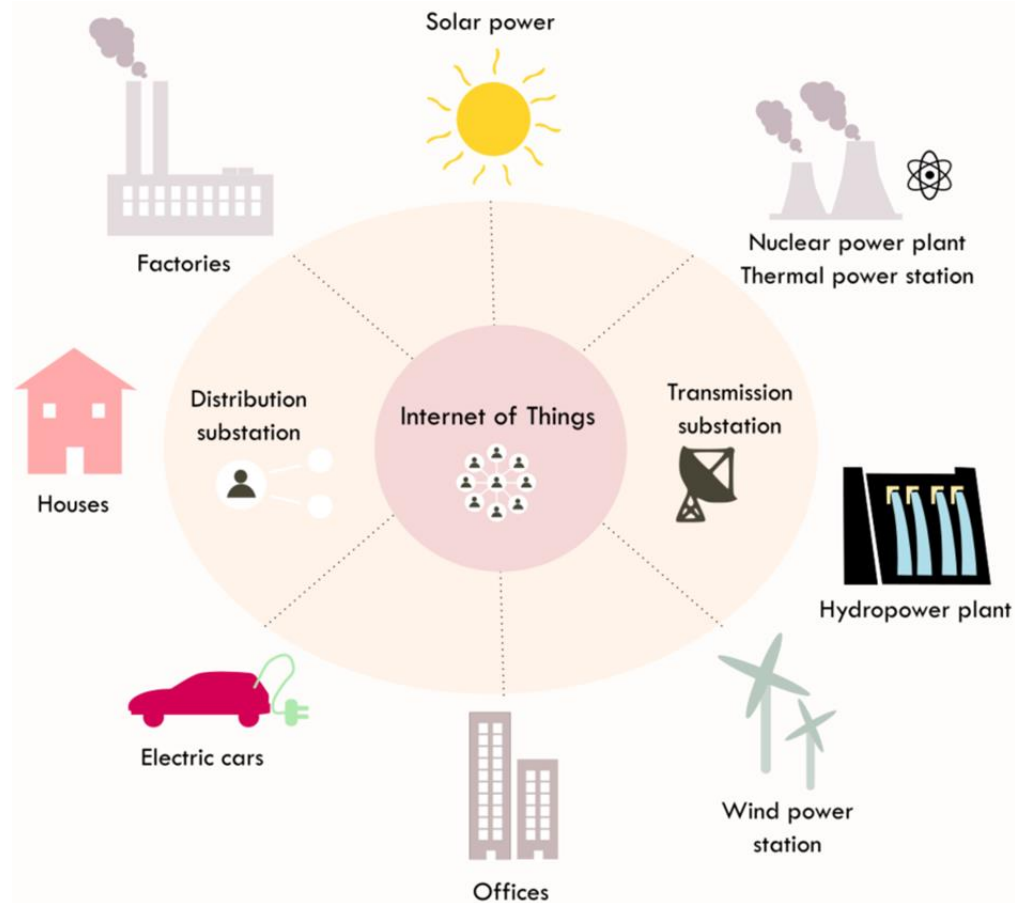
Placing QR codes on trees provides citizens with instant access to tree information and benefits, while also encouraging their participation in surveys, fostering sustainable urban development.



Son, J., Saha, S. Digitalization of Urban Trees in Karlsruhe, Germany. 5th European Technology Assessment Conference “Digital Future(s). TA in and for a Changing World” (ETAC 2022), Karlsruhe, Germany, July 25-27, 2022. Available at: [https://www.researchgate.net/publication/362437719\\_Digitalization\\_of\\_Urban\\_Trees\\_in\\_Karlsruhe\\_Germany](https://www.researchgate.net/publication/362437719_Digitalization_of_Urban_Trees_in_Karlsruhe_Germany)



# IoT for maximizing energy and energy storage efficiencies



- High possibility of energy consumption & save energy consumption by tracking actuation time
- Connecting transmission, distribution, generation, power consumers, operations, markets, services providers
- Energy information collection, demand-side management, energy sharing and transaction
- Improving energy and energy storage efficiencies

Andrew Ng Kay Lup, Vikram Soni, Benjamin Keenan, Jaewon Son, Mohammad Ramezani Taghartapeh, Marcelo Menezes Morato, Yalinu Poya, and Rubén M. Montañés. "Sustainable energy technologies for the Global South: challenges and solutions toward achieving SDG 7." *Environmental Science: Advances* 2, no. 4 (2023): 570-585.

# Conclusion

- In the past decade, Asia fueled over 50% of global tech revenue growth, yet greater sustainability efforts are essential
- Sustainability and Internet Governance are multifaceted challenges: insights from tech sectors?
- From empowering digital natives to collective responsibility
- Social-Ecological-Technological System



# Thank you for listening

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