# Renewable Energy for Low Carbon City

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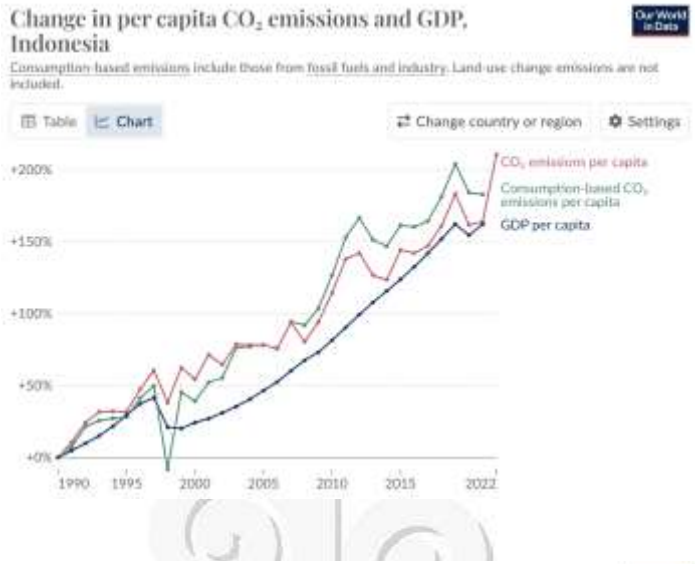
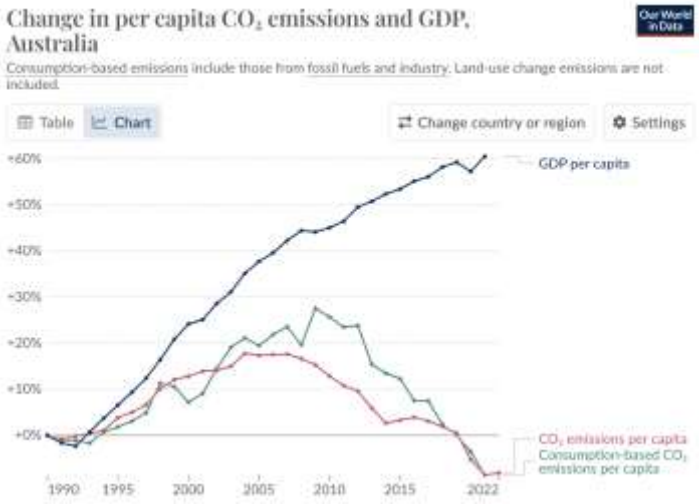
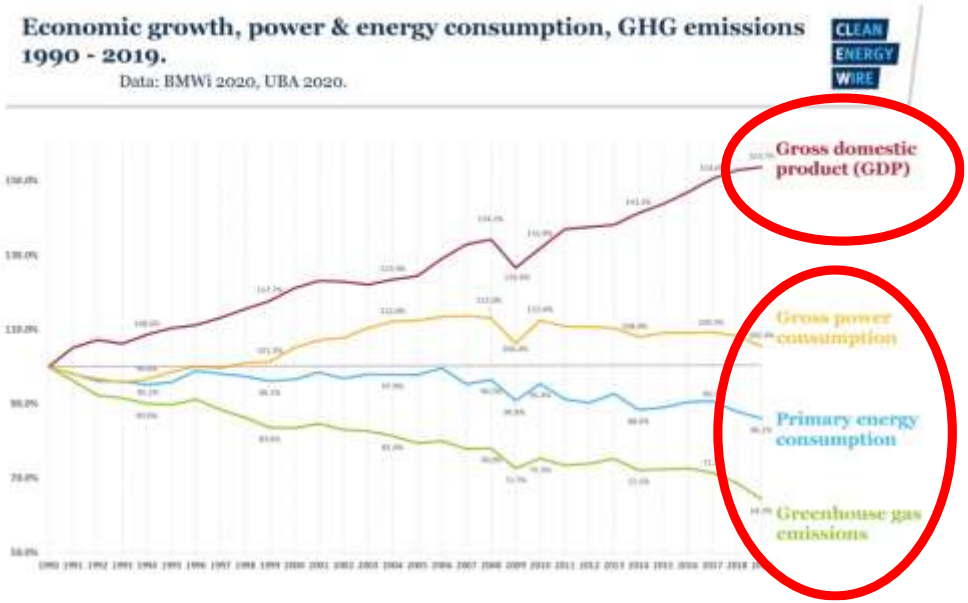
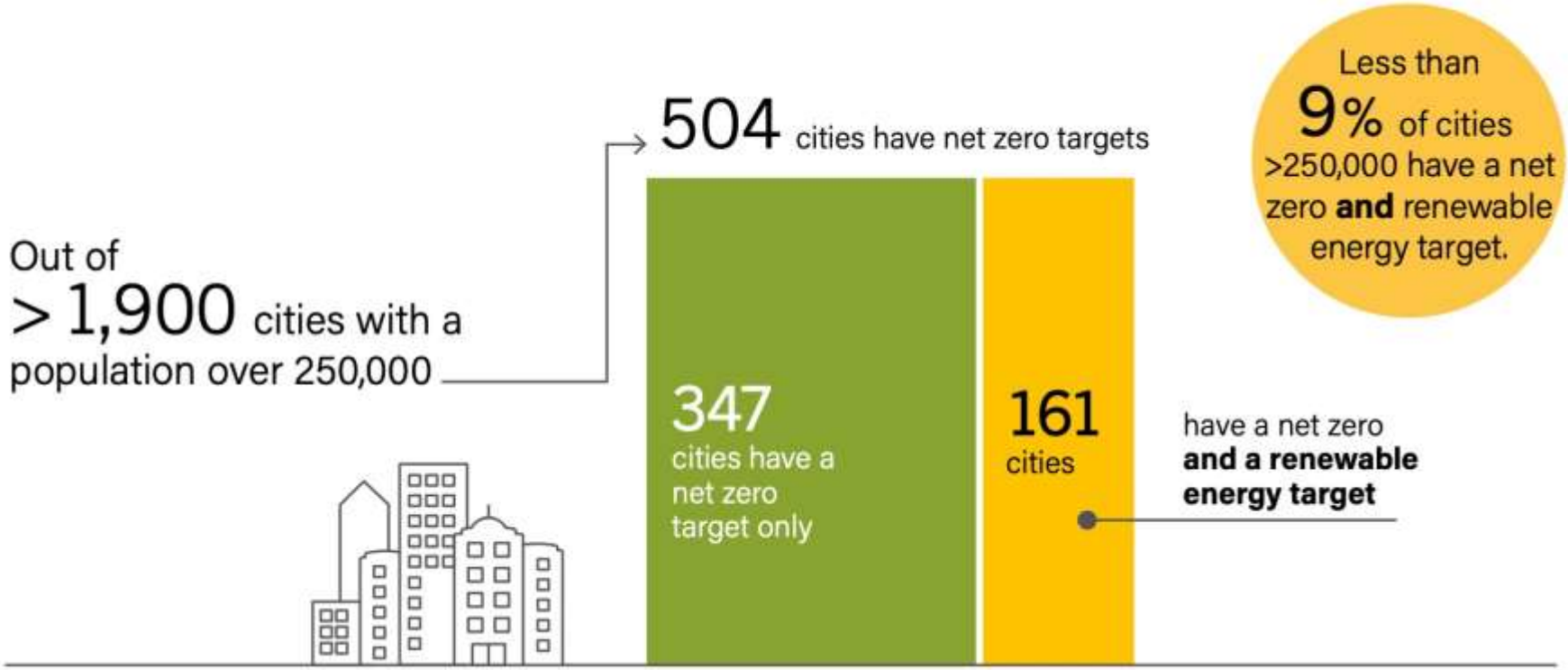
# Decoupling



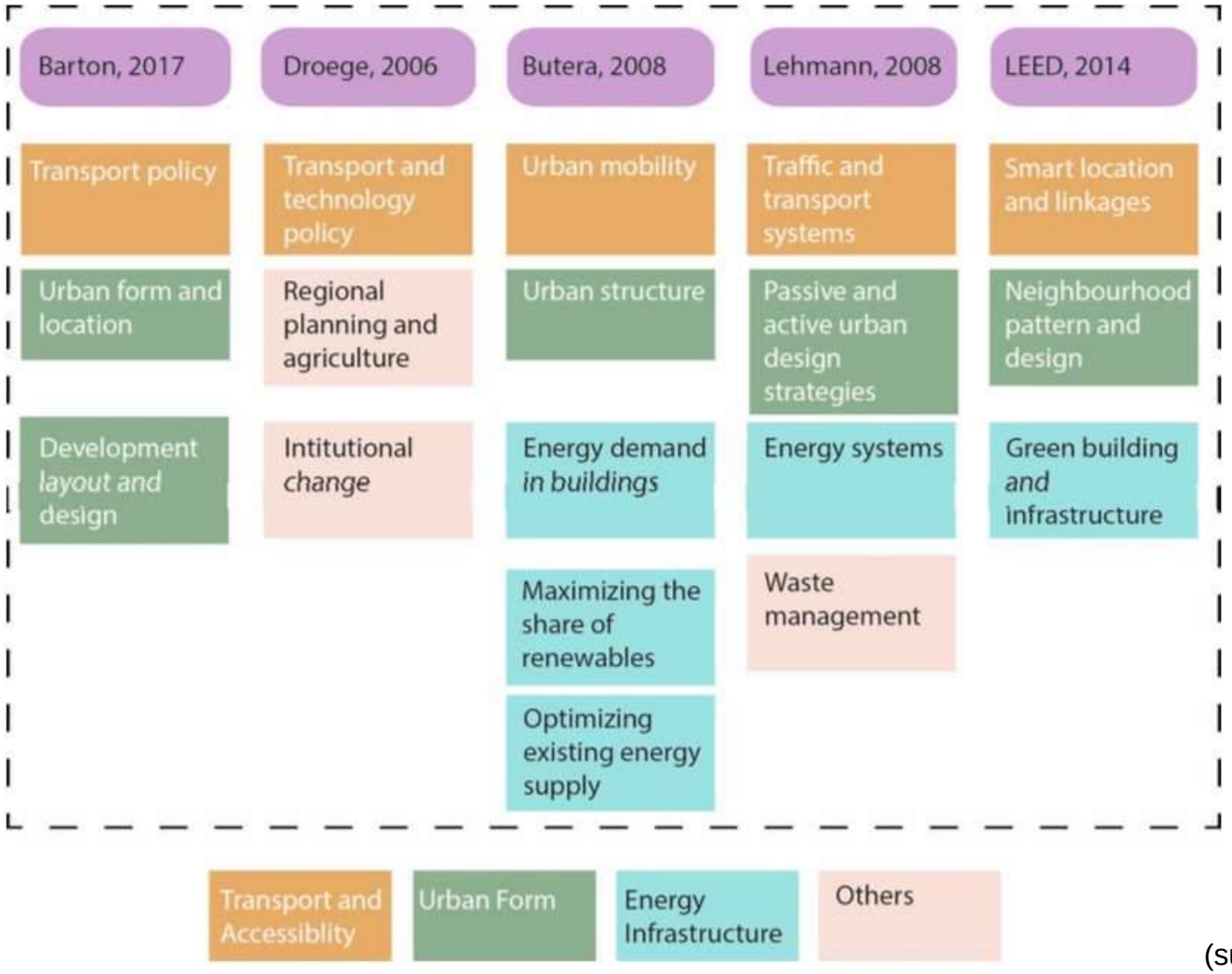



# Net Zero Emission Targets and Renewable Energy Targets in Cities with More Than 250,000 Inhabitants, 2021



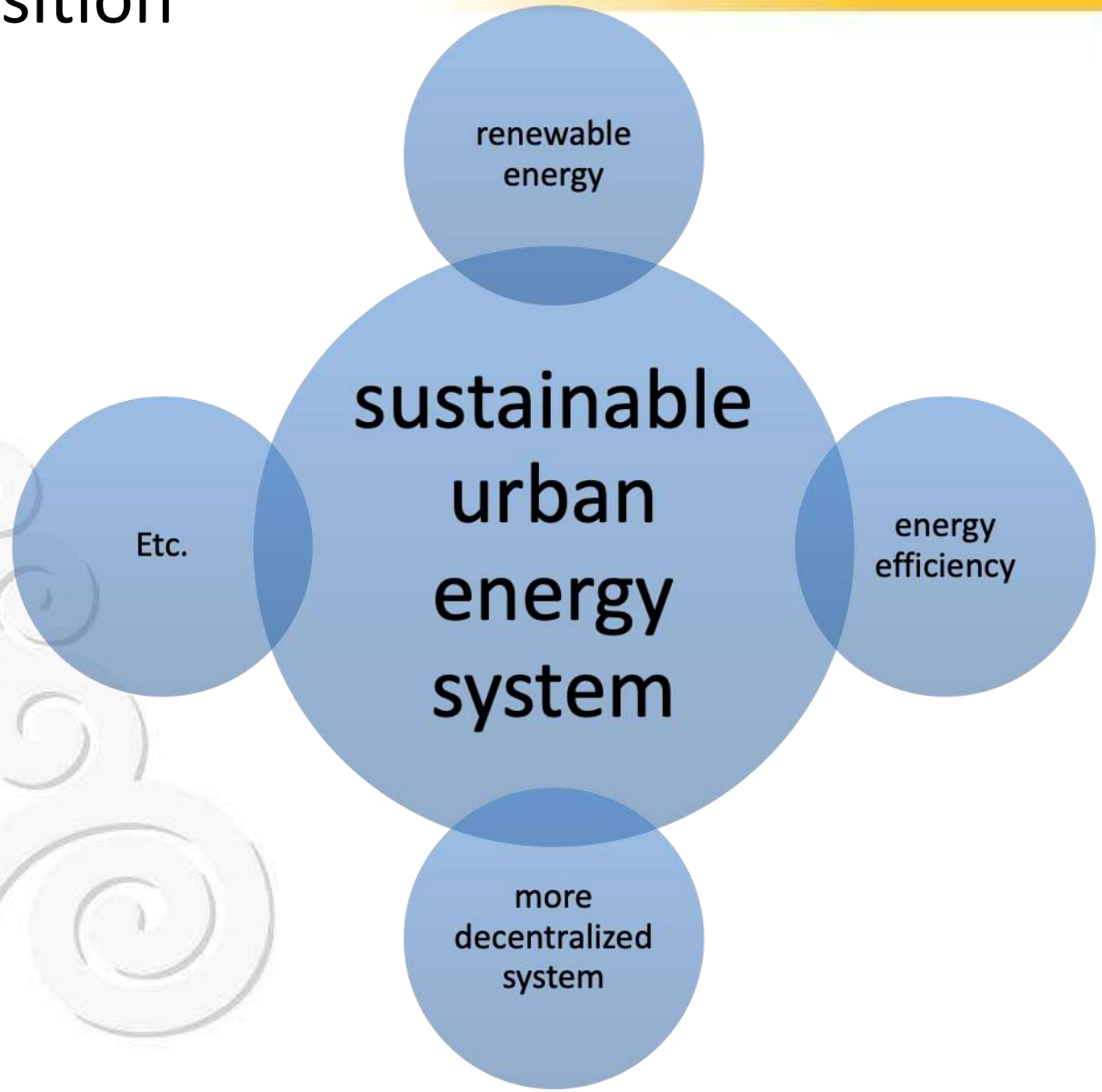

(REN21, 2022)

# Urban components of the energy transition




(sumber: Asarpota dan Nadin, 2020)

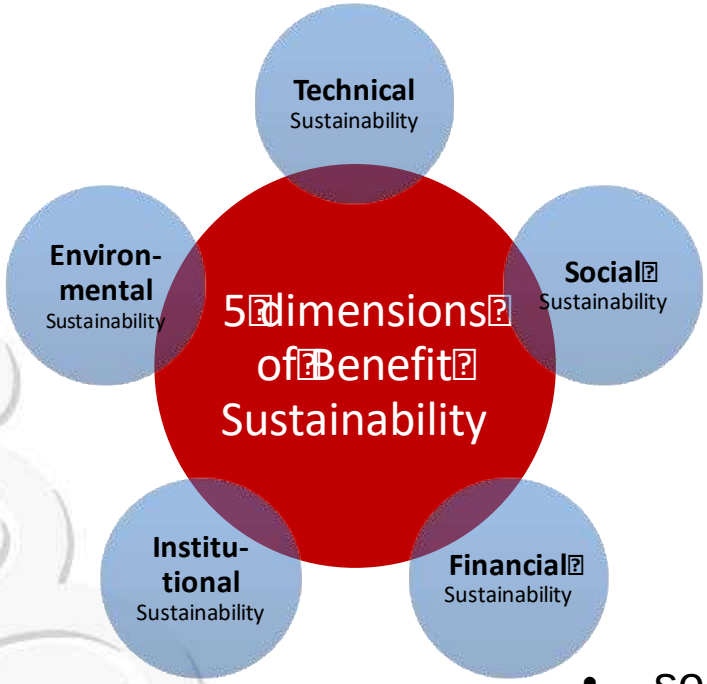
# Energy Transition



# Benefit Sustainability

- capacity in system
- technical realibility, high capacity factor

- no environmental damage
- strengthening environmental quality




- strengthening social cohesiveness. cause no conflict in complex and delicate circumstances
- social-embedded system

- local ability in O&M + development
- well-managed system and supported business

- self-financed system system
- growing supported economic activities

# Photovoltaics by Community

## Bank Indonesia – UGM – Serikat Surya Handayani (2021)


community:

- cooperative (in financial service) institution with > 1000 members (leader)
- SMEs
- vocational higher school persons

target: capability of community

- To install, operate & maintain the PV system
- To integrate the PV with its business
- To develop PV-based (new) business (eg: financial system)

(ssh.or.id)

# PV-Based RO for Drinking Water Supply by Community

## Bank Indonesia – UGM – Serikat Surya Handayani




by community: operation, maintenance, repair, marketing, distribution (30 km from production site), to develop PV-based (new) business (eg: financial system)

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## PSE Berkolaborasi dalam Net Zero Carbon Communities (NZCC) Application In Makassar City

Climate Change, News, Renewable Energy, Sosial Energy  7 May 2024, 10.15  Oleh: irawanekop

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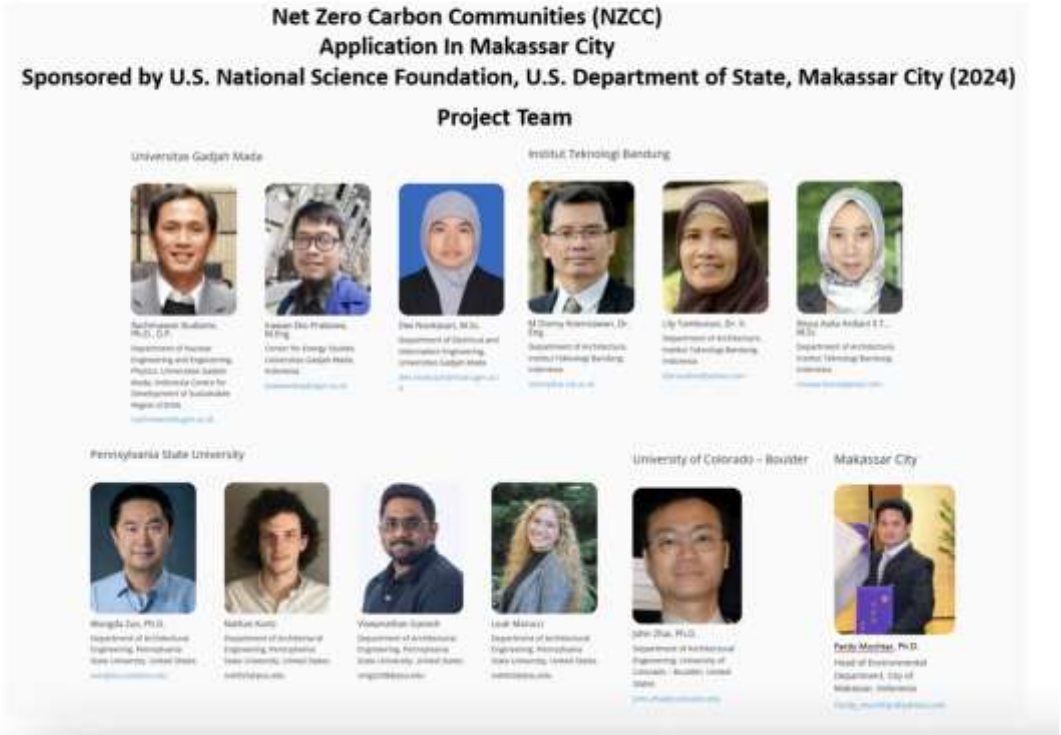
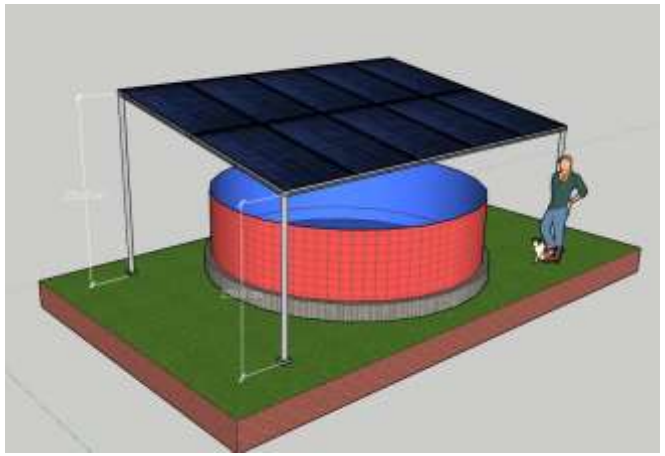
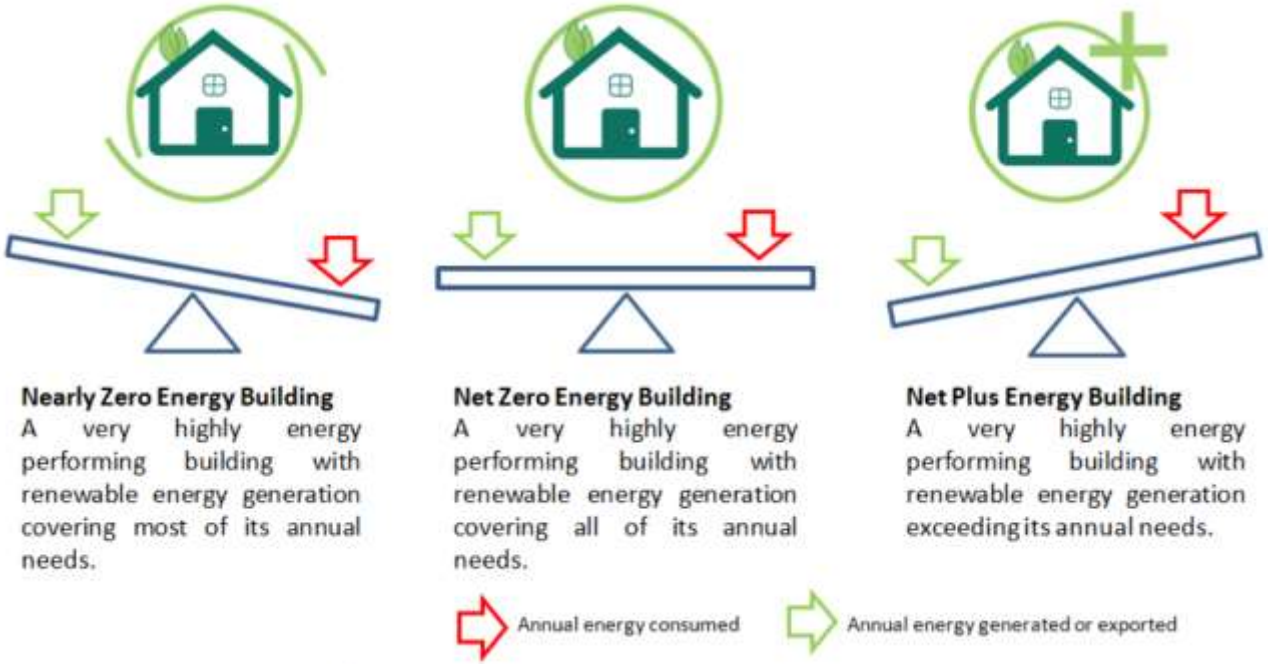



- multiyears,
- international collaboration,
- co-funding (US Dept. of State + Makassar City),
- common interest in sustainability,
- step 2 (previous: funded by NSF)
- CDSR network

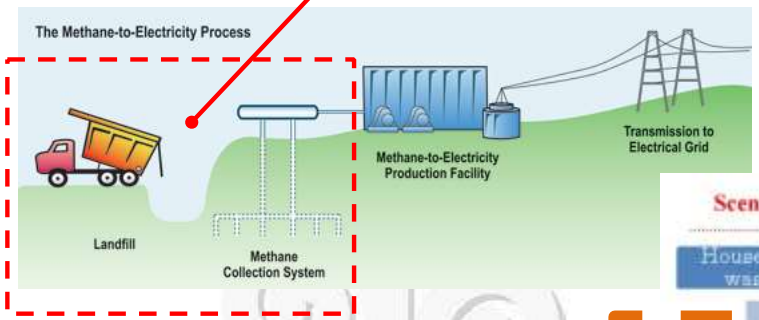
- urban farming (fishing),
- growing managed by local community (research and community empowerment)
- local capacity building for O&M
- photovoltaics

# Building: Efficiency & Energy Production



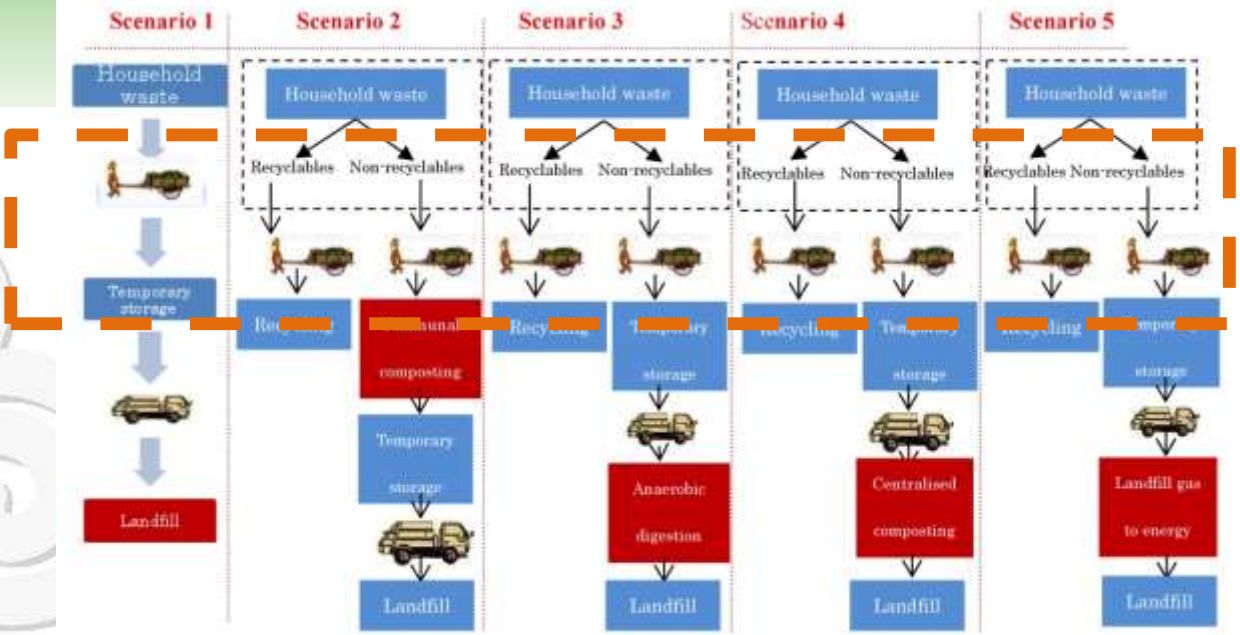


(source: Emirates Green Building Council, 2017)

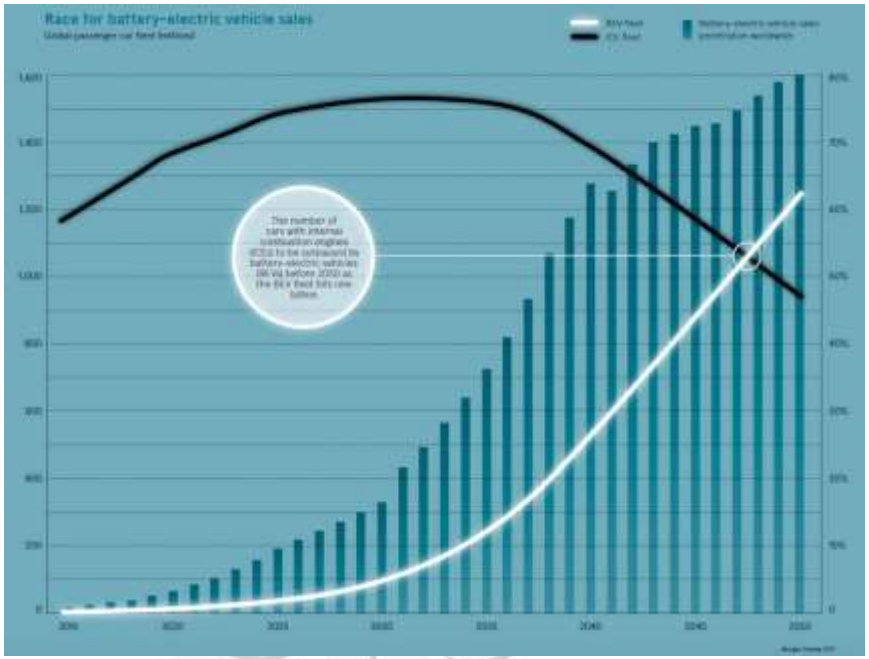




# Challenge of Benefit Sustainability

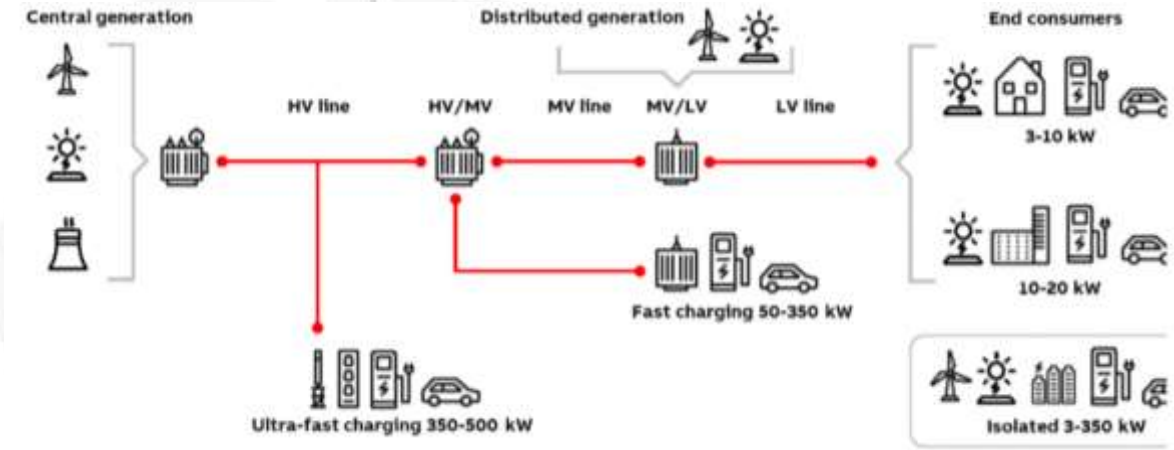
(eg: inclusivity in waste to energy)




(www.intechopen.com; IRENA, 2014)




# The Era of Electric Vehicle can be supported by renewable energy




Distribution grid hosting capacity levels (Image: ABB)

(Desjardins, 2018; Salge dkk., 2020)

thank you
for our better world