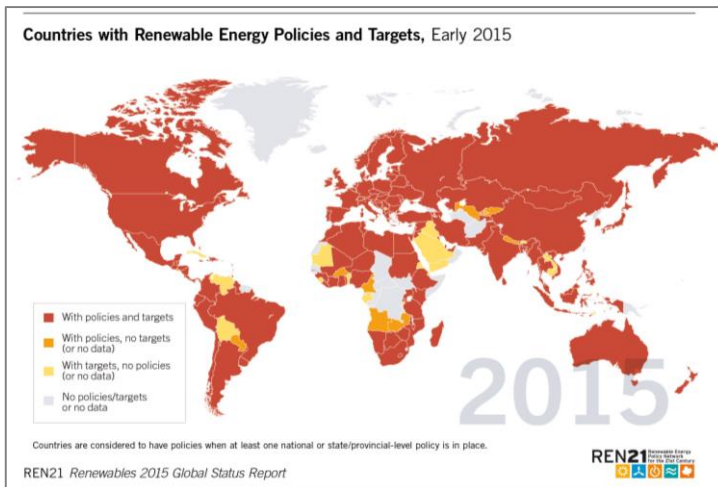
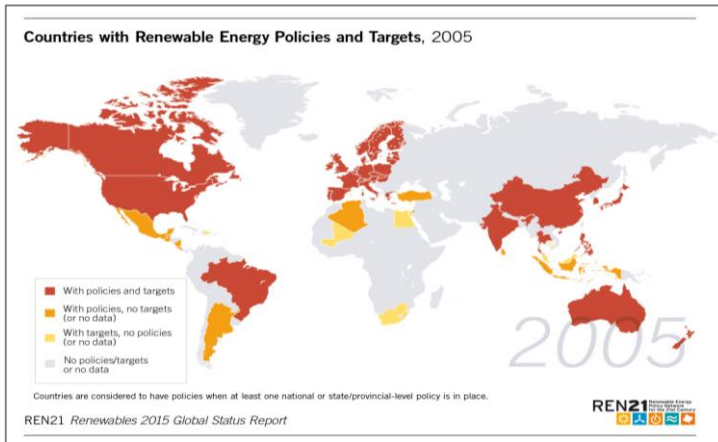


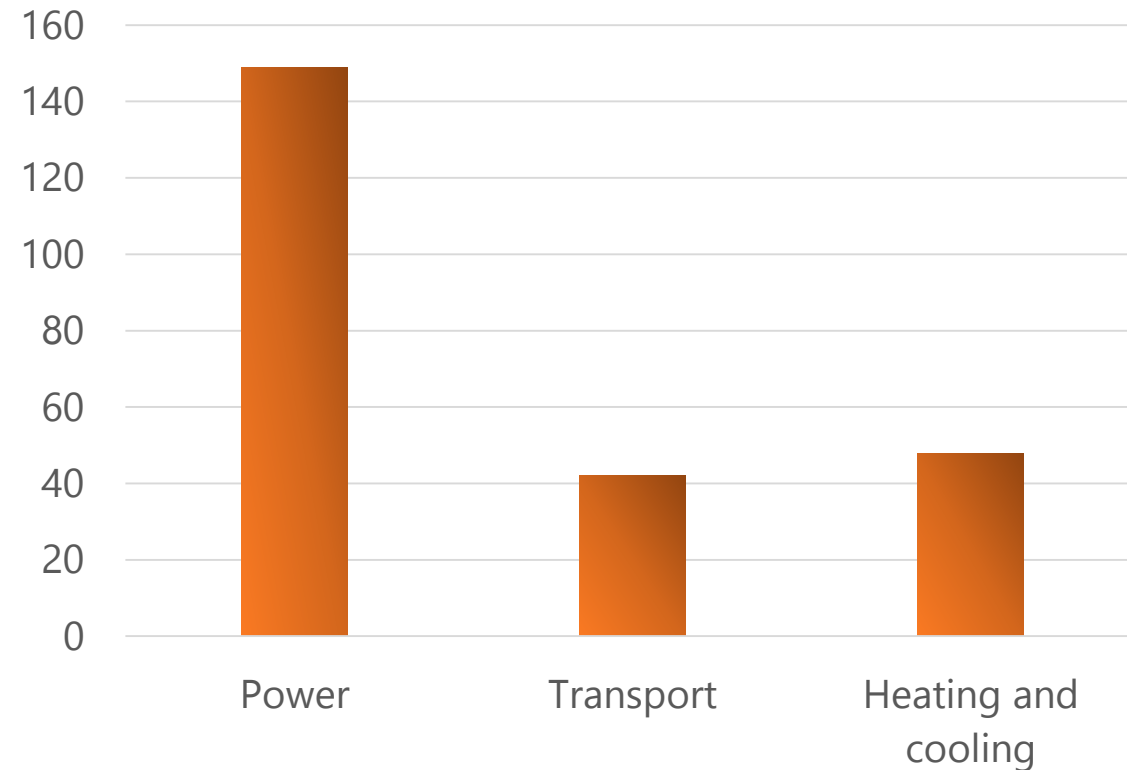


## **Renewable energy in the end-use sectors**

# Renewable energy policies on the rise



## Number of countries with renewable energy targets, 2016

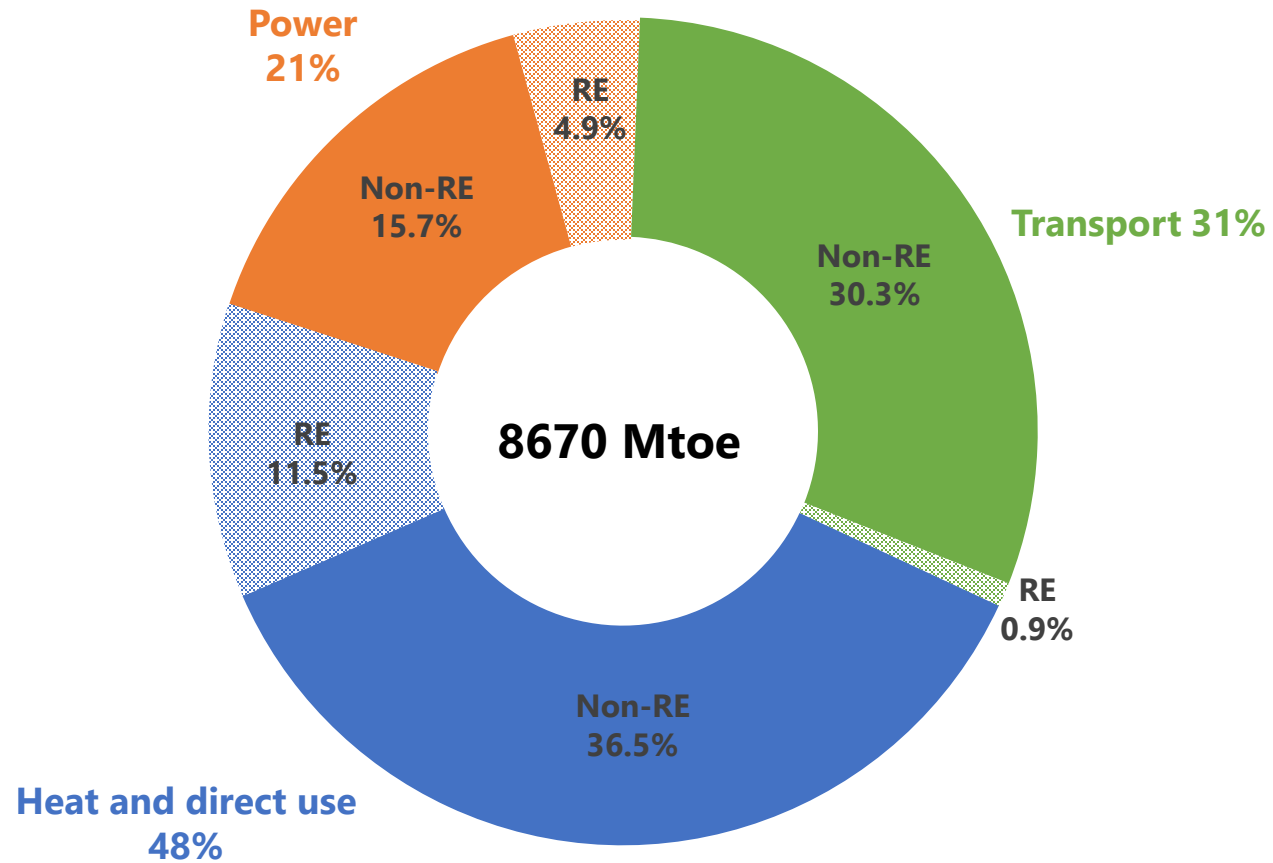


Renewable energy policies have become increasingly widespread.  
Policymakers focus on power sector, heating, cooling and transport lag behind



# Uneven progresses across the sectors

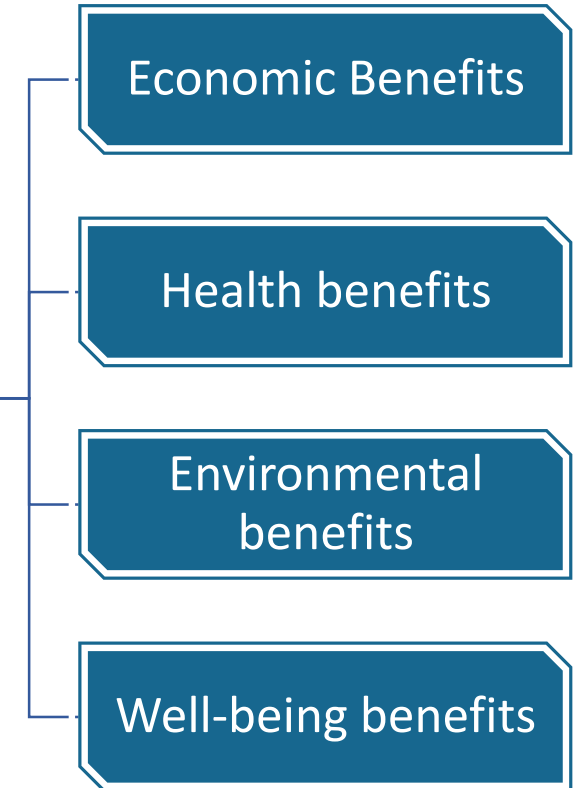
## Energy consumption, Global, 2016



# The socio-economic benefits of modern RE in heating and direct use

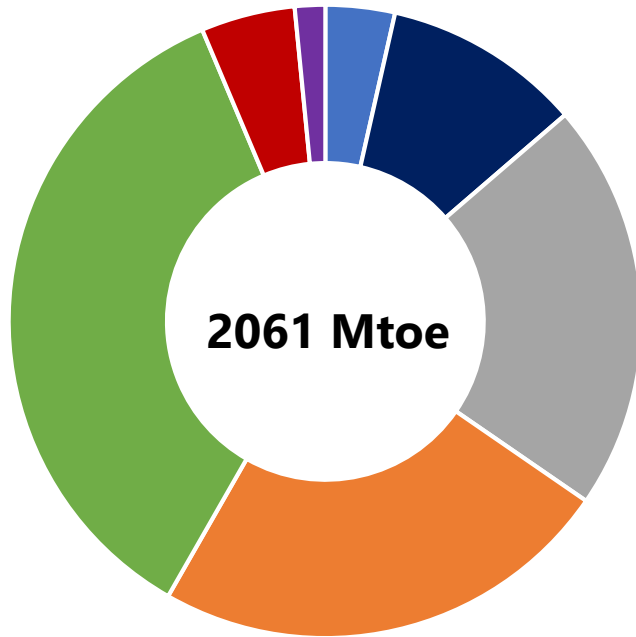


Socio economic impact



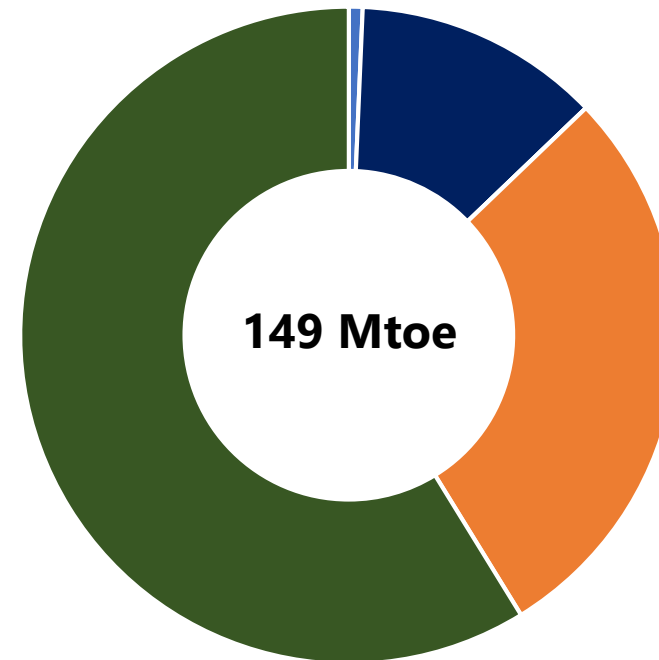
# The role of biomass in cooking and household heating

## Final energy consumption in buildings, Global, 2016



■ Coal ■ Oil ■ Gas ■ Electricity  
■ Biomass ■ Heat ■ Other

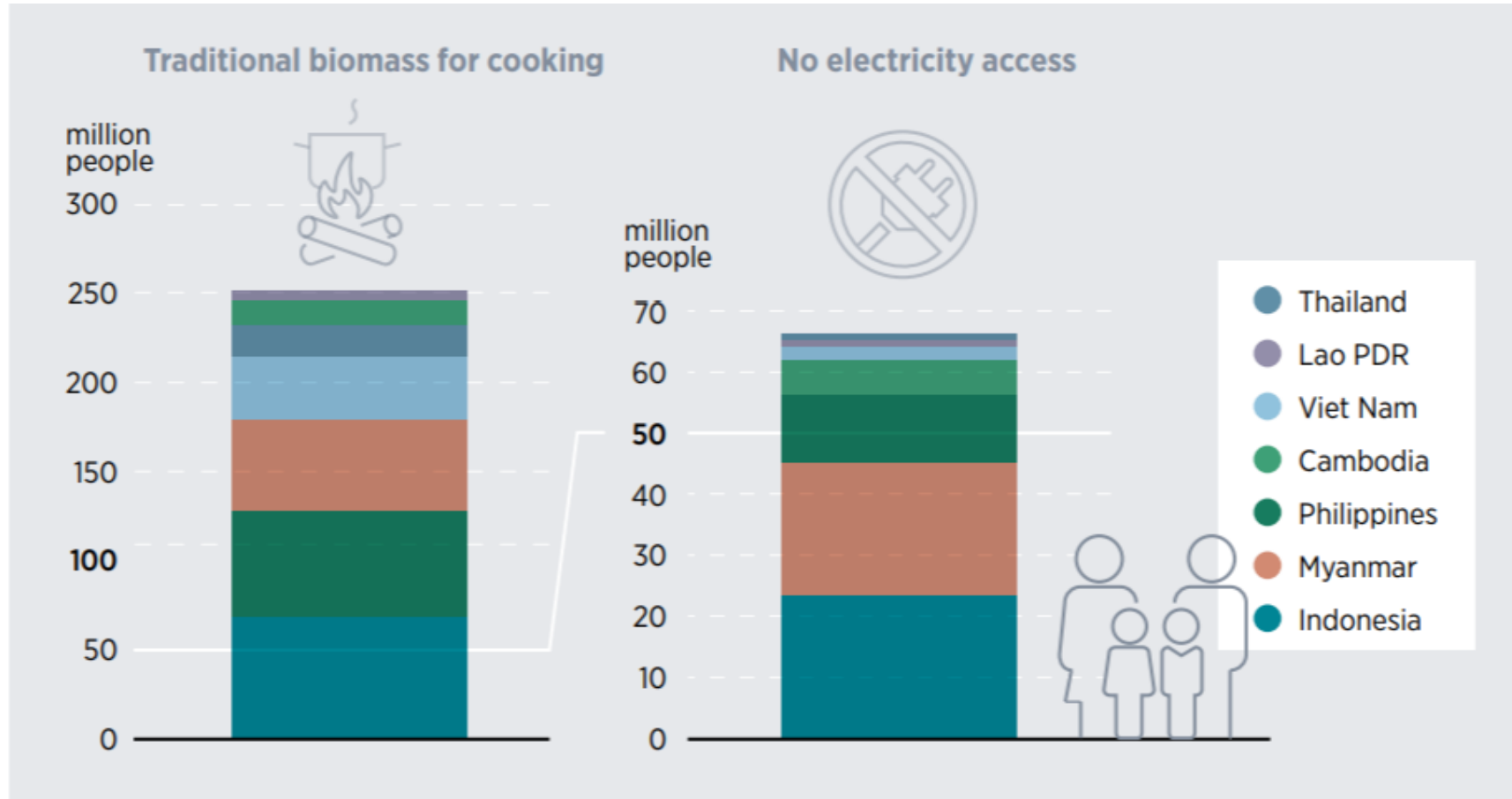
## Final energy consumption in buildings, ASEAN, 2016



■ Coal ■ Oil ■ Gas ■ Electricity ■ Traditional biomass



# The energy access context in Southeast Asia

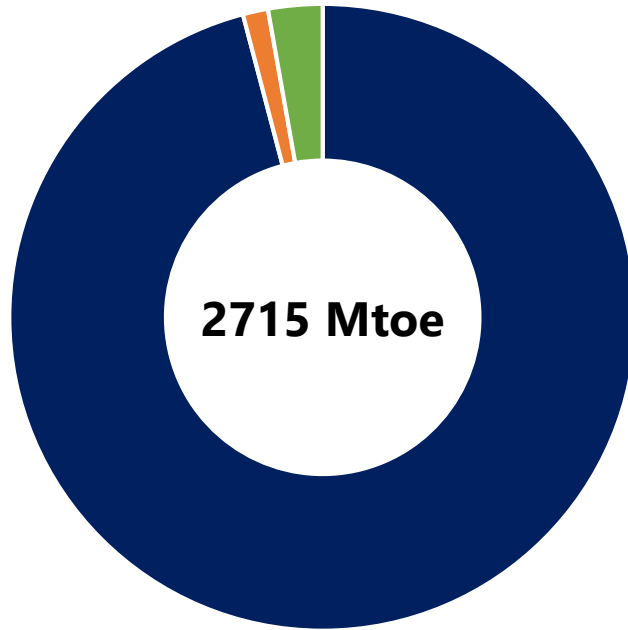


# The health benefits of clean energy in households

- 3.8 million people a year die prematurely from illness attributable to the household air pollution, in the world.
- In the last 20 years, indoor air pollution caused between 200.000 and 300.000 preventable death per year in South East Asia.
- Household air pollution is mainly due to the traditional use of biomass for cooking and heating.
- Replacing traditional methods of cooking and heating with clean energy solutions can reduce or avoid the health hazards.
- In Viet Nam, 250.000 biogas digesters brought significant health benefits to users, mostly women and children: they prevented an estimated 750 premature deaths and saved 27.700 disability-adjusted life years (DALYs).
- In rural Cambodia, the dissemination of 25.000 improved cookstoves and biogas stoves saved more than 4.000 DALYs.
- In rural Myanmar, two clinics reported that the replacement of firewood with power from a mini-hydro plant for heating bath water resulted in a notable reduction in infant respiratory disease among local communities.

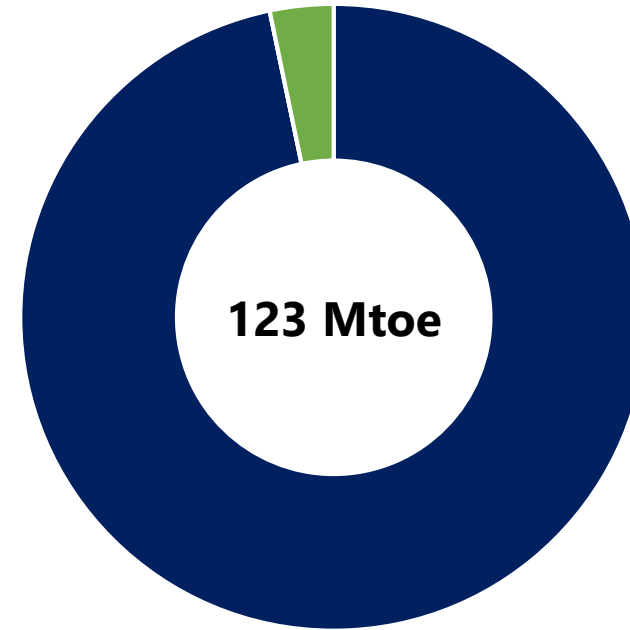


## Final energy consumption in transport, Global, 2016



■ Fossil fuels ■ Electricity ■ Biofuels

## Final energy consumption in transport, ASEAN, 2016



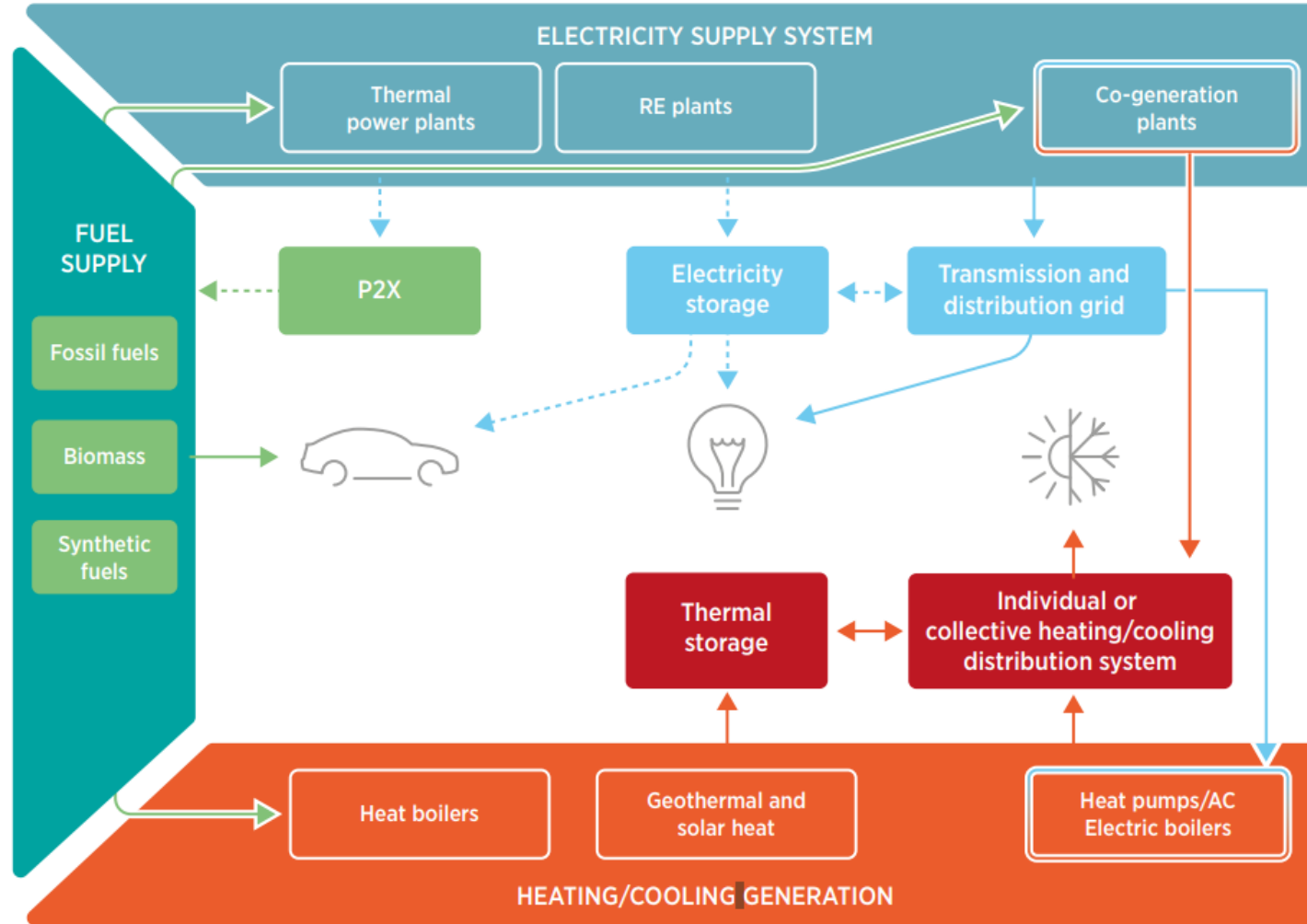
■ Fossil fuels ■ Electricity ■ Biofuels

The decarbonization of the transport sector is a huge task that requires a change in the nature of transport demand, improvements in efficiency and changes in the energy mix, which all require major policy push.





# Sector coupling as an enabler of the energy transition



## Key messages

- The effects of modern renewable energy go beyond the energy sector, with socio-economic and health benefits for the entire region.
- Government intervention is needed to facilitate deployment for modern renewable energy solutions.
- However, the focus should move on a whole energy vision, encompassing H&C, transport, and direct uses of energy.
- Effective policies and regulations are needed to create an enabling environment for renewables deployment in the whole energy sector



