



# **Role of Biogas and Biomethane in the IEA Global Net Zero Scenario**

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Scaling up biomethane on the pathway to a net-zero future, 13 October 2021

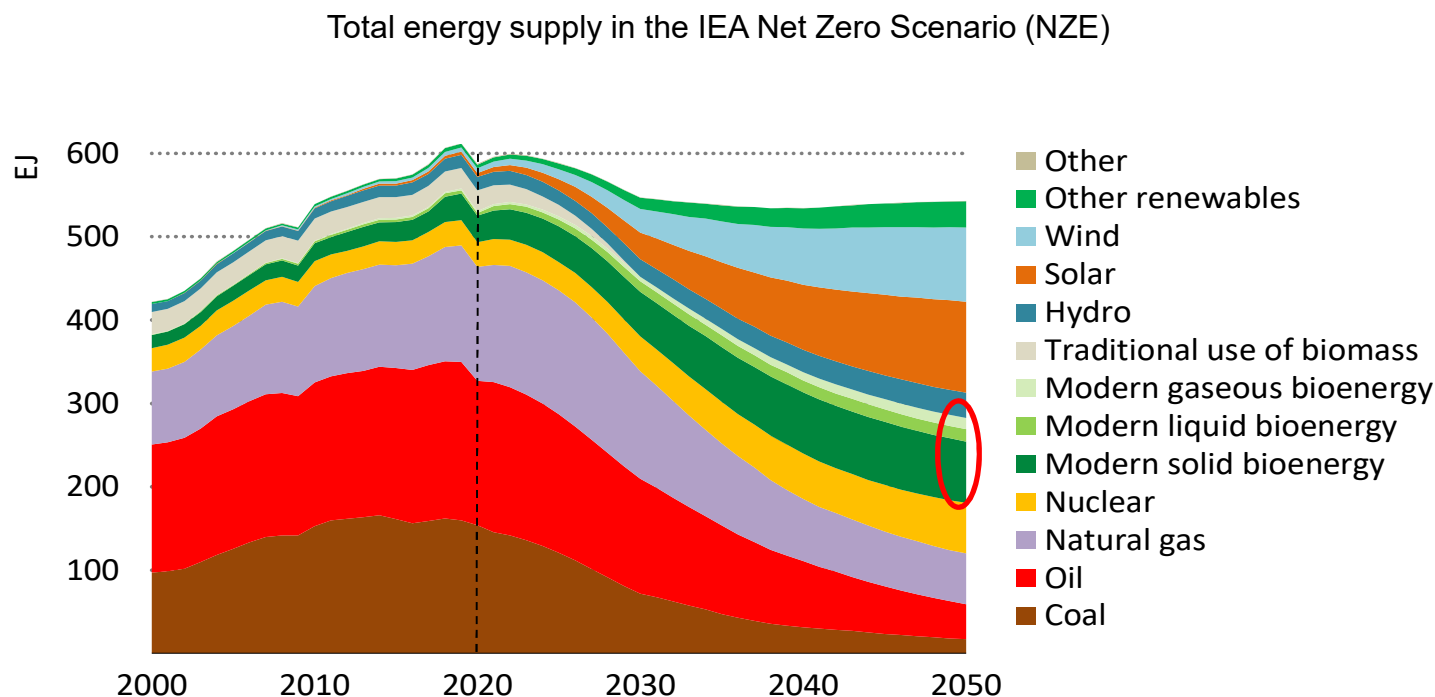
International  
Energy Agency

# Unprecedented policy momentum

- Covid-19 crisis had unprecedented impact on global energy systems, including bioenergy
- Four grounds of optimism towards clean energy transitions, despite all present difficulties:
  - Net zero pledges by many countries and companies
  - New 2030 emission cut targets by US, EU
  - Largest stimulus packages in economic history
  - Crucial COP26 meeting in Glasgow
- **IEA NZE Roadmap published on 18 May**



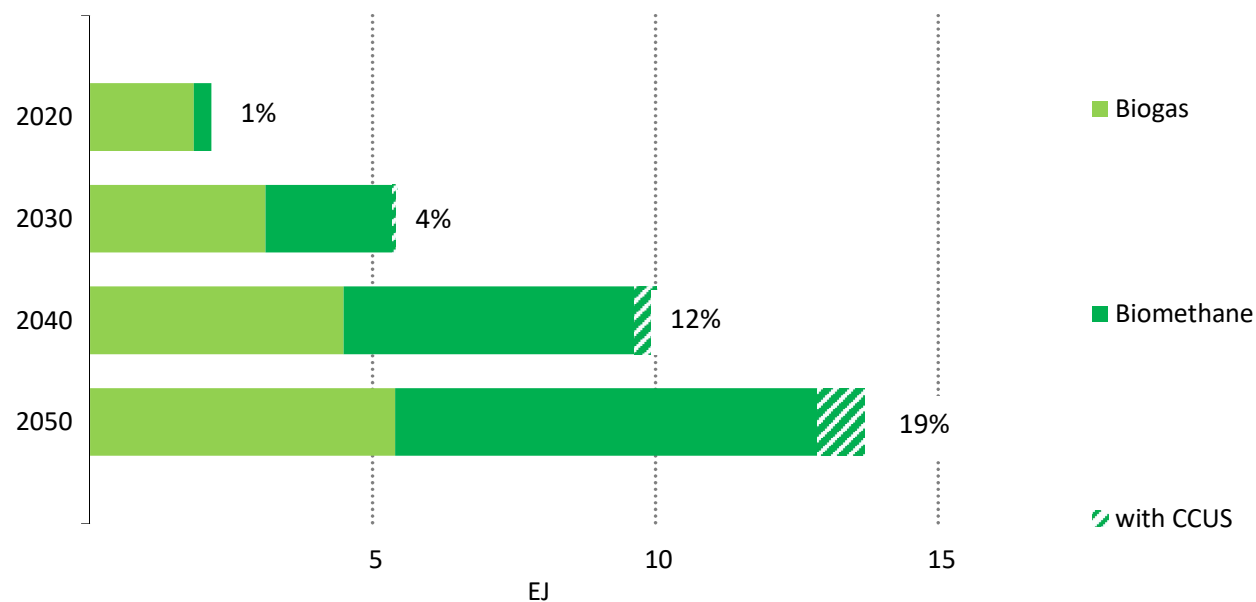
## Net zero requires a paradigm shift in energy supply and use



**By 2050 total energy demand decreases while the global economy is more than twice as large as in 2020. Renewables and nuclear power displace most fossil fuels in the NZE, whose share falls from 80% in 2020 to just over 20% in 2050**

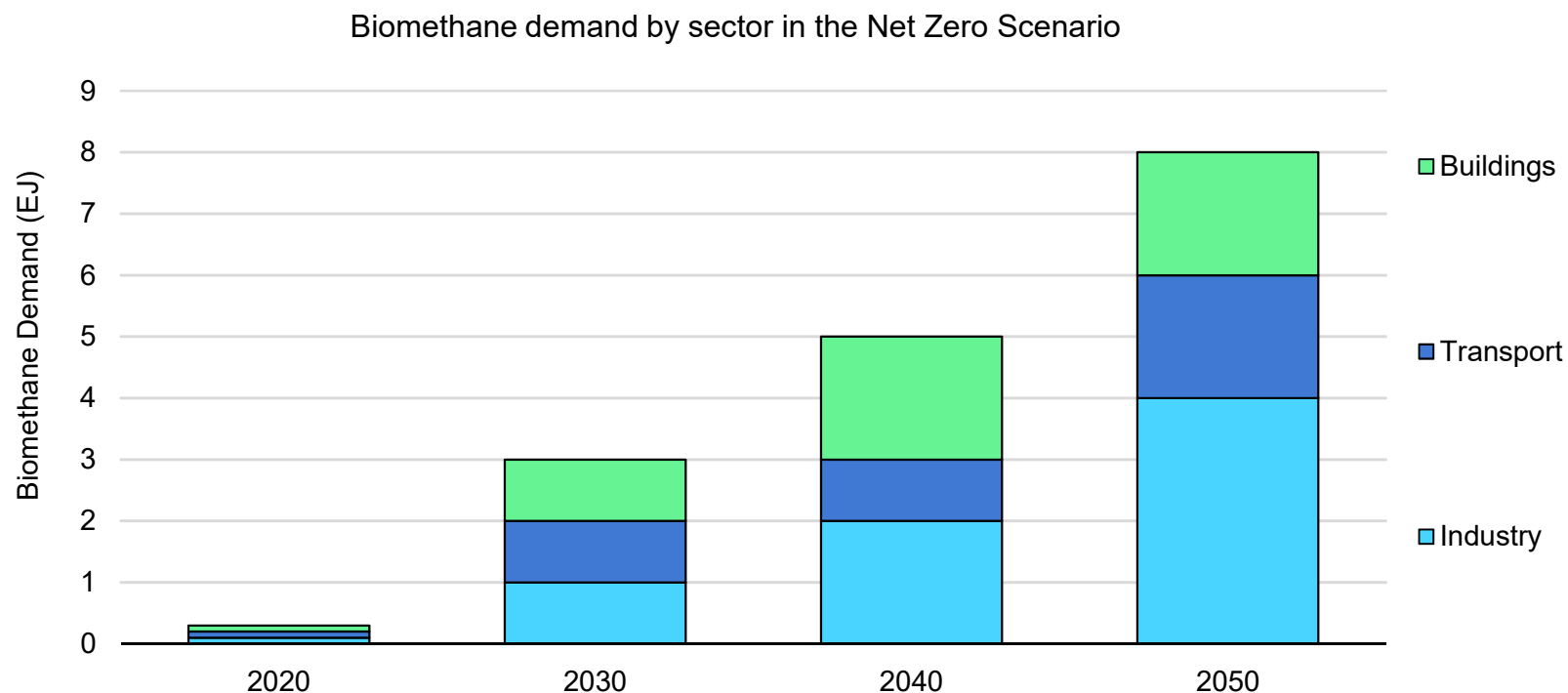
## Biomethane's importance grows on the path to net zero

Global biogas and biomethane production and share of total gaseous fuel supply



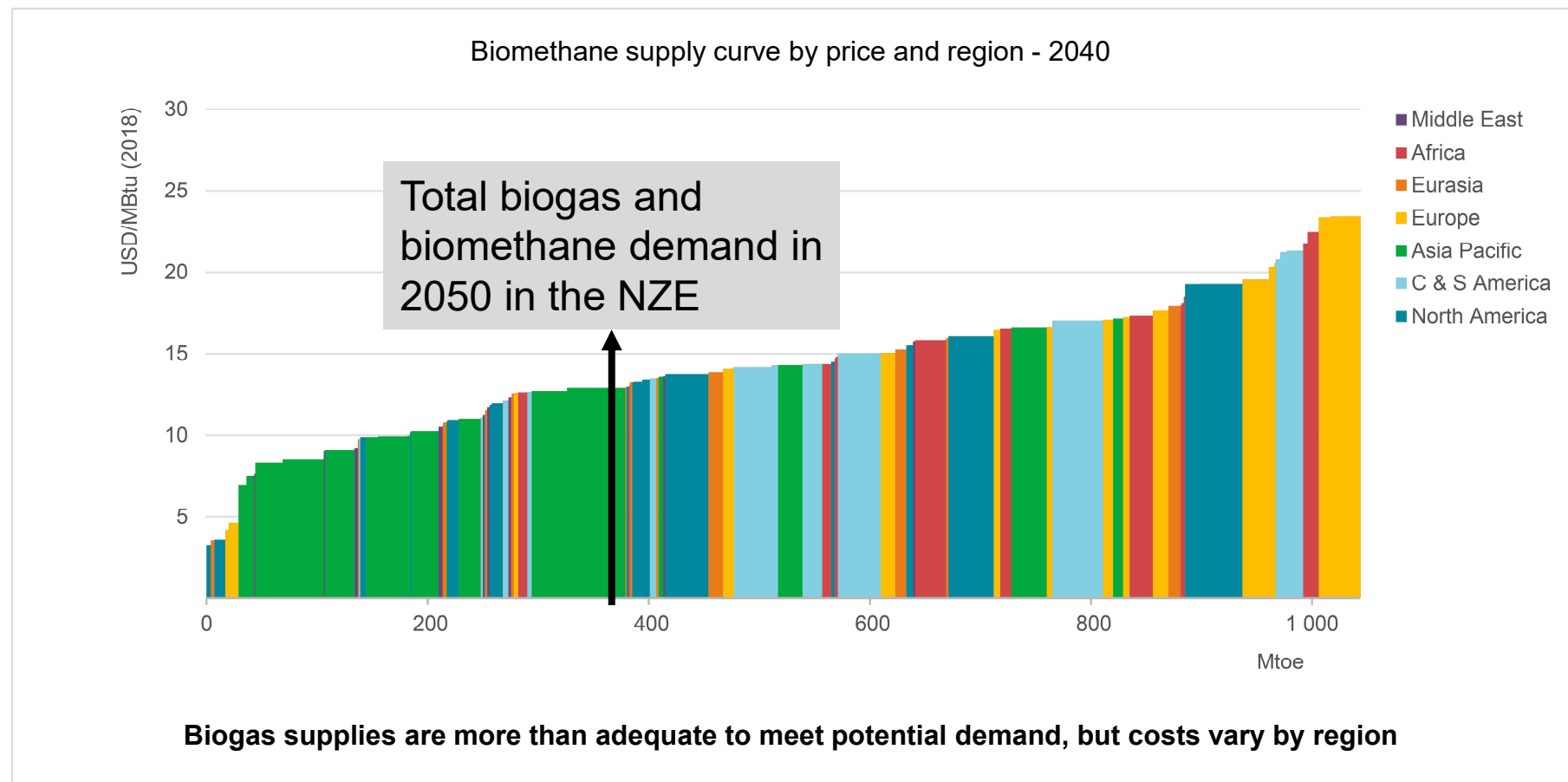
**Biomethane makes up 60% of gaseous biofuels by 2050, up from 14% in 2020**

## Biomethane helps decarbonize transport, industry and buildings



**Biomethane plays a role in reducing building, transport and industry GHG emissions where electrification and other solutions are not practical or too expensive.**

## Supply potential meets demand potential



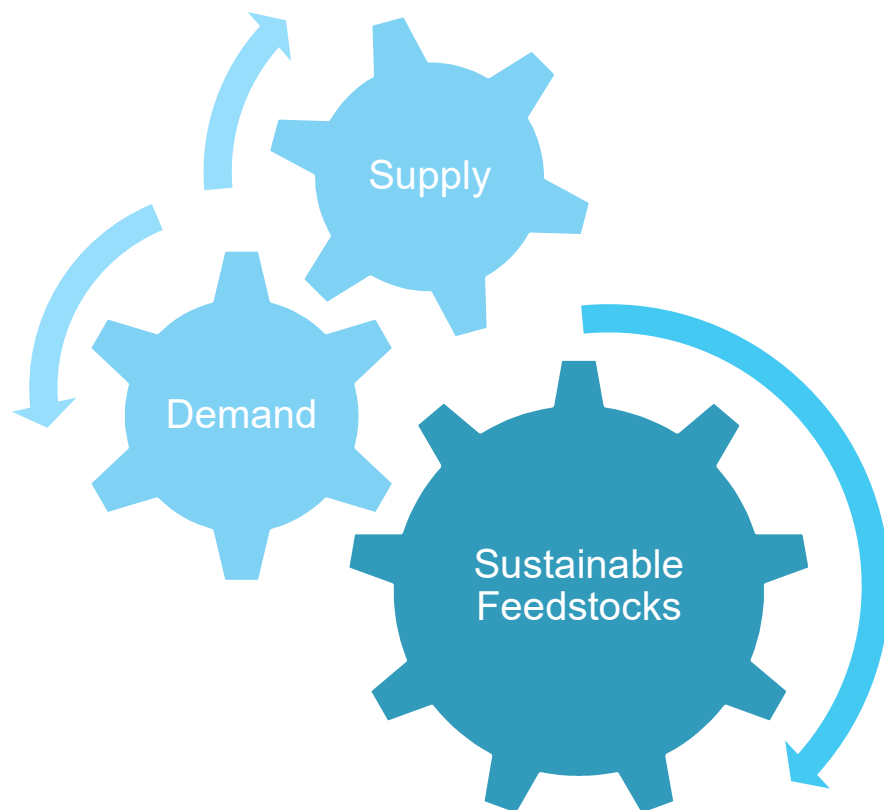
## Biogas and biomethane are more than energy

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- **Energy security** – Domestic supply potential can help offset imports and provide modern energy services to those not connected to natural gas grids.
- **Waste management** – Biogas production often uses wastes such as municipal solid and liquid wastes, food industry wastes and agricultural wastes.
- **Greenhouse gas reductions** – Biogas can reduce methane production and replace fossil fuels.
- **Fertiliser** – Biogas digestate can be used as a fertiliser, helping to offset production costs.
- **Economic and employment opportunities** – Biogas facilities provide employment and economic opportunities, especially in rural areas.
- **Compatibility** – Biomethane is compatible with existing natural gas infrastructure and end-uses.

## Government policies are essential to accelerate deployment



- **Sustainable Feedstocks** – Waste management, sustainability criteria, GHG monitoring, feedstock assessments
- **Demand** – Monetize all benefits, quotas and targets, incentives and infrastructure
- **Supply** – Fiscal benefits, technical standards, capacity targets, frameworks for deployment, global learning networks

## Concluding remarks

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- Reaching net-zero emissions globally by 2050 is a critical and formidable goal, requiring an unprecedented transformation of how energy is produced, transported and used
- The pathway to net-zero hinges on immediate and massive deployment of all available clean and efficient energy technologies, as well as boosting clean energy innovation
- Low-emissions fuels in the form of biogases, help to decarbonise sectors where direct electrification is challenging
- Biogases provide more than just energy, they also help manage wastes, reduce greenhouse gas emissions and provide employment and economic opportunities especially in rural areas
- Competing uses, sustainability of feedstocks and mobilising supply chains are key considerations to unlock biogas' potential
- Urgent, strong and credible policy actions from governments, underpinned by much greater international cooperation, are needed to attract investment at scale and foster required innovation