

IEA Bioenergy workshop: Governing sustainability in biomass supply chains for the bioeconomy - 23 May 2019, Utrecht, Netherlands

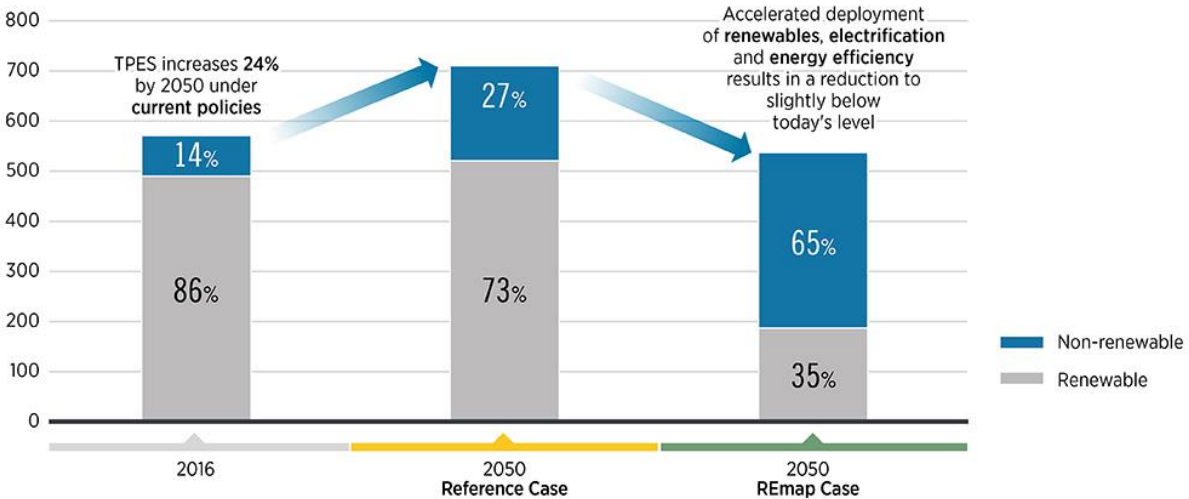
World Café Round 2: A collaborative way forward

2E: Role of international organizations fostering bioeconomy governance

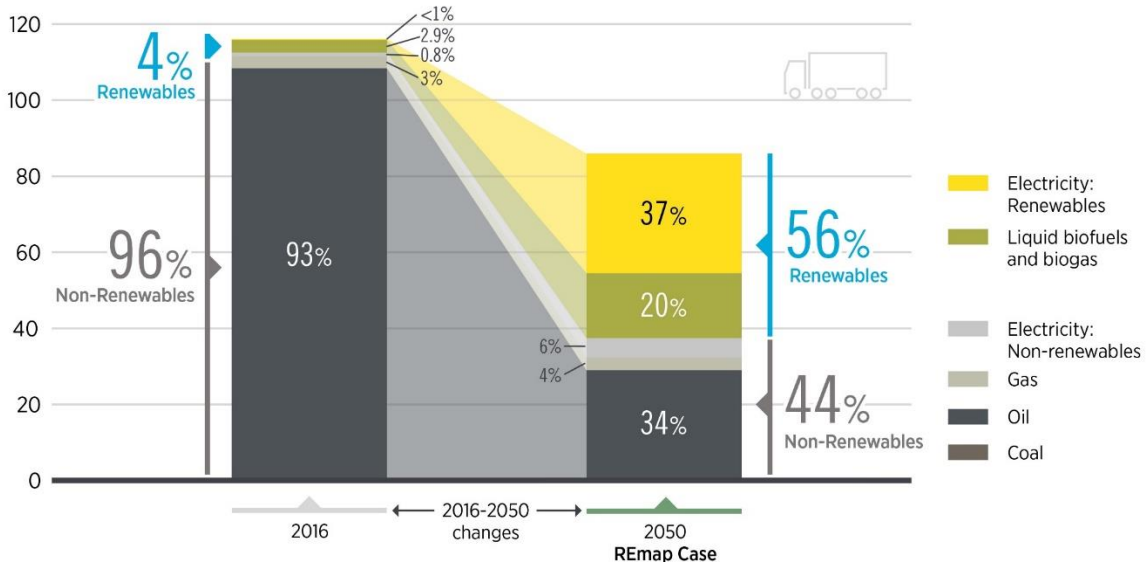
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Global Energy Transformation: A Roadmap to 2050 (IRENA);

Renewable energy share in TPES (EJ)

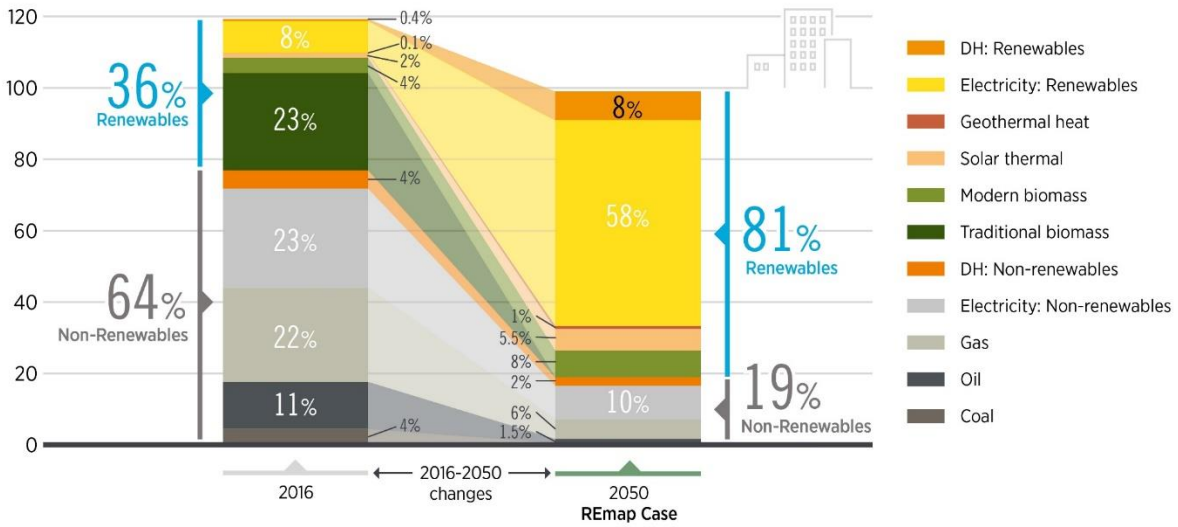


Breakdown of final energy consumption in the transport sector, by source (EJ/yr)

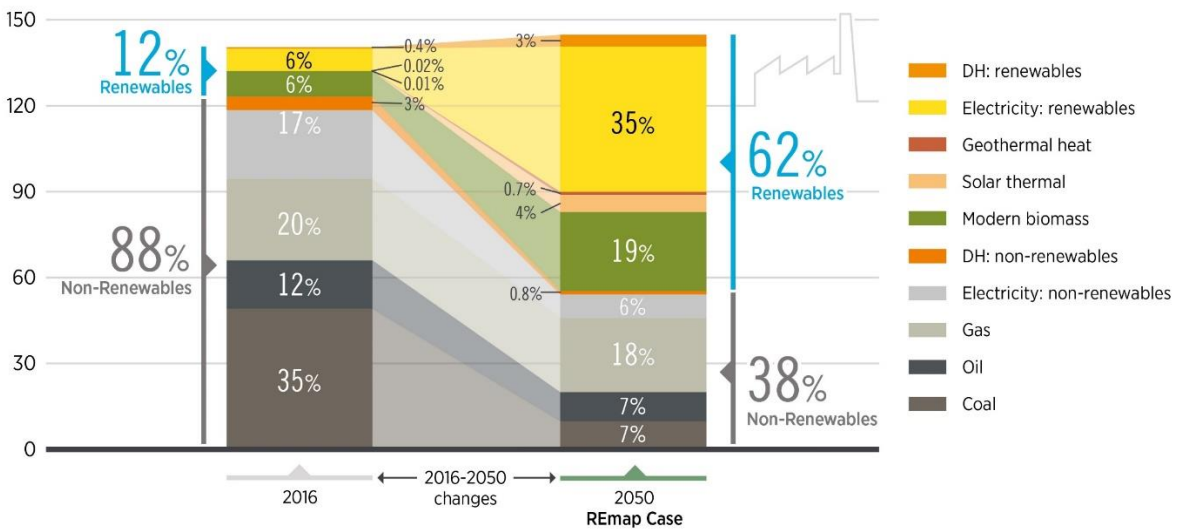


Bioethanol	94 BL	---	366 BL
Biodiesel	35 BL	---	180 BL
Aviation biofuel	0 BL	---	105 BL
Biomethane	0.4 BL	---	13 BL

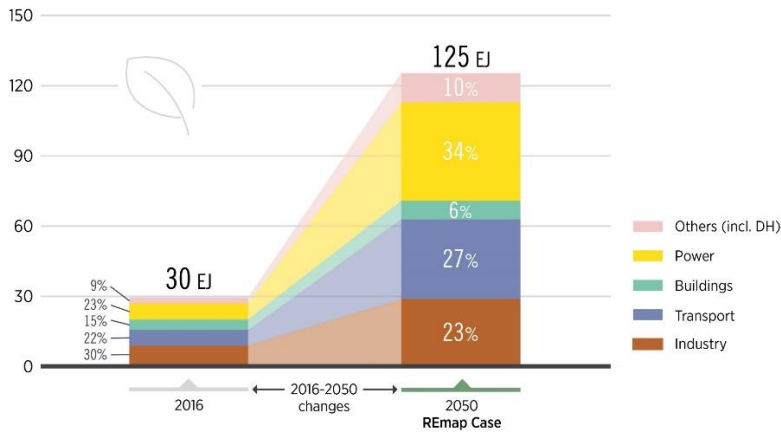
Breakdown of final energy consumption in the building sector, by source (EJ/yr)



Breakdown of final energy consumption in the industry sector, by source (EJ/yr)



Primary modern bioenergy demand (EJ/yr)



Talking points

IRENA is mandated to promote the widespread adoption and sustainable use of all forms of renewable energy worldwide. Membership: 160 members and 23 states in accession

IRENA is not an implementing agency per se, but we engage a lot with regional and country level activities by providing advice, knowledge products as well as platforms for exchange of lessons.

More than 40 publications every year, one of the flagship reports: Global Energy Transformation: A Roadmap to 2050

- Reference case: scenario based on current and planned policies of countries including commitments made in NDCs and other planned targets.
- REmap case: scenario to generate a transformation of the global energy system that limits the rise in global temperature to well below 2 degrees Celsius.

[Renewable energy share in TPES (EJ)]

Under the Reference case, the world's energy supply grows nearly a quarter by 2050, with the share of renewables reaching just 27%. Under the REmap case, renewables provide two-thirds of the world's energy supply.

[Transport sector]

Transport will become much more electrified, but not everywhere, and not all at once. There would be a large need for biofuels for several decades to come. In the REmap case, overall biofuels production will see more than five-fold increase.

[Building sector]

Renewable electricity would reach a 58% share in the buildings sector by 2050. Today, cooking with traditional biomass is largely done outside the modern energy sector in developing countries. Towards 2050 this practice must be replaced with clean, efficient and modern energy.

[Industry sector]

By 2050 renewable electrification would make up around one-third of the sector's energy demand, followed by biomass providing one-fifth. Heating with modern biomass should be deployed mainly for high-temperature process heat replacing coal use.

[Bioenergy has a decisive role in the energy transition]

In the REmap case, the primary supply of modern bioenergy would have to grow from around 30EJ in 2016 to 125EJ by 2050, a more than four-fold increase. If an additional 27EJ of primary biomass in traditional uses in 2016 is counted, the total bioenergy use would result in little over a doubling.

[Key questions]

- IRENA has been influential on mapping the global energy transformation. However, more concrete business models may have to be established if we are to achieve the REmap targets because economic

case would vary greatly depending on feedstocks, conversion and end-use applications. The market may opt for expanding the production of biodiesel from palm oil to meet that transport sector target. Biomass use in industry has gained little attention so far despite the huge needs. So how much detailed strategy would be needed to guide and support countries when numerical targets are set at the global level.

- Another important role of international organizations is to provide data in a consistent and comparable manner. One of the challenges in bioenergy data production is how modern and traditional bioenergy could be defined and disaggregated. Traditional bioenergy is unsustainable while modern bioenergy is deemed sustainable? Firewood is not by any means sustainable? This is particularly important for ASEAN because they have set a regional target of securing 23% of their primary energy from modern, sustainable, renewable sources by 2025 excluding traditional biomass.