

Aligning energy efficiency and renewables in a digitalised world

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Energy efficiency and renewables are central to the energy transitions

Global CO₂ emissions in the New Policies and Sustainable Development Scenarios











Energy efficiency gains are accelerating

Annual average change in G20 primary energy intensity









Energy efficiency is improving across the G20

Primary energy intensity in 2000 and 2015









Wind and solar PV are growing rapidly in the G20

G20 renewable power growth 2010-2022



In 2016, G20 renewable electricity generation accounted for 75% of the global total



Source: IEA Renewables 2017





Renewables shares are growing globally and across the G20





Source: IEA Renewables 2017







Energy efficiency and renewables – benefits of alignment

- Maximising efficiency makes it easier to meet a given share of renewables (e.g. Sustainable Development Goal 7)
- Reduced costs of decarbonisation (e.g. heat and transport less energy required means switch to renewable fuels is cheaper)
- Challenge for policy-makers as scale of deployment grows: How can planning, policies and markets get the best mix of
- both?









EE and RE integration – best practice examples

- Aviation: efficient planes combined with advanced biofuels help to decarbonise this difficult sector
- Energy access: solar PV, together with efficient LED lights & appliances, enables off-grid energy access
- Buildings: High energy performance and renewables in Nearly Zero Energy Buildings





BUILDING AND SUSTAINABLE DEVELOPMENT



Digitalization can enable better interaction between EE and RE



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Digitalization: A New Era in Energy? Digitalization is everywhere; digital and energy worlds are

- intersecting
- All energy demand and supply sectors are feeling the effects
- Fundamental transformation of electricity "smart energy systems"
- Emerging risks need to be managed, including building digital resilience
- Government policy design is critical; 10 no-regrets recommendations, notably appropriate access to timely, st and verifiable data

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Thank you – Gracias!













