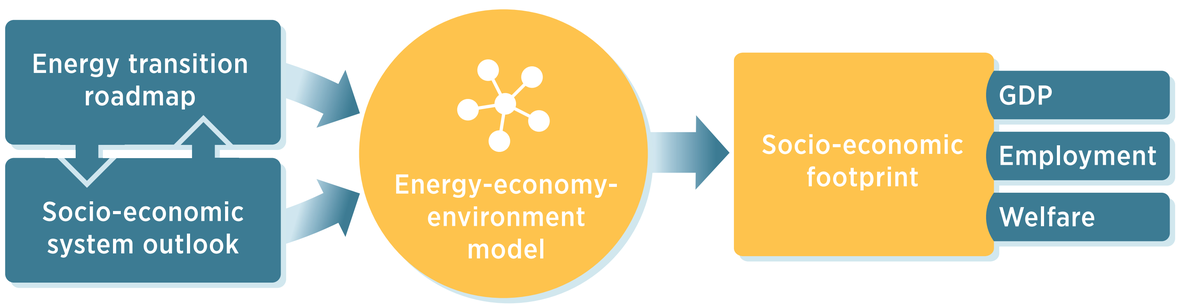
BROAD BENEFITS OF ENERGY TRANSITION TOWARDS 2050

IRENA
International Renewable Energy Agency

SOCIO-ECONOMIC BENEFITS OF RENEWABLE ENERGY DEPLOYMENT

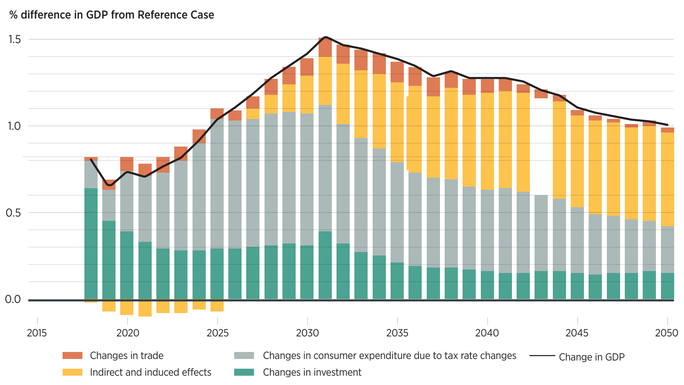
The energy transition cannot be considered in isolation from the socio-economic system in which it is deployed.

The close interplay between the energy sector and the socio-economic system alters the socio-economic footprint and generates a number of benefits in terms of GDP, employment and human welfare.



1 The energy transition results in GDP growth higher than the Reference Case between 2018 and 2050.

Relative difference of global GDP between the REmap Case and the Reference Case.



INVESTMENT

+0.31% compared to the Reference case in **2030**

+0.15% compared to the Reference case in **2050**

TRADE

+0.10% compared to the Reference case in **2030**

+0.03% compared to the Reference case in **2050**

TAX RATES

+0.76% compared to the Reference case in **2030**

+0.27% compared to the Reference case in **2050**

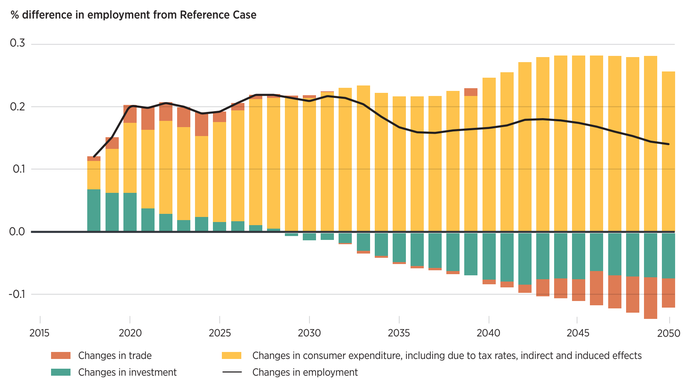
INDIRECT AND INDUCED EFFECTS

+0.22% compared to the Reference case in **2030**

+0.54% compared to the Reference case in **2050**

2 The energy transition results in employment growth higher than the Reference Case between 2018 and 2050.

Relative difference in global employment - REmap Case and Reference Case, disaggregated by three main drivers.



INVESTMENT

-0.01% compared to the Reference case in **2030**

-0.07% compared to the Reference case in **2050**

TRADE

0.00% compared to the Reference case in **2030**

-0.05% compared to the Reference case in **2050**

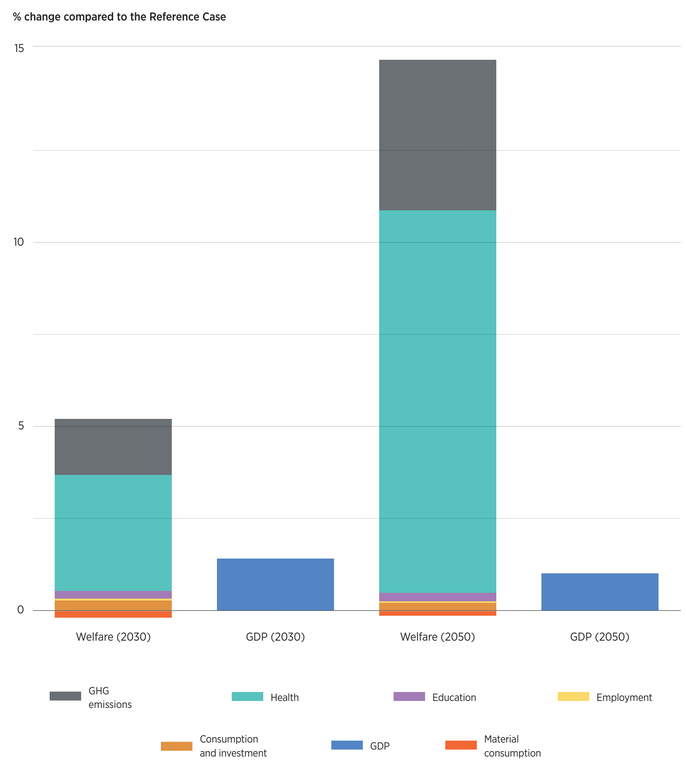
CONSUMER EXPENDITURE

+0.22% compared to the Reference case in **2030**

+0.26% compared to the Reference case in **2050**

3 The energy transition generates significant increases in global welfare.

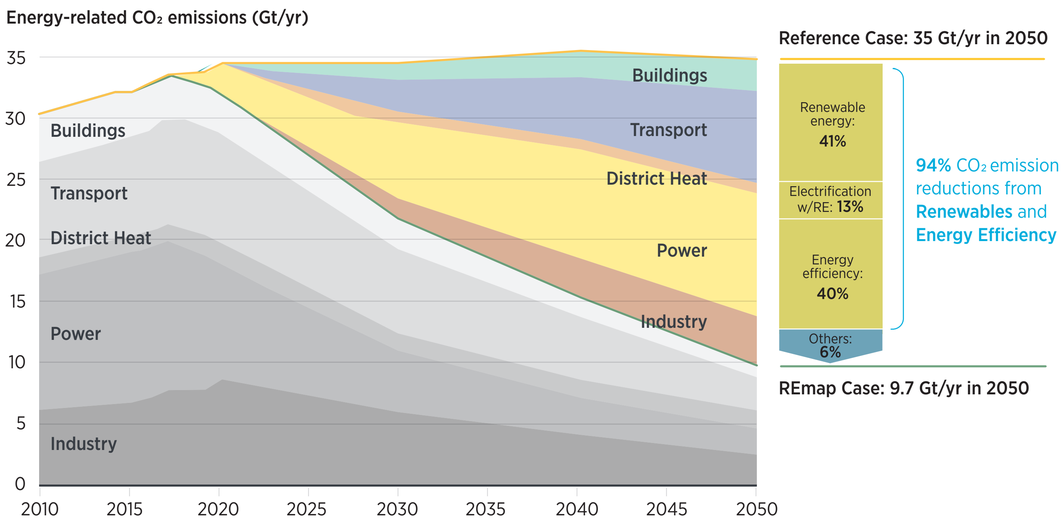
Global welfare indicators and GDP – the REmap Case compared to the Reference Case, 2030-2050.



REDUCTION OF ENERGY-RELATED CO_2 EMISSIONS TOWARDS 2050

IRENA estimates that annual energy emissions must be reduced by over 70% to bring temperature rise to below the 2°C goal. Renewable energy and energy efficiency measures provide over 90% of the reduction required.

Annual energy-related CO_2 emissions and reductions, 2015-2050.



CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Articulating the link between SDG 7 and the other SDGs is essential to maximise development co-benefits.

The International Renewable Energy Agency (IRENA) supports countries in their transition to a sustainable energy future, and serves as the principal platform for international co-operation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy.

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