

World Energy Trilemma Insights

COMPARING G20 COUNTRIES

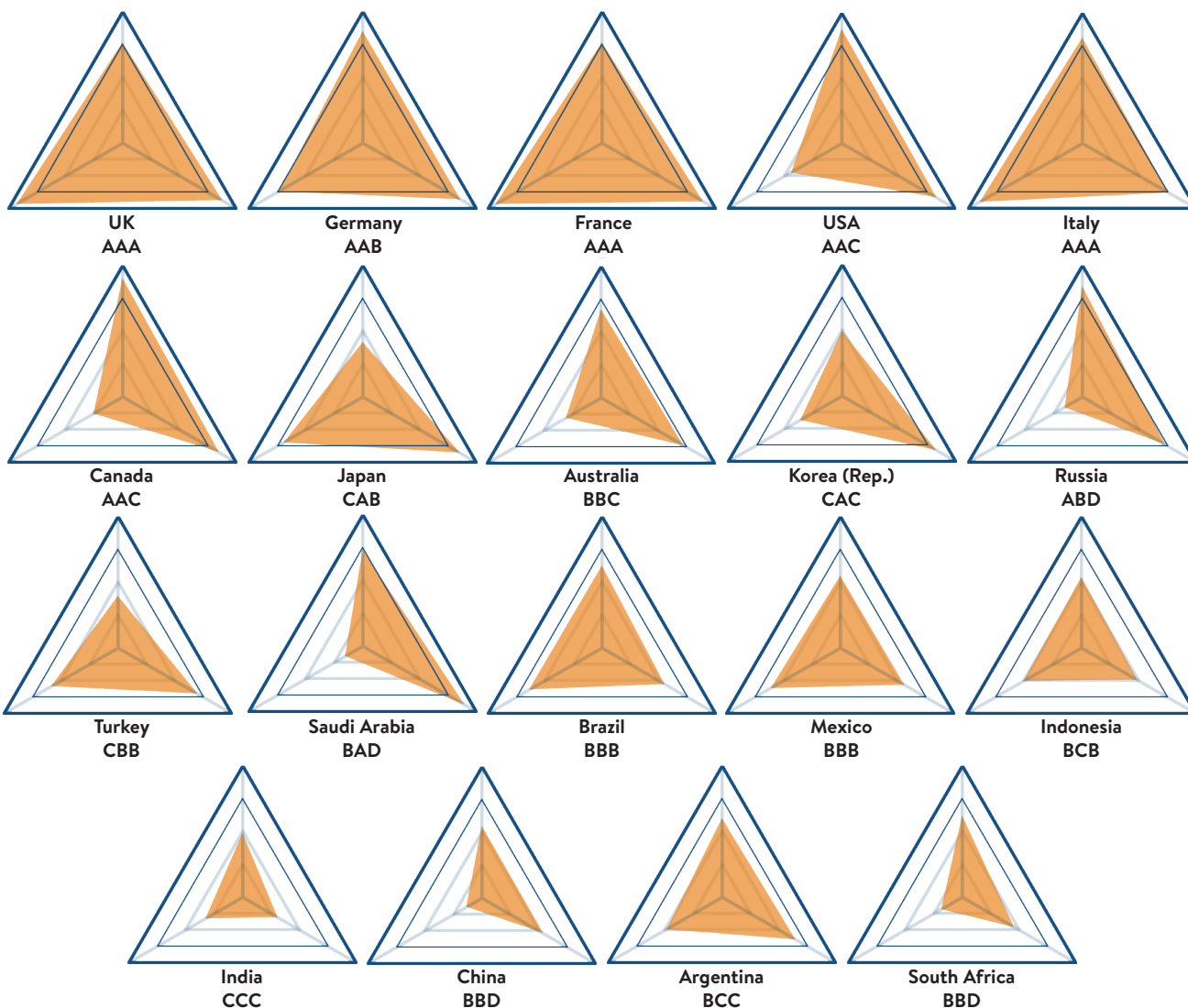
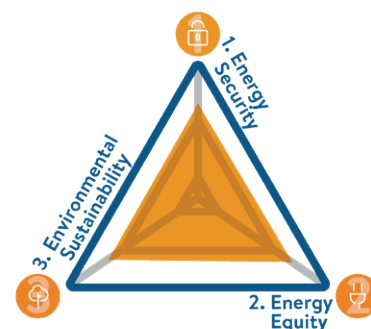
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Navigating successful energy transition through a policy lens COMPARING INDICATORS ACROSS THE G20

The World Energy Council's definition of successful transition has three core dimensions: energy security, energy equity, and environmental sustainability. The Energy Trilemma rates countries' energy policy and performance around the world and provides a framework to monitor progress.

The 2017 World Energy Trilemma reported all countries making progress across all three dimensions, but some are progressing faster than others.

Across the G20 countries, there is a wide range of Trilemma patterns (see below), with nations managing tradeoffs and balances differently. Most G20 countries perform lower on environmental sustainability than on other indicators. This reflects the prevailing fossil fuel mix of many G20 energy systems. Basic energy access provision is a strength of G20 countries, although low access areas remain and electricity price equity is an ongoing challenge. Supply security is stronger throughout the G20 than globally: the G20 includes key global consumers and producers who prioritise supply security over other factors.



WORLD ENERGY TRILEMMA

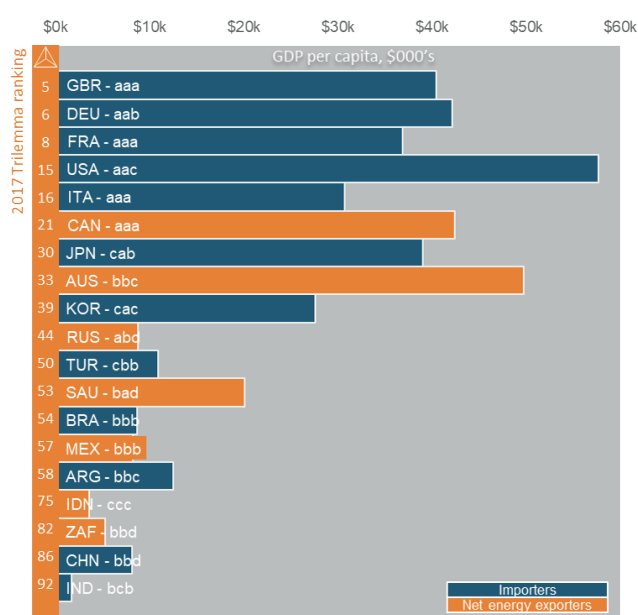
WHAT ENABLES A ROBUST TRANSITION?



Balancing policy trade-offs is a complex process. Looking at different Trilemma balances across the G20 countries provides important insights about successfully negotiating policy for a sustainable energy transition.



WHAT DO THE TOP G20 TRILEMMA PERFORMERS HAVE IN COMMON?



A balance of policy trade-offs correlates with a strong economy. G20 members with higher per capita GDP appear higher in the Trilemma rankings.

Achieving an “A” in Energy Security does not require significant reserves or net exports. Top performing countries have developed a diverse energy mix and strong global relationships for long term supply security.

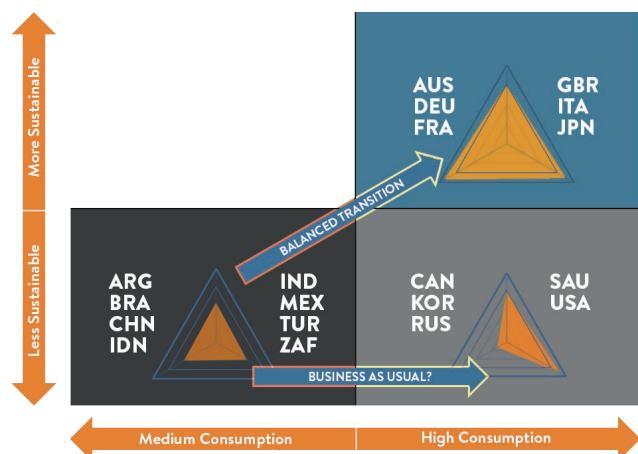
“A” grade Energy Equity performers ensure access to over 1000 kWh of electricity per capita per year for 100% of their population. They also manage energy affordability and demand growth.

The few G20 countries scoring an “A” on Environmental Sustainability (GBR, FRA, ITA) emit less than 750 MtCO₂e annually, whilst maintaining efficient consumption between 5000 and 10,000 kWh per capita.



WHAT IS A DESIREABLE TRANSITION PATHWAY?

Countries take different pathways towards energy transition. Unmanaged consumption growth can lead to unbalanced systems. Winners on both Equity and Environmental Sustainability maintain consumption under 10,000 kWh per capita and decarbonise their supply mix. A forward Trilemma assessment can help navigate balanced pathways.



THE SHAPE OF ROBUST TRANSITIONS: STRONG FOUNDATIONS

G20 countries have different stages of economic development and diverse energy systems. We can see that access and supply are priorities for G20 nations, with higher scores across the board. The shape of transition matters. A robust transition implies balancing all three fundamental Trilemma aspects in line with growing prosperity and demand.

