



OPPORTUNITIES TO IMPROVE THE FINANCING OF RESILIENT ENERGY INFRASTRUCTURE

**WORLD
ENERGY
COUNCIL**

EMERGING RISKS

New physical, financial and virtual risks are posing ever greater threats to the energy sector and consequently the wider economy.

They alter the 'risk profile' of the energy system and impact both the physical structures and the capital returns that are needed.



EXTREME WEATHER

Frequent and severe weather events can affect energy infrastructure across the value chain, and often lead to higher demand.



The number of extreme weather events each year is 4 times higher than 40 years ago.



4 times



ENERGY-WATER-FOOD NEXUS

Energy is the second-most water-intensive industry – after agriculture. Interdependencies and competing demands create challenges.



98% of electricity supply critically depends on the availability of water.



98%



CYBER RISKS

The sophistication and number of cyber-attacks is growing. The first real incidents in the energy systems have been experienced.



By 2018 the oil and gas industries could be spending US\$1.87 billion each year on cyber security.



US\$1.87 billion

RECOMMENDATIONS

Taking action will reduce exposure, unlock capital, and ultimately reduce cost. It will ensure the resilience of tomorrow's energy systems, for the greatest benefit of all.

3 BETTER INFORMATION SHARING AROUND RISKS

Better information sharing around emergent risks and best practices, across sectors and throughout the value chain is needed.

6 MAKE MORE USE OF COST-BENEFIT ANALYSIS IN FINANCING DECISIONS

Fully reflecting the real weather risk, or cyber risk, to a project will improve its risk profile and financing.

1 SMARTER DESIGN OF ENERGY INFRASTRUCTURE

Energy systems must be smarter, not just stronger, to withstand diverse emerging risks and be more resilient.

4 IMPROVED REGULATION AND MARKET GUIDANCE

Policymakers must develop clear, transparent, predictable legal frameworks to ensure resilience and stimulate finance.

7 ENCOURAGE DIVERSITY IN THE ENERGY SECTORS AND RELATED INDUSTRIES

Diversity increases flexibility and helps to avoid and mitigate the implications of potential threats.

2 BETTER EVALUATION OF ENERGY SYSTEM DESIGNS

Faced with fluid, changing risks, data has to be forward-looking and localised to better support investment decisions.

5 INCREASED PRIVATE FINANCE IN INFRASTRUCTURE

Resilience is vital in attracting a more diverse group of investors, including institutional investors, to the energy sector.

IN AN INCREASINGLY FINANCIALLY CONSTRAINED WORLD, FOCUSING ON RESILIENT ENERGY INFRASTRUCTURE MAKES BUSINESS AND POLITICAL SENSE. IT IS NO LONGER AN OPTION – IT IS A MUST.