



Electrification Powering Growth

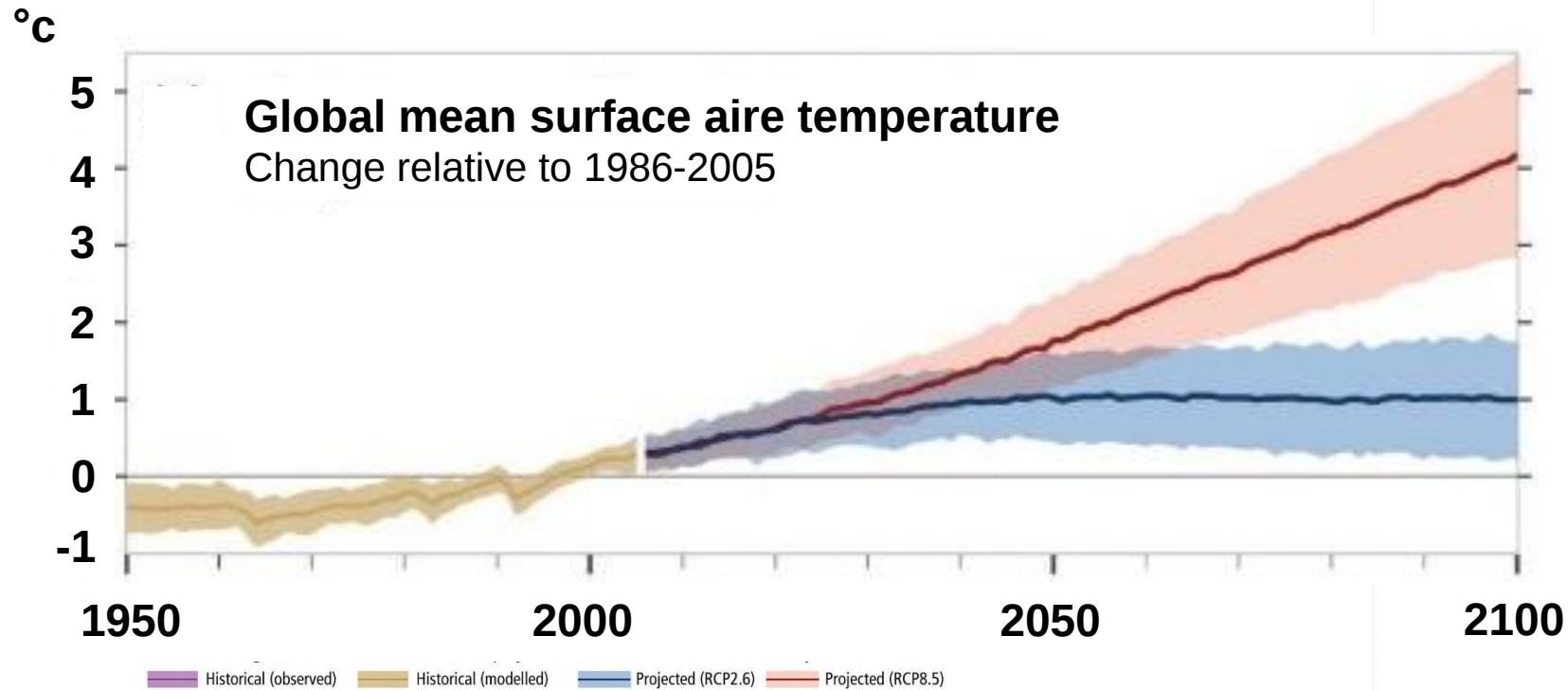
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Global **WARMING** is a worldwide **EMERGENCY**

If current trends continue...
temperatures and sea level are expected to
rise dramatically



Source: Source: IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, 2019

By 2100

+3°C to 4°C

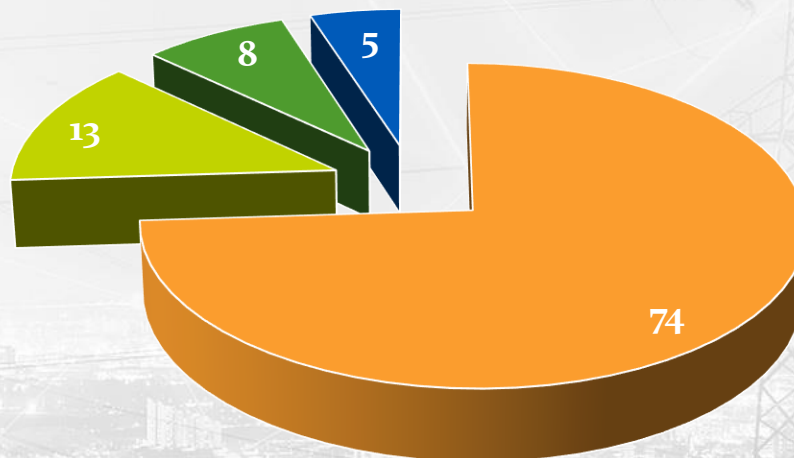
+84 cm

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Energy

The major part of global CO₂ emissions

- Energy
- Agriculture
- Industrial processes
- Others



Source: International Energy Agency (IEA) -CO₂ Highlights 2018

The future of energy is **electric**



Electricity, the best vehicle to decarbonize the economy

*« the electrification
rate will increase
from 18% today to
36% in 2050.»*

International Energy Agency (IEA)



Today 4%



Today 30%



Today 23%

Decarbonizing electricity generation

EDF solutions

- + **Boosting the share of renewable energies** in the global electricity mix



Nam Theun (Laos)



Shweli (Myanmar)

- + **Expanding the lifespan of existing nuclear plants** and developing new builds



Tricastin (France)



Taishan (China)



*A diversified
low-carbon
energy mix*

Developing power system flexibility

EDF solutions

+ « Smartening » electricity grids

- In **France**, Enedis has already installed 21 million smart meters and aims at **35 million by 2021**.

- In **India**, EDF has been selected to drive the integration of **5 million smart meters**.

Pumped hydropower Storage



Grand'Maison (France)



Storage has a critical role to play in the energy transition

+ Developing storage capacity

- In Singapore, EDF is testing a **new type of battery** based on a combination of zinc and air.

- In France, EDF has built **6 pumped hydropower storage** plants

- In Morocco, EDF is building a **800MW concentrated solar-thermal power**. A world first hybrid solar project.

Electrification is creating **new business** opportunities

EDF solutions

Flexibility and Agregation



Urban Planning

*Energy Efficiency
Solutions*



An inclusive energy transition

EDF solutions

- + In Africa, EDF is a leading player on « solar home system » market giving access to electricity to more than 450,000 people.



Off Grid



Today, 15% of the World population doesn't have access to electricity



Semakau Island (Singapore)

- + In Asia, after MASERA, EDF is now developing 3 new micro-grid projects in Indonesia, Myanmar and India.