



# IPCC Special Report on Global Warming of 1.5°C

Bindu N. Lohani

AIT

January 2020



# 8 Things You Need To Know\*

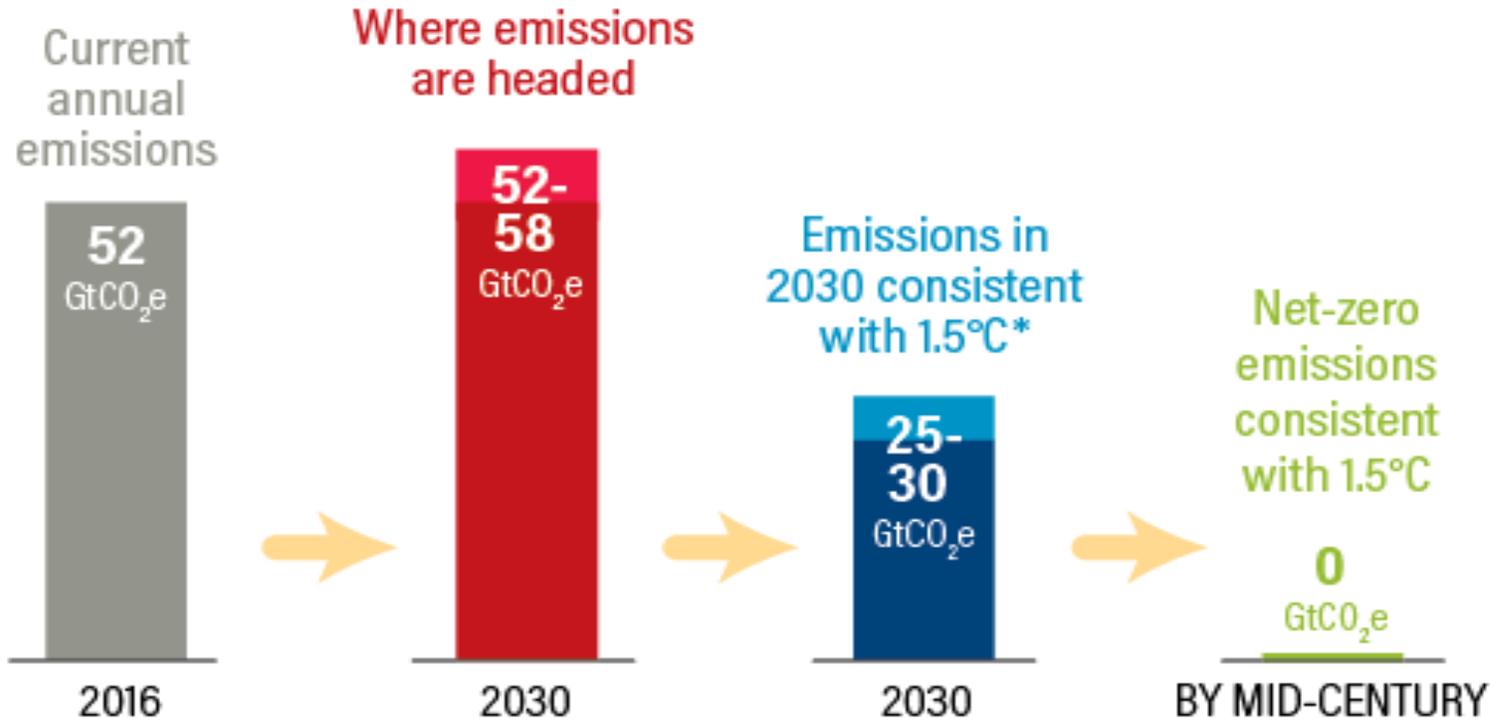
## 1. Limiting warming to 1.5°C requires major and immediate transformation.

- ▶ annual emissions need to be about half (1/2) that is (25-30GtCO<sub>2</sub>e/yr on average) by 2030 to limit to 1.5°C in temperature
- ▶ behavior and technology will need to shift across the board in order to achieve these emission reduction
- ▶ for example, by 2050, renewable are projected to supply 70-80% of electricity in 1.5°C pathway

## 2. The scale of the required low-carbon transition is unprecedented

- ▶ the report finds that if the 1.5°C goal is to be met, investments in low-carbon energy technology and energy efficiency will need increase by roughly a factor of five by 2050 compared to 2015 levels

# The World Is Not on Track to Limit Temperature Rise to 1.5°C



Notes: \*on average, no or low overshoot.

# HALF A DEGREE OF WARMING MAKES A BIG DIFFERENCE:

EXPLAINING IPCC'S 1.5°C SPECIAL REPORT

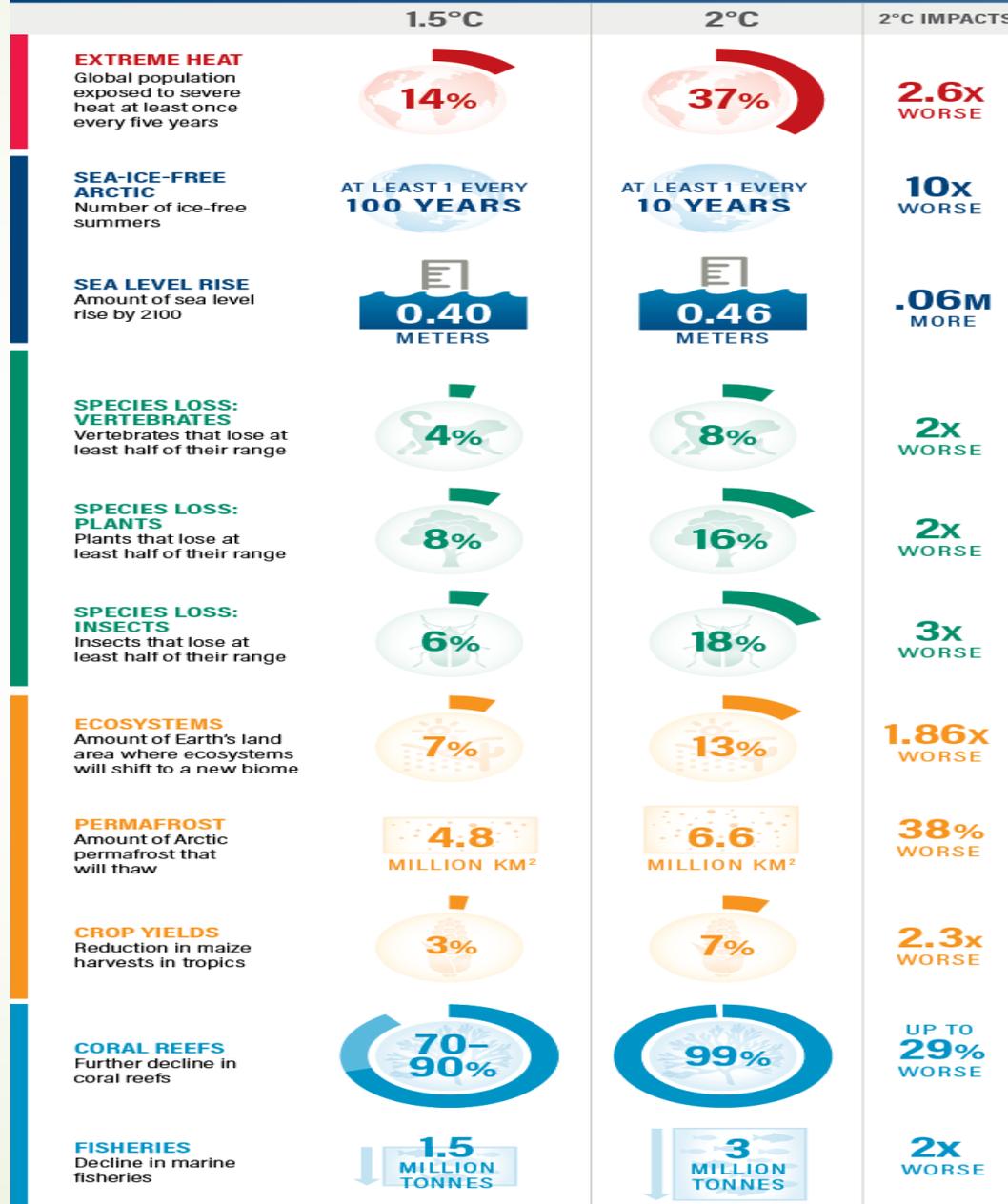
### 3. "Limiting warming to 1.5°C" can mean different things—with different results

- the majority (81 out of 90) of the modeling scenarios for limiting warming to 1.5°C exceed this temperature threshold before dropping back down. The results of these scenarios are very different from those that never overshoot 1.5°C
- if the 1.5°C goal is exceeded for many years at a significantly higher temperature, irreversible impacts, such as species extinction, may result even if warming is eventually brought down to 1.5°C.
- the impacts of 1.5°C of warming will also depend on the chosen emissions-reduction activities.

### 4. A 1.5°C limit to warming is not safe for all...

- significant climate impacts already occur at 1.5°C, especially in regards to low-lying areas, human health and oceans
- the impacts will hit the poor and most vulnerable the hardest due to loss of livelihoods, food insecurity, population displacement, health effects and more

### 5. ...but risks associated with warming are substantially lower at 1.5°C than 2°C.



Source: WRI



## 6. Emissions will need to reach net-zero around mid-century

- ▶ the sooner emissions peak before 2030 and the lower the level at which they do so, the less daunting the challenges will be
- ▶ the critical role of short-lived but highly potent climate pollutants, such as methane and hydrofluorocarbons (HFCs) must be addressed

## 7. All 1.5°C emissions pathways rely upon carbon removal to some extent

- ▶ we will need to focus efforts not only on reducing emissions, but also removing and storing carbon from the atmosphere
  - ▶ carbon removal is necessary for both moving to net-zero emissions and for producing net-negative emissions to compensate for any overshoot of 1.5°C
  - ▶ feasibility and sustainability of carbon removal could be enhanced if a portfolio of carbon-removal approaches is pursued i.e. different levels of carbon removal (ranging from 100-1,000 GtCO<sub>2</sub> over the 21st century for scenarios with limited or no overshoot)
- 



## **8. Everyone – countries, cities, the private sector, individuals — will need to strengthen their action, without delay**

- ▶ without transformation in society and rapid implementation of ambitious emissions cuts, limiting warming to 1.5°C while achieving sustainable development will be exceedingly difficult, if not impossible
- ▶ even if countries fulfill their current national climate goals and make deep emissions cuts after 2030, warming would still very likely exceed 1.5°C, given the challenges associated with dropping emissions to net-zero well before 2045
- ▶ therefore, all countries and non-state actors will need to strengthen their contributions without delay