The Ambition Needed for the 1.5°C Objective: Lessons from the Biofuel Land Grab

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The Paris Agreement

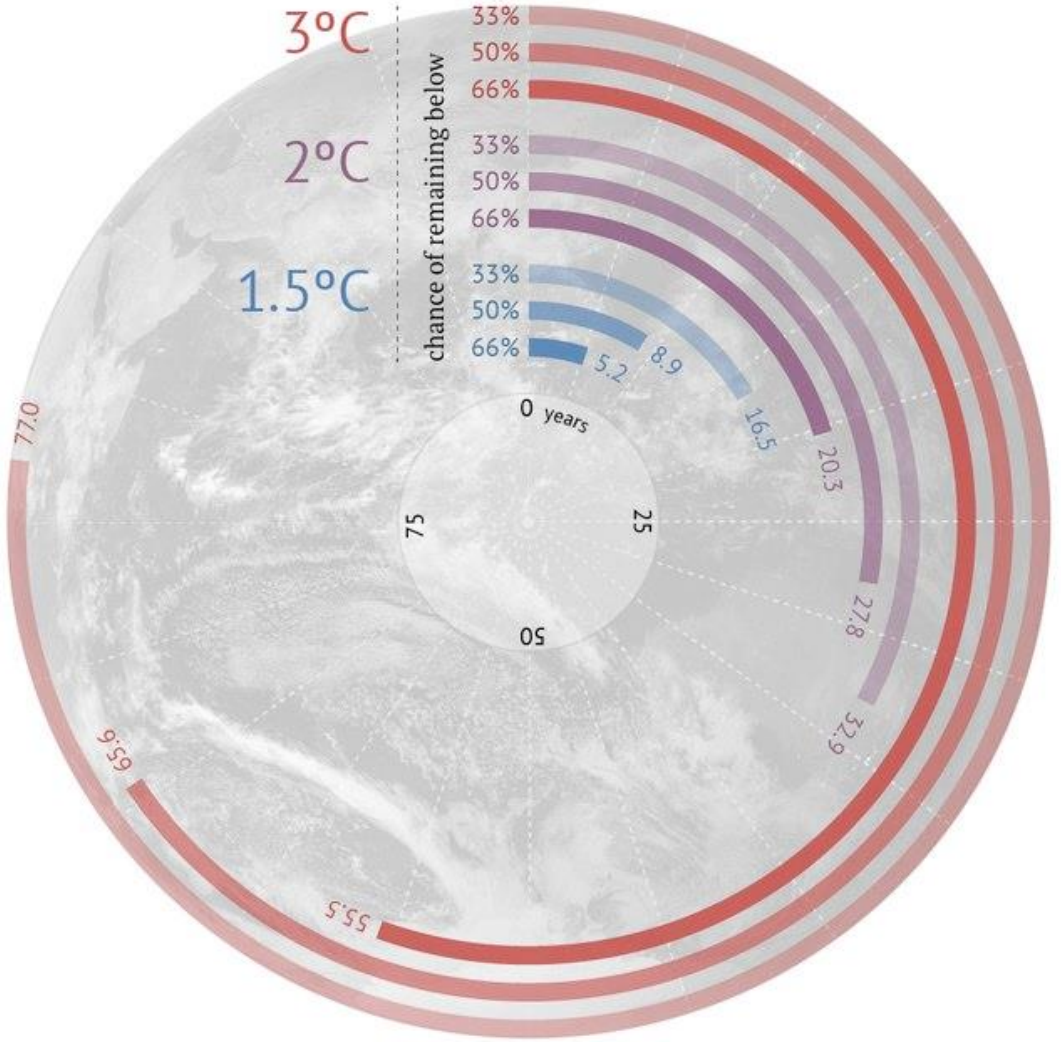
Article 2.1:

“Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels “

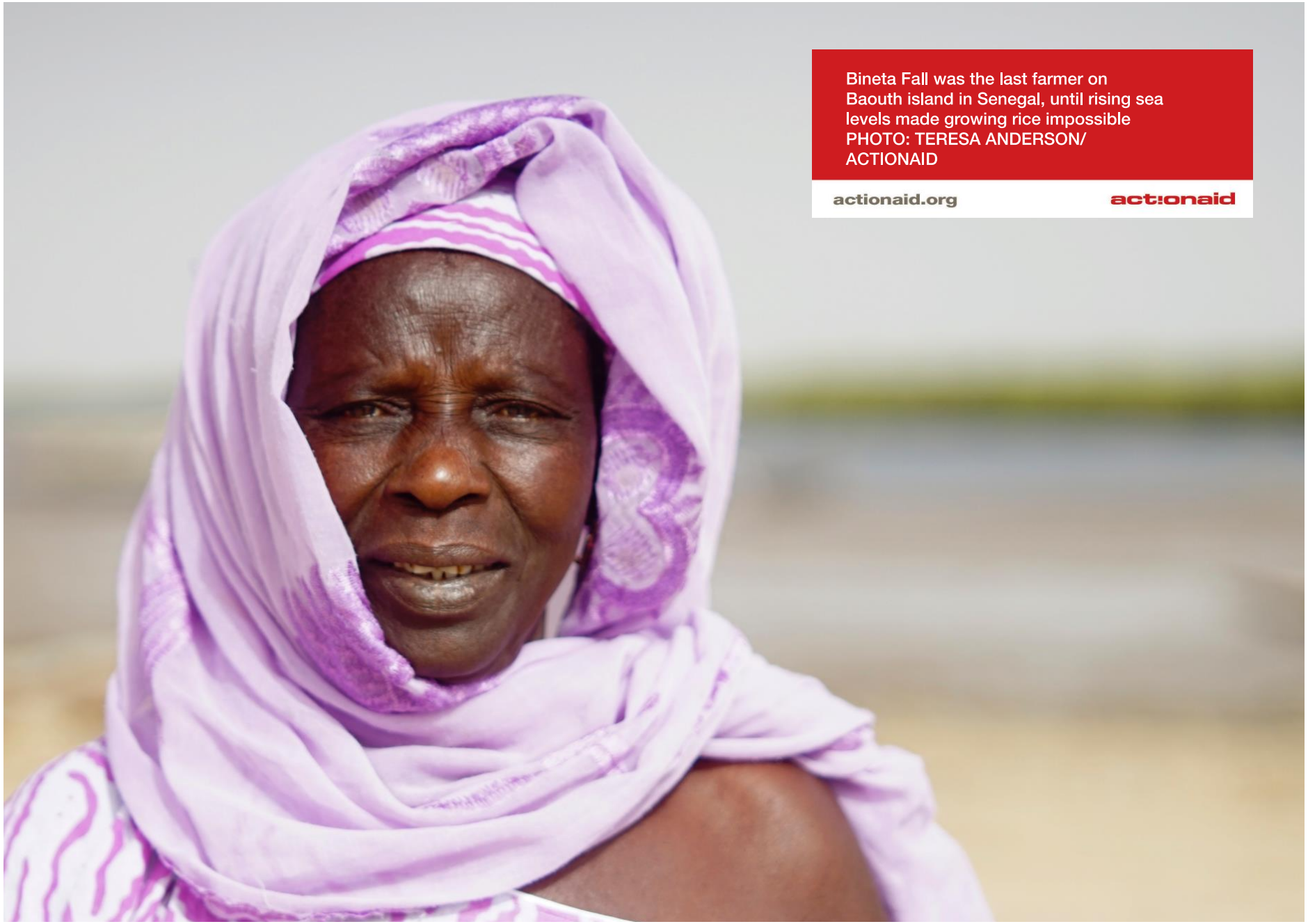
Article 4.1:

“… reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.”

Tight Carbon Budget



Carbon countdown graph
by Carbon Brief
Data IPCC AR5
Synthesis Report table
2.2.



Bineta Fall was the last farmer on Baouth island in Senegal, until rising sea levels made growing rice impossible
PHOTO: TERESA ANDERSON/ ACTIONAID

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Geoengineering and Rights

- Unknown and unknowable risks
- Will it work?
- Land Use

Land Use Requirements for BECCs

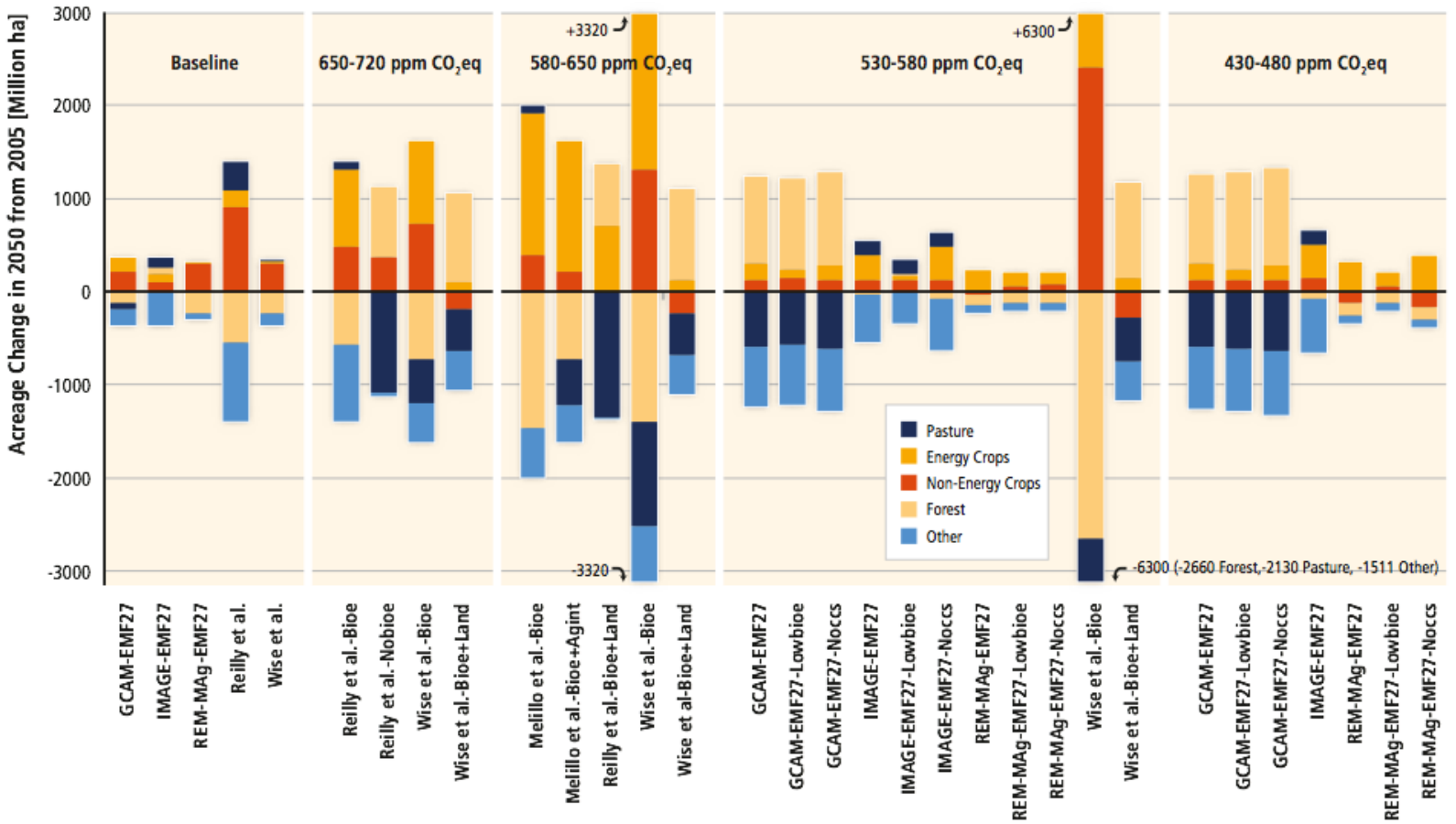

Figure 6.19 | Global land cover change by 2050 from 2005 for a sample of baseline and mitigation scenarios with different technology assumptions. 'REM-MAg' = REMIND-MAgPIE. Sources: EMF27 Study (Kriegler et al., 2014a), Reilly et al. (2012), Melillo et al. (2009), Wise et al. (2009). Notes: default (see Section 6.3.1) fossil fuel, industry, and land mitigation technology incentives assumed except as indicated by the following—'bioe' = only land-based mitigation incentive is for modern bioenergy, 'nobioe' = land incentives but not for modern bioenergy, 'bioe+land' = modern bioenergy and land carbon stocks incentives, 'bioe+agint' = modern bioenergy incentive and agricultural intensification response allowed, 'lowbio' = global modern bioenergy constrained to 100 EJ/year, 'noccs' = CCS unavailable for fossil or bioenergy use. Other land cover includes abandoned land, other arable land, and non-arable land.

Source: IPCC AR5

Land is a limited resource

- 500 million hectares is slightly bigger than the size of India
- 1.5 million hectares is current total land devoted to crops
- 3 billion hectares is roughly the size of the continent of Africa
- 6 billion hectares is two Africas

Lessons from the Biofuels Boom

- Climate and environmental costs
  - Land-use Change
  - Loss of ecosystems and biodiversity
  - Water use

- Human Rights impacts
  - Food Price
  - Water Quality Access
  - Land Grabs

At least 17 million hectares of land grabbed

Biofuels are not a climate solution