



Global Development and Environment Institute  
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## Climate Conference COP27: Focus on Agriculture and Forests

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### Introduction: What is COP27?

Global policy on climate change is set at a series of international conferences known as Conferences of the Parties or COPs.<sup>1</sup> This year's conference, November 6-18, 2022, in Sharm-El-Sheik, Egypt, is COP27 – the twenty-seventh such conference. Its goal is to advance the objectives first set at the Paris Conference of 2015 (COP21), and made more specific and ambitious at last year's COP26 in Glasgow, UK.

[COP27](#) has become known as the implementation conference, since while nations have made pledges of climate action known as Nationally Determined Contributions (NDCs), there is still much uncertainty about how well these pledges will be carried out. In addition, it is clear that the current pledges are not sufficient to achieve the ambitious goal set at COP26 of limiting global warming to no more than 1.5°C, and will need to be significantly strengthened.

The urgency of effective action on climate issues was evident in 2022, as an unprecedented series of extreme weather events and disasters affected almost all regions of the planet. Heatwaves, wildfires, droughts, floods, and hurricanes affected many regions,

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“making extreme weather a part of everyday life.” Unprecedented floods caused massive disruption and suffering in Pakistan, where more than a third of the country was submerged. Many other places including China, Europe and the U.S. West, experienced extreme heat and drought, affecting millions.<sup>2</sup>

## What are the highlights of the Conference?

The incoming Egyptian COP27 Presidency has identified a range of topics focused on enhancing implementation and raising ambition on a broad range of issues related to climate change. Egypt has further designated several thematic days for focused discussions, including through side events, panel discussions, round tables and other interactive formats. These include, among many other topics, Finance, Adaptation, Agriculture, Water, and Decarbonization. According to the [United Nations official statement](#) on the conference, it will:

build on the outcomes of COP26 to deliver action on an array of issues critical to tackling the climate emergency – from urgently reducing greenhouse gas emissions, building resilience and adapting to the inevitable impacts of climate change, to delivering on the commitments to finance climate action in developing countries.

Goals of the conference include effective action on both mitigation and adaptation: reducing the rate of climate change as well as adapting to inevitable impacts. The importance of promoting natural climate solutions in the areas of agriculture and forests is gaining new attention as an essential tool for both mitigation and adaptation.

## The buildup to COP 27

Consultations between the COP 26 Presidency and the COP 27 incoming Presidency established [priorities for COP 27](#) emphasizing the need for implementation of the many decisions and mandates agreed in Glasgow in 2021 including nationally determined contributions (NDCs), long-term strategies and finance commitments such as:

**Adaptation and loss and damage:** developing nations need support for adaptation to climate change and compensation for loss and damage.

**Finance:** A goal of US\$100 billion has been set for climate finance, including finance to support coal phase out, but pledges so far are insufficient.

**Mitigation:** acceleration of efforts to keep the 1.5oC temperature goal within reach is needed; revisiting and strengthening current 2030 emissions targets.

**Market Mechanisms:** [Article 6 of the Paris Agreement](#) provides for the use of market mechanisms to transfer credit for emissions reductions between

countries. The Glasgow conference agreed in principle on a set of rules for the global carbon market, but these have yet to be implemented.

**Agriculture:** The COP process includes a focus on agriculture, known as the Koronivia Joint Work on Agriculture, but this has so far gotten little attention. It is important that the role of agriculture be much more central to COP27.

## **Food and agriculture will be an important focus for the conference**

COP27 in Egypt next month will have not one but four pavilions dedicated to food systems solutions. The Food4Climate Pavilion, a partnership of several non-governmental organizations (NGOs) including those local to Egypt, is working to create a unified voice and clear call to action for decision-makers.

Adaptation of agriculture to climate change and food shortages will be a major focus. Reforming agriculture and food systems – responsible for one third of all greenhouse gas emissions – is essential to achieving the global goal of limiting warming to below 1.5 degrees. It is not possible to nourish a growing global population and promote a just rural transition without strengthening the resilience of food systems to inevitable climate impacts, and involving those on the frontlines of food production. At the same time, there is enormous potential for carbon storage through regenerative agricultural systems, and the promotion of such systems must be a key part of climate policy.

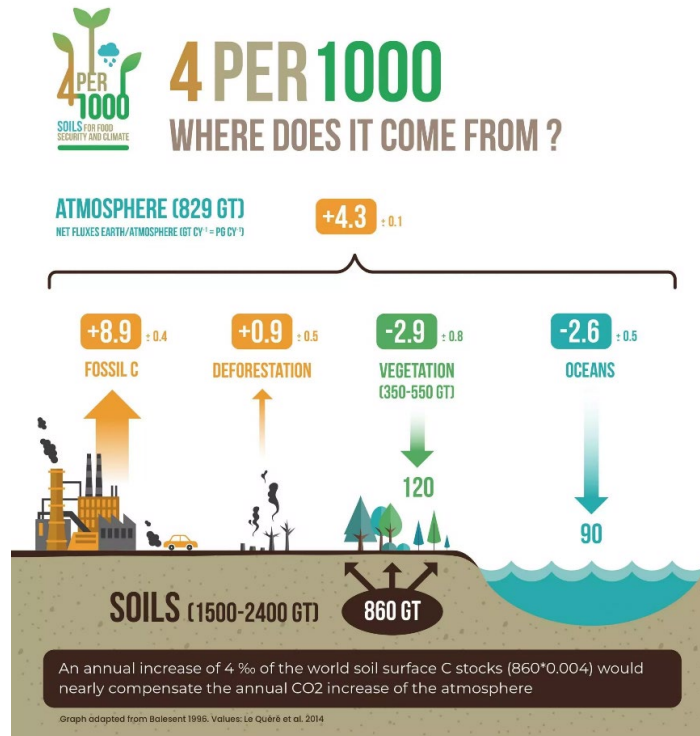
## **The role of ecosystem renovation in climate change policy**

At COP26, countries committed to strengthening their Nationally Determined Contributions (NDCs), or pledges to reduce greenhouse gas emissions. But results so far are limited, and well short of what would be needed to limit global temperature increase to 1.5°C, or even 2°C. According to the independent [Climate Action Tracker](#), only a few countries are in the category of “almost sufficient”, while most are rated “insufficient” or “highly insufficient”. Clearly, faster reduction of emissions is essential. But even if this is achieved, it is very unlikely that the global goals will be met without a significant increase in carbon absorption by natural systems.

The good news is that the potential for carbon absorption by agricultural soils, wetlands, and forests is very large. Global vegetation currently acts as a carbon sink, absorbing about 2.9 Gigatons (Gt, or billion tons) per year. The world’s soils currently store more carbon than the atmosphere, and the top layer of soil contains about 860 Gigatons of carbon. According to the [International 4 per 1000 Initiative](#), an independent effort linked to the COP process,<sup>3</sup> increasing this soil carbon storage by only 4 tenths of one percent per year (0.004) would store an

additional 3.4 GtC/yr, almost completely offsetting current excess carbon emissions of 4.3 GtC/yr. (See Figure 1.)

**Figure 1: Planetary Carbon Flows**



Source: [The International 4 Per 1000 Initiative](#).

At the same time, according to scientific studies, promoting additional carbon storage in existing forests and wetlands by preventing deforestation, allowing current second-growth forests to reach maturity, and restoring degraded and deforested lands, could store up to an additional 5 GtC/yr.<sup>4</sup> In theory, achieving these goals, together with reducing current industrial emissions, could result in negative annual carbon emissions, reducing the total level of atmospheric carbon accumulations over time.

The not-so-good news is that the world is very far from achieving these carbon storage levels. Currently agriculture is a major source, not sink, for emissions, accounting for about [18% of total greenhouse gas emissions](#). And global forests are being lost at a rate of about 10 million hectares per year.<sup>5</sup> Some efforts have begun as part of the COP process to reverse these trends. The [Koronivia Joint Work on Agriculture](#), adopted at COP23 in 2017, “recognizes the unique potential of agriculture in tackling climate change” and seeks to “mainstream agriculture

into the UN Framework Convention on Climate Change (UNFCCC) process.” But it has thus far not played a prominent role in COPs – it is important that this change at COP27, to bring agriculture front and center in climate policy efforts.

At COP26, the Glasgow Declaration on Forests and Land Use, signed by 100 countries representing 85% of the world’s forested land, pledged to end deforestation by 2030.<sup>6</sup> Also at Glasgow, in the COP26 Global Forest Finance Pledge, 12 countries (including the United States and several European nations, as well as the EU) promised to provide \$12 billion for forest-related climate finance between 2021 and 2025.<sup>7</sup> But here also the real issue is the implementation of these goals. COP27 needs to show material progress in moving towards the goal of ending deforestation, expanding forested area and restoring degraded forests.

### **Conclusion: Natural systems are key to successful climate policy**

As noted above, goals of the COP27 conference include Climate Mitigation, Adaptation, and Finance. All of these are intimately connected to the role of natural systems including agriculture and forests. International cooperation is required to achieve success in all these areas. The backdrop to COP27, including global conflict and economic problems, is not promising. But many countries, NGOs, and local and regional governments are deeply committed to success. One important indicator of success or failure will be the effort to strengthen the already declared country commitments to greenhouse gas emissions reduction. Another will be the extent to which natural solutions including agricultural soils, forests and wetlands are taken seriously as offering the potential not just for reducing emissions but for removing carbon from the atmosphere. Future GDAE policy briefs will examine the extent to which COP27 succeeds in promoting progress towards these goals.

### **References**

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<sup>1</sup> Technically, these are Conferences of the Parties to the 1992 United Nations Framework Convention on Climate Change (UNFCCC), and they take place approximately once a year.

<sup>2</sup> German Lopez, “A Summer of Climate Disasters,” New York Times, September 7, 2022.

<sup>3</sup> Launched by France during COP21 in Paris in 2015, the 4 per 1000 initiative brings together national, regional, and local governments, NGOs, and private stakeholders to promote regenerative agriculture and carbon storage in soils.

<sup>4</sup> Karl-Heinz Erb et al, 2017; Moomaw, 2016.

<sup>5</sup> Food and Agriculture Organization of the United Nations (FAO), [Global Forest Resources Assessment 2020](#)

<sup>6</sup> UN Climate Change Conference, 2 November 2021. Glasgow Leaders’ Declaration on Forests and Land Use. <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>

<sup>7</sup> Codur and Harris, 2021.