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Nature-based Solutions for Livestock

# REDIRECT REGULATE REGENERATE

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Three major scientific reports published in the past year—the IPCC Land Report<sup>1</sup>, the IPBES Global Assessment<sup>2</sup> and the IPCC 1.5°C Report<sup>3</sup>—confirm what agriculture and food activists have been warning for years: **our food system is broken and government action without further delay is necessary to prevent catastrophic climate change.**

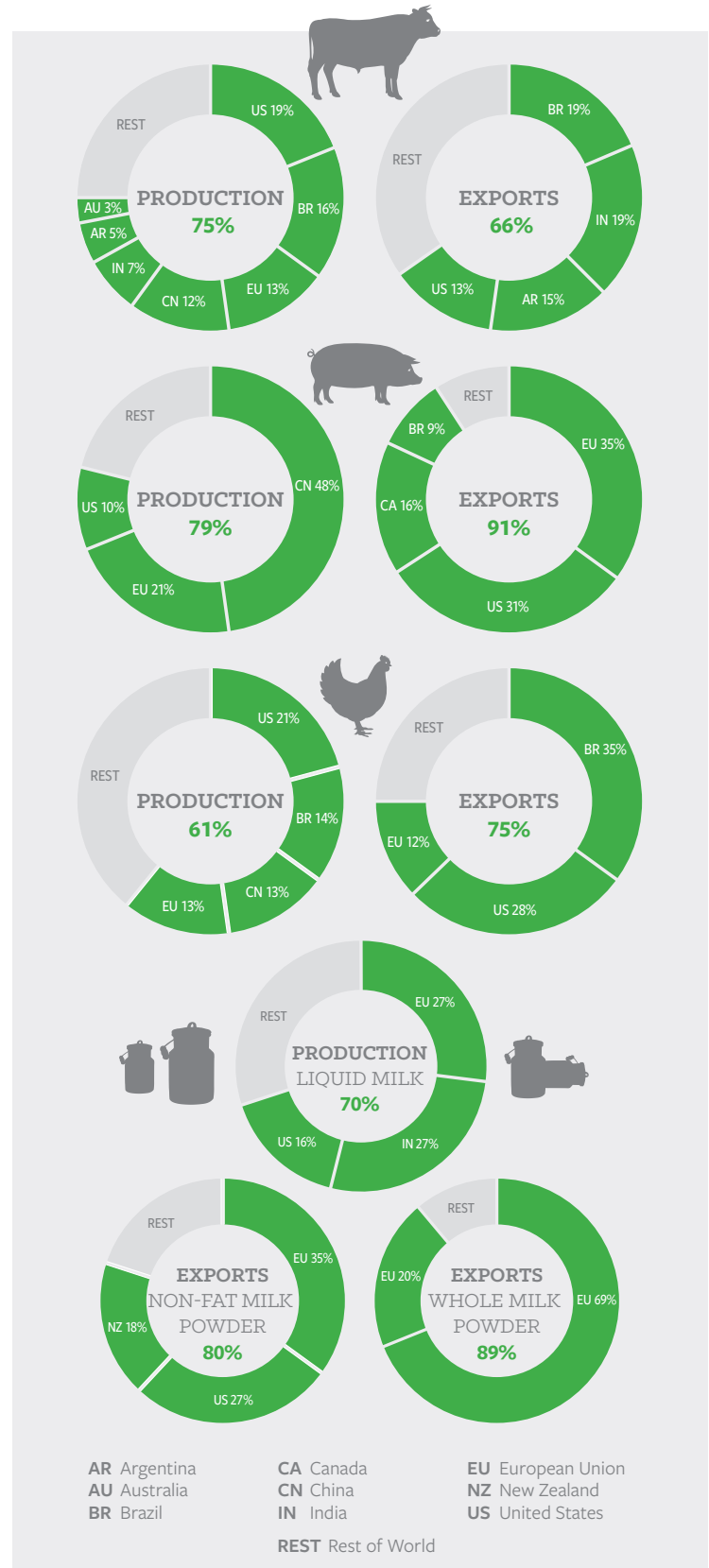
## Redirect public resources away from Big Ag towards regenerative agriculture

Redirecting public funds and incentives away from major transnational livestock and feed companies could catalyze dramatic emission reductions in the next 12 years, as the IPCC 1.5°C Report mandates. Just nine countries (U.S., EU, New Zealand, Australia, Canada, Brazil, China, Argentina and India) produce and/or export the lion’s share of beef, pork, chicken and dairy globally (Figure 1). Some of these same countries, such as the U.S., EU, Canada, Brazil and Argentina, are responsible for a large percentage of global feed grain production and/or exports. The biggest reduction in the food sector must come from these countries. They must transform their economies away from a surplus export model that subsidizes agribusiness and leads to agricultural dumping. Their agriculture, trade and climate policies must become coherent to help limit warming to 1.5°C, rather than worsen the climate emergency.

These governments spend large public funds on and create policy incentives for companies that expand global industrial livestock and feed production. For instance, 40% of the EU’s budget goes towards agriculture disbursed through the Common Agriculture Policy (CAP). According to Greenpeace, nearly half of the EU’s CAP budget (up to 31.6 billion Euros) goes towards the livestock sector, with large-scale operations as the main beneficiaries.<sup>5</sup> This public investment in large-scale livestock has come at the expense of rural communities and degraded land, water and air. Between 2005 and 2013, the EU lost over a third of its livestock farms. Now, over 70% of the EU’s livestock is raised on very large farms.<sup>6</sup> Yet the current CAP reform proposal on the table is business as usual.<sup>7</sup>

Similarly, the U.S. Farm Bill heavily subsidizes cheap, often below cost feed (corn and soy) that supply mega factory farms associated with widespread rural water and air pollution—often in African American and Latino communities. The expansion in factory farms, and loss of smaller, independent producers, is largely responsible for the steady increase in U.S.-based agriculture-related GHG emissions<sup>8</sup>. In Brazil, the situation is even more dire. Between 2010 and 2020, 50 million hectares of forest in the Amazon (the size of Spain) will have been cut down despite voluntary pledges made by major consumer brands to achieve net-zero deforestation by 2020.<sup>9</sup> The devastating fires that are ravaging the Amazon and the Chaco are, in part, the result of land degradation hastened by transnational livestock and feed grain conglomerates<sup>10</sup>. Meanwhile, China’s transnationals such as the world’s largest pork producer, WH Group and grain trader COFCO, continue to be heavily subsidized by the government<sup>11</sup>. If governments are serious about “nature-based solutions” promoted at the Climate Action Summit, these public hand-outs must stop and be redirected towards regenerative agriculture.

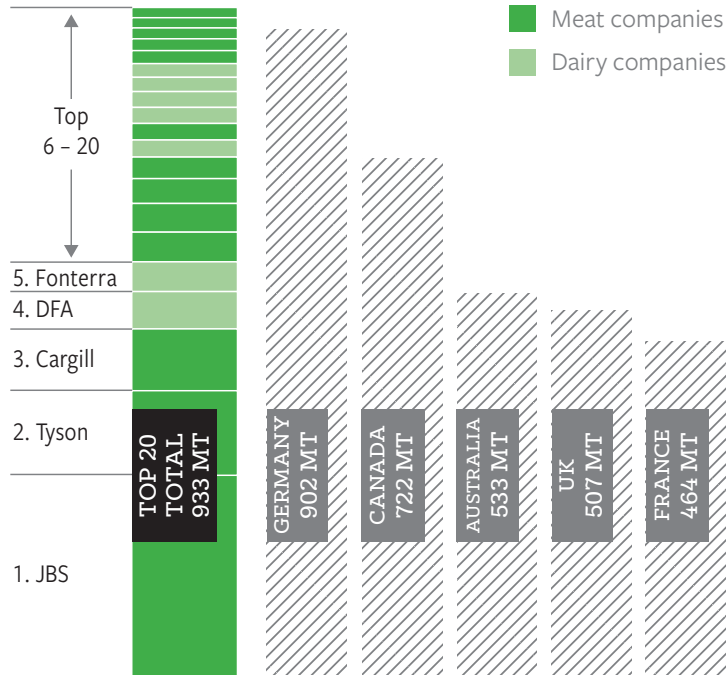
The IPCC estimates that our current global food system emits between 21 to 37% of human induced GHG emissions including pre- and post-production.<sup>4</sup> The good news is that we have the necessary knowledge and tools to fix the most glaring problems within our food system, starting with the livestock and feed industries.



**Figure 1.** Surplus producers and exporters of meat and dairy; modified from Climate Land use Rights Alliance (CLARA) 2018. *Missing Pathways to 1.5°C*.<sup>19</sup>

# Regulate meat and dairy corporations and hold them responsible for supply chain emissions

Just 20 transnational companies combined emit more GHGs than several industrialized countries (Figure 2). Just five combined emitted more GHGs in 2016 than Shell or Exxon or BP and yet none are legally required to report, verify or reduce their emissions.



**Figure 2.** The top 20 meat (beef, pork, poultry) and dairy companies combined emit more greenhouse gases than Germany, Canada, Australia, the UK or France.

Sources: GRAIN & IATP. See Appendix, Methodology Note, Section B.

“Greenhouse gas emissions,” OECD. Accessed 17 June 2018.

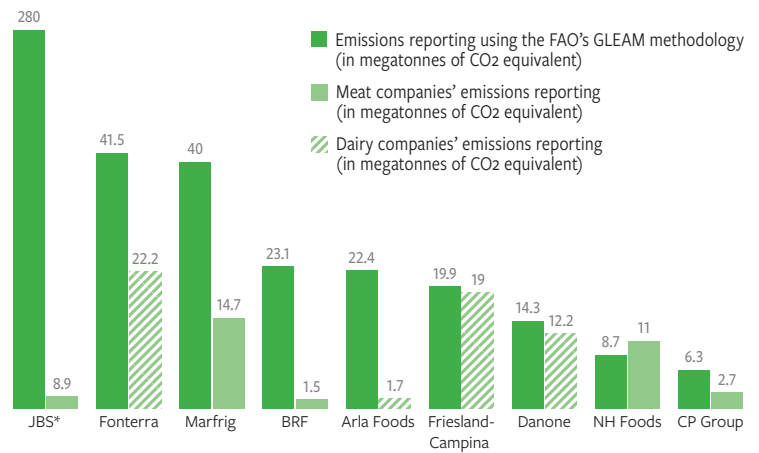
[https://stats.oecd.org/Index.aspx?DataSetCode=AIR\\_GHG](https://stats.oecd.org/Index.aspx?DataSetCode=AIR_GHG).

Many of these companies set no GHG targets at all or bother to report their emissions. Those that do report their emissions have different accounting methodologies that are not comparable. Out of the companies that do report, most fail to report their most significant sources of emissions. In 2018, IATP and GRAIN assessed 35 of the biggest livestock emitters and found that over half of them did no GHG reporting. Nine out of 35 left out their supply chain emissions completely. Only four out of the ten that included supply chain emissions (scope 3), did so with any credible degree of rigor.

## Regenerate: agroecology for a just transition

According to the IPCC Land Report, about a third of the world’s available land is subjected to degradation caused by humans, with agriculture accounting for 70% of the world’s fresh water use and conventional agriculture eroding soils at more than 100 times the rate it takes to form healthy soils.<sup>12</sup> Between 2007 and 2016, land use, including agriculture and forestry, led to 82% of the world’s nitrous oxide and 44% of global methane emissions.<sup>13</sup> Yet, a significant number of scientists, agricultural experts and social movements have a surprisingly broad level of consensus as to the principles and practices that can dramatically change things for the better.

Without mandatory and independent verification of corporate emissions, there is a serious risk of under-reporting. Our emissions estimates, derived from the FAO’s GLEAM methodology, differed markedly from several companies’ own emissions reporting, including the largest meat producer, JBS, whose accounting differed by a staggering 2000% from ours (Figure 3).



**Figure 3.** Emissions reporting: FAO’s GLEAM methodology vs. company calculations. With JBS’s high emissions(\*), this bar is not proportional to the bars for the other companies. NOTE: Nestlé reports Scope 1, 2 & 3 emissions but its disaggregated numbers for dairy are not available, and we were thus not able to make a comparison with our calculations.

Source: GRAIN and IATP. See Appendix, Methodology Note, section B and C.

Second, the IPCC Land Report confirms that nitrous oxide emissions are, by far, the most rapidly rising agricultural GHG, the gas being 300 times more potent than CO<sub>2</sub>. Both the livestock and feed grain companies have a major role to play here. Around 36% of this GHG is released through over-application of nitrogen fertilizer where half of the nitrogen is lost due to saturated soils.<sup>17</sup> The IPCC also found a “disproportionate growth” in N<sub>2</sub>O emissions related to livestock due to “rapid recent increases” in nitrogen through manure deposition.<sup>18</sup> This most certainly is linked to the dramatic rise in animals and animal density on land for mass production of meat and dairy in the past two decades. Nitrates choke our estuaries and saturate our soils; nitrogen leaks into our atmosphere to heat our planet. Strengthening regulations for the rapid reduction of nitrogen-related emissions is essential to getting on a 1.5°C pathway.

Eleven years ago, a roadmap for an agricultural transition was laid out in the 2008 International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), a multi-year study housed at the World Bank and involving hundreds of experts and several U.N. agencies. These well-advanced principles are now coalescing around Agroecology, a transformative approach that can galvanize a just transition for farmers and workers to (re)build ecosystems and agricultural resilience while supporting localized, fair food systems and local communities.

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## Regenerate *continued*

Agroecology is a dynamic concept that reflects field-level farming practices that rely on high agrobiodiversity—including ecological, socioeconomic, nutrition and even equity aspects of agriculture and food systems. The recent report from the U.N. High Level Panel of Experts of the Committee on World Food Security on *Agroecological and other innovative approaches* recognizes that agri-food systems are coupled with social-ecological systems, from production to consumption.<sup>14</sup> The report calls on U.N. member governments to increase their support for agroecological approaches to food production and marketing as key to ensuring sustainable food systems.

The redirection of vast sums utilized by the CAP and the Farm Bill towards a just transition to the actualization of these principles and practices is the turning point the agriculture sector requires. In the Climate Land Ambition and Rights Alliance (CLARA) report *Missing Pathways to 1.5°C*, we offer several ways the livestock sector, in particular, can use agroecological principles and practices to transition

the sector away from high emissions and environmental impacts. Livestock are integral to many agroecological food systems. Agroecological approaches to raising livestock include a high diversity of feed or forage cropping systems on long rotations; closed nutrient cycles; grazing that encourages healthy pastures and range; and grazing that includes pastures of mixed perennial species.<sup>15</sup>

Together with addressing food waste, agroecological practices for crops and livestock and healthy diets, we found that the agriculture sector alone could avoid as much as 7.5 Gigatons of GHG emissions per year by 2050 and sequester over 1 GtCO<sub>2</sub> equivalent through agroforestry. By avoiding deforestation and restoring degraded forests, best achieved through community land rights, CLARA found that an additional 6.1 Gt GHGs could be avoided per year by 2050 with an additional 8.7 Gt sequestered. There is thus enormous mitigation potential from land with policies and practices that respect planetary boundaries and human rights.<sup>16</sup> These findings must be taken seriously by the U.N. and governments focused on nature-based solutions.

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## Conclusion

Redirecting finance and public incentives away from an extractive model of agricultural production; regenerating agriculture and the livestock sector through creating a just transition for farmers and workers trapped in an unsustainable system where corporate profits drive the system; and regulating agricultural emissions and environmental pollutants that destroy our soils, water

and air are key to genuine nature-based solutions to address climate change. **Governments must enact policies that incentivize regenerative agriculture, starting with adopting principles and practices of agroecology.** Nothing short of this transformational change is required if humanity is to limit global warming to 1.5°C by 2050.

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## Endnotes

- 1 IPCC. 2019. SRCL (Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems). <https://www.ipcc.ch/report/srcl/>.
- 2 IPBES. 2019. IPBES Global Assessment: Summary for Policymakers. <https://www.ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf>.
- 3 IPCC. 2018. Special Report: Global Warming of 1.5°C. <https://www.ipcc.ch/sr15/>.
- 4 IPCC. 2019. SRCL, Summary for Policymakers, Para A.3. [https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM\\_Approved\\_Microsite\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM_Approved_Microsite_FINAL.pdf).
- 5 Greenpeace. 2019. Feeding the Problem: The Dangerous Intensification of Animal Farming in Europe. Accessed August, 2019. <https://storage.googleapis.com/planet4-eu-unit-stateless/2019/02/83254ee1-190212-feeding-the-problem-dangerous-intensification-of-animal-farming-in-europe.pdf>.
- 6 Very large farms are defined by Eurostat as farms with standard output equal to or greater than 100,000 Euros. Eurostat, Archive: Small and large farms in the EU - statistics from the farm structure survey, see figure 17. Accessed August 23, 2019. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Small\\_and\\_large\\_farms\\_in\\_the\\_EU\\_-\\_statistics\\_from\\_the\\_farm\\_structure\\_survey](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Small_and_large_farms_in_the_EU_-_statistics_from_the_farm_structure_survey).
- 7 See EEB et al. 2018. Last Chance CAP. <https://eeb.org/library/last-chance-cap/>
- 8 Lilliston, Ben. 2019. “Latest agriculture emissions data show rise of factory farms.” IATP. <https://www.iatp.org/blog/201904/latest-agriculture-emissions-data-show-rise-factory-farms>.
- 9 Reuters. 2019. “Cargill says food industry will miss zero deforestation goal.” June 13, 2019. <https://www.reuters.com/article/us-carg-brazil-environment/cargill-says-food-industry-will-miss-zero-deforestation-goal-idUSKCN1TE345>.
- 10 Sharma, Shefali, and Sergio Schlesinger. 2017. Rise of Big Meat: Brazil’s Extractive Industry. IATP. <https://www.iatp.org/the-rise-of-big-meat>.
- 11 See IATP. 2014. Global Meat Complex: China Series. <https://www.iatp.org/global-meat-complex-china-series>.
- 12 IPCC. 2019. SRCL, Summary for Policy Makers, see paras A1.3-A1.5. [https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM\\_Approved\\_Microsite\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM_Approved_Microsite_FINAL.pdf).
- 13 Ibid, para A.3.
- 14 Varghese, Shinee. 2019. “New UN report on agroecology for climate, food security and human rights.” IATP. <https://www.iatp.org/blog/201906/new-un-report-agroecology-climate-food-security-and-human-rights>.
- 15 Dooley, K et al. 2018/ Missing Pathways to 1.5°C: The role of the land sector in ambitious climate action. Climate Land Ambition and Rights Alliance. <https://www.climatelandambitionrightsalliance.org/report>
- 16 Ibid.
- 17 IPCC. 2019. SRCL, Summary for Policy Makers, para A3.5. [https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM\\_Approved\\_Microsite\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM_Approved_Microsite_FINAL.pdf).
- 18 IPCC. 2019. SRCL, Chapter 2, pg. 2-5. [https://www.ipcc.ch/site/assets/uploads/2019/08/2c.-Chapter-2\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2019/08/2c.-Chapter-2_FINAL.pdf)
- 19 Dooley, K et al. 2018/ Missing Pathways to 1.5°C: The role of the land sector in ambitious climate action. Climate Land Ambition and Rights Alliance. Available from: [climatelandambitionrightsalliance.org/report](https://www.climatelandambitionrightsalliance.org/report). <https://www.climatelandambitionrightsalliance.org/report>