

## MAPA Ordinances: Neutral Carbon Agriculture

From March 11, 2022 to April 11, 2022, Brazil's Ministry of Agriculture, Livestock and Supply (MAPA) placed Ordinances 254, 255, 256, 257, 258 and 259 under public consultation, proposing an enactment to define criteria for production, accounting and compensation of green carbon deriving from the National Policy on Carbon in Agriculture, that is, criteria that attest to an agricultural production as neutral or low carbon.

Initially, Ordinance 254 provides that these criteria and methodologies will be published in technical standards and nationally validated for the purpose of detailing, according to the specifics of each agricultural chain. Additionally, this Ordinance lists a number of legal concepts, especially the definition of "carbon neutral"<sup>1</sup>, "low carbon"<sup>2</sup> and "carbon capture"<sup>3</sup>.

Ordinance 254 also lists minimum requirements for qualifying the production system in the low carbon model, which must occur in isolation or cumulatively: (a) no-till farming system; (b) biological nitrogen fixation (BNF) and other bioinputs; (c) pasture management and recovery; (d) manure and agricultural residue management; (e) planted forests; (f) irrigated systems; and (g) feedlots.

Ordinances 255, 256, 257, 258 and 259 establish a Specific Technical Standard for the production, accounting and compensation of green carbon, following the guidelines of the National Plan for Green Carbon in Agriculture in the production of animal

products using the low carbon model.

The Ordinances establish that environmental compliance is an essential condition to qualify a business as low-carbon, carbon-neutral or carbon capture/storage. To this end, they require the rural property to be included in SISCAR, i.e., it must have an updated file in the Environmental Registry of Rural Property (CAR) and in the Environmental Compliance Program (PRA) (i.e., no deficits in Permanent Protection Areas and Legal Reserves).

The ordinances represent an important step towards characterizing the meaning of agribusiness sustainability. This definition is both scientific and institutional.

### Science

In the scientific field, the ordinances use good scientific techniques to support what is "sustainable" in agribusiness. They use scientific standards endorsed by science as a reference for measuring soil carbon, following recommendations from the Intergovernmental Panel on Climate Change (IPCC, 2006) and other validated scientific methodologies.

As new methodologies and scientific techniques emerge in the near future, new parameters are likely to be created to measure soil carbon. At the same time, rapidly evolving technologies also promise to make this measurement easier and cheaper.

<sup>1</sup>Ordinance 254, article 2, III: "carbon neutral with a focus on mitigated or removed carbon: a more efficient production system model than "low carbon," which focuses on GHG neutralization, with either a positive or a negative balance of sequestered carbon. It may use other equivalent indexes to reduce, remove, capture and store carbon assets in production systems, agricultural products and by-products."

<sup>2</sup>Id. supra, II: "low carbon with a focus on avoided carbon: a production system model that focuses on the amount of greenhouse gases (GHG) avoided. It may use other equivalent indexes to mitigate, avoid, reduce or remove GHGs in agricultural production systems, products and by-products."

<sup>3</sup>Id. supra, IV: "low carbon with a focus on avoided carbon: production system model that focuses on the amount of greenhouse gases (GHG) avoided. It may use other equivalent indexes to mitigate, avoid, reduce or remove GHGs in agricultural production systems, products and by-products."

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All of this is expected to create a new reality and call for regulatory updates. However, it is necessary to start up and move forward. By embracing a scientific parameter as a “criterion”, the ordinance takes an important first step.

### Institution

At an institutional level, the ordinances help to reduce conceptual confusion about “sustainability” in the market. This is because they add consistency to concepts that are still used ambiguously, and often in contradictory ways.

At one end of the market, the definition of parameters of what is “carbon neutral” or “green carbon” should give investors greater confidence to innovate in financial instruments that combine risk analysis with sustainability. The absence of clear criteria on what is “green” is today one of the greatest bottlenecks delaying the development of new credit mechanisms, starting with CPR Verde, which is still in an embryonic stage of development. At the other end, the clear definition of what is “green” helps to guide Brazilian rural producers along their path of continuous learning, innovation and development of production techniques. Between the two extremes, the entire chain of players working in production, trading and services is given a slightly better calibrated compass to guide their way. Despite the importance of ordinances, two sets of caution deserve attention.

The first set is of a legal nature. The National Policy on Carbon in Agriculture, mentioned in the Ordinances as the basis for creating

these requirements, has not yet been provided for in a law or decree. The only policy that the country has regarding climate change and carbon is Federal Law No. 12187/2009. This law, however, does not provide for carbon neutral agricultural activities. For the time being, the Ordinances placed under public consultation lack context.

Furthermore, as MAPA has powers to make public policies for rural innovation and development based on sustainable practices, <sup>4</sup>in principle, these requirements, once in force, must be followed by all economic agents. However, the lack of a formally established policy, with clear and detailed technical parameters, can compromise and/or complicate the enforcement of these policies.

The second set of cautions is of an economic nature. The technical standard included in the appendixes to ordinances 255, 256, 257, 258 and 259 contains a number of tables demonstrating the qualification requirements of what is sustainable for a group of production activities: (i) cattle farming, (ii) bee products, (iii) rubber, (iv) cocoa, (v) coffee, (vi) yerba mate, (vii) soybean, (viii) cotton and (ix) carbon capture and storage. In other words, the government “selected” some sectors for which the concept of “sustainability”, now regulated, should apply.

The selection of prioritized activities must be accompanied by a clear justification. For example, in 2020<sup>5</sup>, the production of honey (a bee product) was 51,000 tons, which is equivalent to BRL 621 million. At the same time, bee production generates an ecosys-

<sup>4</sup> Federal Decree No. 10827/2021, art. 41.

<sup>5</sup>Source: Sidra, IBGE - Tabela/5457, 2022.

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tem service<sup>6 7 8</sup> of pollination not accounted for in the crops eligible to the benefit. Therefore, there is a cross-section between low-carbon production and ecosystem services that needs to be addressed and that may generate different economic incentives.

By indicating a parameter for the action of market agents, investment and management decisions in these sectors may change. An example is the methodology associated with the metric that translates the global warming potential of methane – the main greenhouse gas released by livestock (the livestock sector had a gross value of production of BRL 336 billion in 2021)<sup>9</sup>.

The choice of metric dramatically changes the cost-effectiveness of agri-environmental policies in the sector.<sup>10</sup>

The "Carbon Capture and Storage" activity lacks a clear definition and needs specific direction, which may be linked to policies for GHG measurement, validation and reporting.

The effects of policies across sectors must be considered. On the one hand, the consequences of these changes can impact farmers who are not able to immediately adjust to the new "green" requirements, without having, at the same time, any support or transition time. On the other hand, the standard may indirectly impact production systems with greater adaptability. Understanding the potential impacts of such

public regulation is key for its proper execution and maintenance in the medium and long term.

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<sup>6</sup>Source: Klein, A.M., Vaissiere, B.E., Cane, J.H., Steffan-Dewenter, I., Cunningham, S.A., Kremen, C. and Tscharntke, T., 2007. Importance of pollinators in changing landscapes for world crops. *Proceedings of the royal society B: biological sciences*, 274(1608), pp.303-313.

<sup>7</sup>Source: Gallai, N., Salles, J.M., Settele, J. and Vaissière, B.E., 2009. Economic valuation of the vulnerability of world agriculture confronted with pollinator decline. *Ecological economics*, 68(3), pp.810-821.

<sup>8</sup>Source: Lautenbach, S., Seppelt, R., Liebscher, J. and Dormann, C.F., 2012. Spatial and temporal trends of global pollination benefit. *PLoS one*, 7(4), p.e35954.

<sup>9</sup>Source: Valor Bruto da Produção Agropecuária, MAPA, 2022

<sup>10</sup>Source: Lesschen JP. Consequences of an alternative emission metric. *Nature Food*. 2021 Dec;2(12):918-9.