

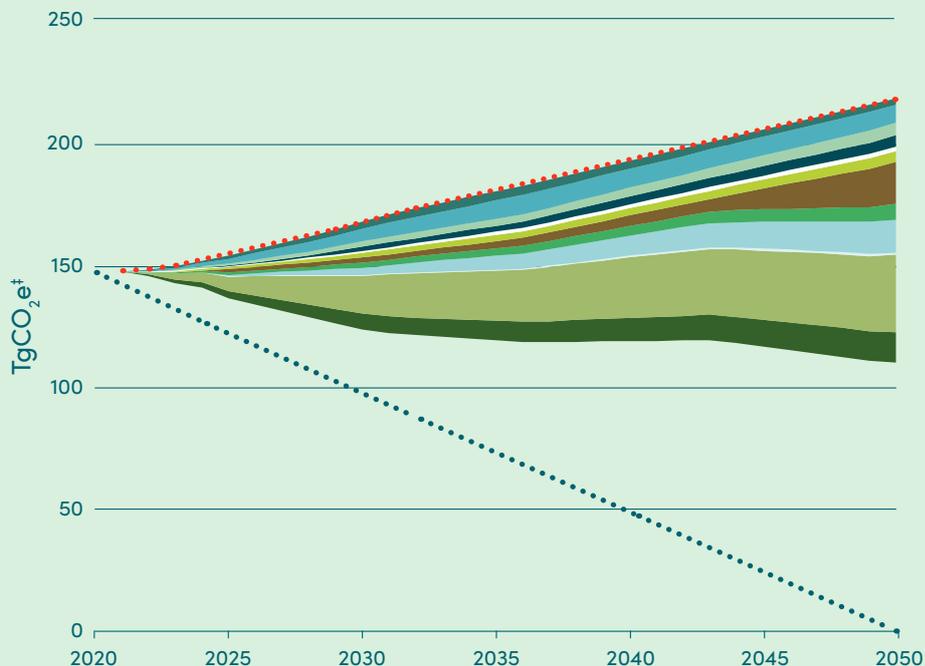
# The Climate Pathway Project



## Expected GHG<sup>†</sup> reductions from business as usual (BAU) through prioritised actions:

### Priority Actions:

- Centralised solar power generation
- Biomass power generation
- Fuel use efficiency in light industry
- Carbon capture and storage in iron and steel production
- Reduction of process emissions during cement production
- Climate-smart agriculture (use of low carbon emission techniques)
- Restoration of the forest landscape
- Conservation of native vegetation
- Smart urban planning
- Vehicle electrification
- Shift to public transport
- Harnessing landfill methane for energy use
- BAU scenario
- Decarbonisation target



### Business as usual emissions (2050) per sector (TgCO<sub>2</sub>e):

<span style="color: #ffffff;">●</span> Forestry & Land Use .....	1
<span style="color: #00728f;">●</span> Energy.....	12.1
<span style="color: #003366;">●</span> Transport.....	96.7
<span style="color: #006666;">●</span> Agriculture.....	32.7
<span style="color: #009966;">●</span> Industry.....	37.3
<span style="color: #92d050;">●</span> Waste .....	34.4
<span style="color: #336633;">●</span> RCI <sup>§</sup> .....	4.7



† GHG = greenhouse gas.  
‡ TgCO<sub>2</sub>e = Teragrams of carbon dioxide equivalent, 1 Tg = 1 million metric tonnes.  
§ RCI = Residential, Commercial, Industrial.  
The above priority actions for decarbonisation were selected by the Government of São Paulo in the development of their state-level pathway.



### GHG emissions target chosen by São Paulo: Net zero by 2050

With a strong industrial sector, the State of São Paulo is home to:

- 36% of Brazilian industrial production,
- 12% of the country's agricultural income, and
- 30% of revenues generated in the service sector.

The Climate Pathway Project supports state and regional governments to develop a transformational process, or 'pathway', to reducing emissions while supporting economic and social development, in collaboration with local communities and businesses.

# From pathway to net zero: São Paulo's journey

In February 2021, representatives of the Climate Group met with technicians from the Secretariat of Infrastructure and Environment (SIMA) of the Government of São Paulo who participated in the Climate Pathway Project.

The results of the project, including the 12 priority actions, contributed to:

- The state signing up to the UN's Race to Zero and Race to Resilience campaigns,
- defining the state's commitment to net zero by 2050, and
- building the first version of the Guidelines for the Climate Action Plan 2050 (currently in public consultation phase).

From a technical point of view, being the only state to address six IPCC emission sectors within the scope of the project, São Paulo was also selected to take part in the development of a simplified and strategic tool for data collection and emissions calculation. Because this tool is more accessible than established modelling methods, it could be used independently by state officials going forward.

Jussara de Lima Carvalho (JLC), Head of International Advisory and overall project coordinator, Oswaldo dos Santos Lucon (OSL), Technical Project Coordinator and Margarete Escobar Sabella (MES), International Advisor, responsible for project communications from SIMA spoke with Rolf Bateman (RB), Engagement Coordinator - Brazil and Natalie Orentlicher (NO), Knowledge and Learning Manager from the Climate Group.

Here is a summary of that conversation.



## Overview

**RB:** How did São Paulo come to be involved in the Climate Pathway Project?

**OSL:** First, in 2017, during the Bonn Conference, at a meeting of the Under2 Coalition Steering Group, we had the opportunity to speak with the then Governor of California, Jerry Brown, and attended that state's presentation on the decarbonisation pathways that had been developed. The graphs they generated of future projections had a strong appeal and conveyed a sense of certainty in the political context; this, and subsequent conversations with California, led us to believe that our policies could be based on pathway studies. We also made contact with the Welsh government whose relatively simpler pathway model for the energy sector was understood to be the most applicable to the São Paulo context.

In parallel, the Climate Group offered a place in the Climate Pathway Project, with the objective of developing modelling capabilities, which was accepted by our state. It was a very extensive and intense process, and the credibility of the project was built with a lot of discussion and mediation. As a result, we received the delivery of spreadsheets with the pathways of all GHG emission sectors for our state.

Although in an arid technical field and with complex implementation, it was a very interesting experience, not only for São Paulo but also for the Climate Group and other regions that will benefit from this learning.



## The importance of engagement

**NO:** What institutions and how many people were part of the process, and what difficulties did you face?

**MES:** There were more than 70 participants, not only from SIMA, but also from the Secretariats of Logistics and Transport, Metropolitan Transport and Agriculture. Representatives of civil society, São Paulo municipal government and the private sector also participated. This great mobilisation took place thanks to the capacity and understanding of the project coordinators, aware of the importance of such articulation.

Despite very strong participation, there was discontinuity throughout the process of the project. The larger meetings, in which this group of 70 people participated, were held intermittently. Sometimes we couldn't guarantee stakeholder participation because naturally there was a rotation in representation or people became disconnected from the process.

Perhaps one solution would have been to formalise the participation of the different actors through a rule or resolution, which could have contributed to greater engagement of the team. It would also be helpful to understand all the stages of the project and include participatory methodologies for each stage in the planning phase in order to maintain frequency and stakeholder activity. If we were to spend more time at the beginning defining both the project steps and the commitment required, the work would undoubtedly flow more quickly.

**RB:** Why did the Government invest so much energy to bring this large group into the process?

**JLC:** It is essential to have the participation of the various governmental and non-governmental segments of society that have an impact on GHG emissions in order to ensure that the work is representative. The governmental structure of the State of São Paulo is large and complex, with many secretariats, and the issue of climate change is not trivial. But also, climate change is not part of the management in most of the secretariats of the state government, and we do not have an active governance structure to deal with it. Therefore, to mobilise even just the government itself, it was necessary to work with this complexity.

It is important to highlight that this process was educational, since none of the groups involved, with the exception of the Climate Change Advisory, had a great proximity to this issue and this policy. As well, the implementation of the actions obviously depends on this knowledge being managed in all of the Secretariats and impacting the political decisions of their senior officials.



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Ubatuba, São Paulo

## How to reduce emissions in the most complex sectors: Energy and industry

**NO:** How were the priority actions selected by São Paulo's group of stakeholders?

**JLC:** We carried out a wide consultation process in order to choose between 12 and 15 actions, across the sectors in which we work: AFOLU<sup>1</sup>, industrial processes, waste, energy and transport. We defined three actions for each sector, on average, which ended up generating 12 actions in total. This selection was difficult, especially because we worked with all the sectors, thinking about all the complexity that characterises them and also taking into account our priorities. For example, São Paulo is not a big emitter in the forestry area, but it has the objective of being a restoration state, with big goals, and so this was taken into consideration when selecting the actions.



**RB:** Why was the industrial process sector included afterwards and how did you advance the climate agenda in this sector?

**JLC:** Initially we focused on the AFOLU, energy and waste sectors, understanding that these would be the main sectors responsible for emissions. In the next step, however, we understood that emissions from the energy sector should focus on consumption and not production, as the state of São Paulo does not control energy generation because this is centralised at the national level. So, we did an analysis of our energy consumption that showed emissions reduction possibilities in the industrial sector.

Emissions from energy consumption in the industrial sector are high and, together with emissions from industrial processes, make this sector important for the state. Furthermore, this is a sector that the state can positively influence to reduce emissions. For example, CESTESB<sup>2</sup> (the Environmental Protection Agency of São Paulo) is a state licensing body and can influence the industry to adhere to its responsibilities.

**RB:** Are there any actions that have not been included in the process now but that have good prospects for implementation in the state?

**OSL:** In the Climate Pathway Project, we prioritised 12 actions that are very interesting for the state, but ended up covering about 30% of the state's emissions reductions. They address the highest emitting sectors today, but do not cover sectors with potential for expansion and thus greater mitigation in the future.

Future actions should fall within electric mobility, extensive solar energy supply and other factors such as air conditioning. This will allow the state to reach net zero emissions, a goal that was set in the course of the project and which motivates the addition of actions beyond what we currently have in our pathways. This shows the flexibility of the project in the face of regulatory changes and new international trends.

**RB:** How did the idea of developing the Simplified Emissions Calculation Tool come about? What is its importance for the state of São Paulo and for climate agendas in general?

**OSL:** Emissions calculations traditionally require very robust models, cost analysis, power grid analysis and other implications. Therefore, they use sophisticated platforms and software with very expensive licenses and are also mastered by very few people and/or institutions. They end up becoming "black boxes", methods with low levels of transparency.

The simplified tool, proposed by the State of São Paulo and incorporated by the Climate Group into the framework of the project, is accessible to anyone with Microsoft Excel skills. You can audit the dependent and precedent cells, refine the tool over time and, above all, understand the cause-effect relationship. Of course, it is not going to replace a basic training on emissions inventories, but it is a step that provides further support and also disrupts a perverse logic of starting inventories and then forgetting about them.



São Paulo City, Brazil



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## How to move to a net zero goal

**NO:** One of the most striking events that occurred during the project for São Paulo was the announcement, at the end of 2020, of your 2050 net zero goal. A few months later, this commitment became an Executive Order and the state joined the Race to Zero campaign. How does this commitment relate to the pathway and the project?

**JLC:** When the Governor decided that he would participate in the Climate Conference, we understood that a climate action plan was necessary. And we were already talking about this campaign to achieve net zero by 2050, Race to Zero. **Finally, it was from the Climate Pathway Project that we had a foundation for our commitment to net zero, an argument for why it was feasible.**

Ever since Secretary Penido announced that the government was committed to net zero by 2050, people started asking how we would do it. And our pathways were the first answer, the first assurance that we were already on track and that we would also develop a Climate Action Plan. The project was a concrete argument that gave credibility to the intention of the commitment. For us it was very important, it served as a guarantor of our process towards greater ambition. The fact that São Paulo is developing their decarbonisation pathway means that the state will have a basis for achieving carbon neutrality in the long term. I believe this will serve as an inspiration for other subnational governments.

On the eve of COP26 we have a good level of knowledge and we are aware of the importance of carbon neutrality. It is a very different position than the one we had at the beginning of this process, over two and a half years ago.

**MES:** This also brings out the importance of the involvement of senior Secretariat and government officials in the project and planning of the pathways. In our case, this linkage was done by the overall coordination, and not as a consequence of planned meetings of the project. Although we still reached a good outcome, we would advise other states to plan this involvement.

**RB:** **And how is the state preparing to meet that goal of net zero? I know this Climate Action Plan is part of it, and what else?**

**JLC:** **Yes, our main action is developing the Climate Action Plan, which is scheduled to finalise in July 2022. But in addition, the State of São Paulo has many ongoing projects and actions related to climate change, both mitigation and adaptation, which include social co-benefits.** Projects related to water scarcity, such as the recovery of freshwater springs; sewage disposal and treatment; river restoration; ecological and economic zoning of the state; multilevel governance for municipal adaptation plans; and the goal of restoring 1,500 hectares by 2050. The state has everything in place to commit and show results on how **to incorporate resilience as a state, in addition to committing to achieve net zero emissions by 2050.**

So, we have a set of initiatives that are already contributing to the Action Plan and we have the decarbonisation pathway. We are now in a position to reshape our state's development moving forward by putting climate change at the centre of the debate.



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<sup>1</sup> AFOLU: Agriculture, forestry and other land uses

<sup>2</sup> CETESB: Companhia Ambiental do Estado de São Paulo



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