

Senate delays stall Brazilian dreams

Major players lobby lawmakers after legislation derailed by amendments, writes
Daniel Dawson

The wind has come out of the sails of Brazil's offshore ambitions as the legislation set to govern the sector has stalled in the Senate.

After the Chamber of Deputies approved PL 576/2021 at the end of 2023, many developers and officials expected the Senate to vote on the bill in the first half of 2024.

However, the addition of several amendments, including subsidies for coal and natural gas-fired power plants, has derailed the process.

"These amendments to the bill of law are clearly a handicap," said Global Wind Energy Council Latin America president Ramón Fiestas. "The government is keen to adopt the offshore wind bill without them."

Nevertheless, offshore wind retains cross-party support in Brazil, which boasts 700GW of technical potential for fixed-bottom turbines. Furthermore, an analysis from GWEC found that every 1GW developed could generate \$2.5bn in investment and 17,000 supply chain jobs.

Everyone in the sector anticipates the bill will be signed into law by the end of 2024.

According to Ibama, Brazil's environmental agency, 31 developers

have submitted licence applications to develop 97 projects totaling 235GW, although not all will be approved.

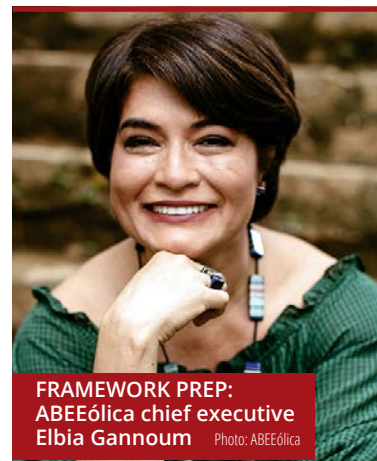
"Once the speculators are gone, there will be strong competition among serious companies because there are many overlapping projects," Fiestas said.

Offshore Wind Consultants' Brazil country manager Luany Dantas said that Corio Generation, EDF Renewables, Iberdrola (via Neoenergia Renováveis) and Ocean Winds are the four leading renewable-focused developers working in Brazil and have been lobbying the country's lawmakers to pass the bill.

Oil and gas companies, including Equinor, Petrobras, Shell and TotalEnergies, are also seen as strong auction contenders.

Once the bill is passed by the Senate and signed by President Luiz Inácio Lula da Silva the executive branch will have 270 days to create the regulatory framework and announce the deadline for tenders for the first seabed lease auction.

Since the part of the bill dealing specifically with offshore wind is already defined, most people in the sector do not anticipate any significant changes.



FRAMEWORK PREP:
ABEÉólica chief executive
Elbia Gannoum Photo: ABEÉólica

"The government is working with an inter-ministerial working group to align all competent bodies," said Brazilian wind energy association (ABEÉólica) head of offshore wind energy Matheus Noronha.

ABEÉólica chief executive Elbia Gannoum confirmed that the Ministry of Mines and Energy has already started preparing the regulatory framework.

"They want to get up and running because the Ministry and President Lula want to attract investment," she told reNEWS, noting that the executive branch is eager for the first seabed lease auction to coincide with Brazil hosting COP30 in late 2025.

Developers will begin the necessary studies to obtain the environmental licence after the auction and confirm a route to market by 2028. Gannoum anticipates the first wind turbines could be operational by 2031.

Fiestas said the route to market will be critical for developers' success, demonstrating the profitability of their projects to lenders and investors. Many projects will sell electricity to the grid, with others planning partnerships to produce green hydrogen.

While the criteria for the auctions are still being drafted and will not be made public until the regulations are published, there will likely be a local content requirement.

Some developers do not anticipate this to be a significant concern since Brazil already has well-developed onshore wind and offshore oil and gas sectors, with the possibility to adapt some segments of these supply chains for offshore wind.

However, some analysts worry it will be an extra hurdle for developers to overcome in a new market.

"The flexibility to choose where your supply comes from is always preferable," said Signe Sørensen, senior Americas market analyst at consultancy Aegir Insights. "If there is a very limited local supply chain, (local content requirements) pose an extra challenge."

Restless developers cut costs

The Senate delays have concerned some developers and investors, many of whom were told since 2022 that an auction date would be set for the following year.

"Developers are a little restless, but I still think the interest will be there when the legislation is passed," Aegir's Sørensen said.

Indeed, Edisiene Correia (pictured), the Brazil-based business developer of the Shizen Energy Group, which has filed paperwork to develop six projects totaling 15GW, said the company would not hire any more consultants or contractors to prepare for the tenders until the bill is passed.

"If we compare it to the scenario of offshore wind around the world, (the delay has been) a problem because

it is taking a long time to get the final regulation," she said. "Some investors are waiting for this to put money in Brazil because they are interested in the market."

In the north-east of the country BI Energia, which hopes to develop a 576MW project and sell power to the grid at auction, said the delays have caused them to cut costs. "We had to dismiss people and suspend all the contracts we had signed," confirmed chief executive Lúcio Bonfim.

He worries that the delays will cause international developers to pause investments in Brazil and possibly look elsewhere. Dantas shares these concerns.

"Developers need the approval of the regulatory framework before they spend real money," she said. "Some companies have budgets approved for Brazil, but the worry is if the process takes much longer, they will move money to somewhere else."



91 Developers are also not overly concerned about having the infrastructure to bring offshore wind power onto the grid.

Brazil's energy research office has announced plans to expand the grid over the next 10 years, while several ports would only need minor renovation to accommodate offshore wind construction.

Dantas is more worried that there will not be enough vessels to transport turbines and lay cables. The majority of these are built in China, and some consider there is now an opportunity for Brazil to begin manufacturing them too. ■

Petrobras feels squeeze as timetables slip

Since Petrobras unveiled its plans in September 2023 to develop offshore wind in Brazil, the state-owned oil and gas company's progress has mirrored that of the wider sector.

Petrobras filed paperwork with environmental regulator Ibama for 10 offshore wind developments, producing nearly 23GW.

Seven of the 10 areas are located in the north-east, where wind speeds are the highest and potential is greatest. The company is expected

to use these to produce green hydrogen.

Two other sites, located off the coast of Rio de Janeiro, are expected to power the offshore oil and gas infrastructure Petrobras plans to build in the next five years.

The Brazilian government considers offshore wind and green hydrogen as strategic sectors and wants to develop domestic competencies and supply chains, with Petrobras widely seen as the vehicle through which these ambitions would be achieved.

Indeed, former chief executive Jean Paul Prates joined Petrobras in January 2023 after resigning from the Senate, where he co-authored the pending offshore wind bill.

However, delays in the Senate's approval of that bill, economic conditions and the replacement of Prates in May 2024 have resulted in the company postponing its estimates for developments coming online.

"They used to say before 2032, but now the first project expectation is 2035," said OWC's Dantas. ■

235GW BRAZILIAN LICENSING REQUEST QUEUE

| Project | MW | Developer |
|---|------|---------------------------------|
| Água Marinha, Rio Grande do Norte | 1700 | BlueFloat Energy do Brasil |
| Águas Claras, Rio Grande do Sul | 3000 | Neoenergia Renováveis |
| Alísios Potiguares, Rio Grande do Norte | 1845 | Bosford Participações |
| Alpha, Ceará | 6000 | Alpha Wind Morro Branco Projeto |
| Amazonita, Rio Grande do Sul | 3000 | BlueFloat Energy do Brasil |
| Aracatu, Rio de Janeiro | 3840 | Equinor Brasil Energia |
| Araioses, Maranhão | 2808 | Petrobras |
| Araras Geração, Ceará | 3000 | Shizen Energia do Brasil |
| Asa Branca I, Ceará | 1080 | Eólica Brasil |
| Asa Branca II, Ceará | 1080 | Eólica Brasil |
| Asa Branca III, Ceará | 4320 | Eólica Brasil |
| Asa Branca IV, Ceará | 4320 | Eólica Brasil |
| Barra do Chuí, Rio Grande do Sul | 3000 | Shizen Energia do Brasil |
| Beta, Rio Grande do Norte | 3000 | Beta Wind Energias |
| Bravo Vento, Rio Grande do Sul | 1155 | SPE Bravo Vento |
| Bromélia, Rio de Janeiro | 1700 | BlueFloat Energy do Brasil |
| Cabo Frio, Rio de Janeiro | 3204 | Petrobras |
| Camocim, Ceará | 1200 | Camocim Eirelli |
| Caruara I, Rio de Janeiro | 2310 | Eólica Offshore Caruara |
| Caruara II, Rio de Janeiro | 1113 | Eólica Offshore Caruara |
| Cassino Offshore, Rio Grande do Sul | 1920 | Geradora Eólica Brigadeiro IV |
| Cattleya, Rio Grande do Norte | 1180 | BlueFloat Energy do Brasil |
| Caucaia, Ceará | 576 | BI Energia |
| Costa Branca I, Rio Grande do Norte | 1458 | Petrobras |
| Costa Branca II, Rio Grande do Norte | 2106 | Petrobras |
| Costa Nordeste Offshore, Ceará | 3840 | Geradora Eólica Brigadeiro I |
| Dragão do Mar, Ceará | 1216 | Qair Marine Brasil |
| Espírito Santo I, Espírito Santo | 1980 | Petrobras |
| Farol de Mostardas, Rio Grande do Sul | 3000 | Shizen Energia do Brasil |
| Farol Wind Power, Santa Catarina | 5700 | SPE Bravo Vento |
| Fortaleza, Ceará | 2160 | Petrobras |
| Ginga, Rio Grande do Norte | 1062 | Petrobras |
| Guarita Offshore, Rio Grande do Sul | 1680 | Geradora Eólica Brigadeiro III |
| H2GPCEA, Ceará | 3000 | H2 Green Power |
| Humberto de Campos, Maranhão | 720 | Com. Energia Humberto de Campos |
| Ibi Offshore, Rio Grande do Sul | 1960 | Chiri Renovables |
| Itapipoca, Ceará | 720 | Energia Itapipoca |
| Jangada, Ceará | 3000 | Neoenergia Renováveis |
| Mar de Minas I, Ceará | 1500 | CEMIG Geração e Transmissão |
| Mar de Minas II, Ceará | 3000 | CEMIG Geração e Transmissão |
| Maral, Rio Grande do Norte | 2012 | Ventos do Atlântico |
| Maravilha, Rio de Janeiro | 3000 | Neoenergia Renováveis |
| Mares do Norte, Ceará | 1520 | Acciona Energia Brasil |
| Mares do Sul I, Rio Grande do Sul | 1520 | Acciona Energia Brasil |
| Mares do Sul II, Rio Grande do Sul | 1520 | Acciona Energia Brasil |
| Marine Vórtice WOS, Rio Grande do Sul | 5220 | SPE Bravo Vento |
| Mostardas, Rio Grande do Sul | 3510 | Petrobras |
| Onil Offshore, Rio Grande do Sul | 1400 | Chiri Renovables |
| Palmas do Mar, Piauí | 1395 | Bosford Participações |

| Project | MW | Developer |
|---|------|-------------------------------------|
| Pedra Grande, Rio Grande do Norte | 624 | Pedra Grande |
| Península Wind Offshore, Rio Grande do Sul | 2700 | SPE Bravo Vento |
| Piedade, Ceará | 2268 | Petrobras |
| Prazeres, Ceará | 2394 | Petrobras |
| Projeto Açú | 3010 | Shell Brasil Petróleo |
| Projeto Atobá, Rio Grande do Sul | 2490 | Equinor Brasil Energia |
| Projeto Colibri, Ceará | 2010 | Equinor Brasil Energia |
| Projeto Galinhos, Rio Grande do Norte | 3010 | Shell Brasil Petróleo |
| Projeto Ibituassu, Rio Grande do Sul | 2010 | Equinor Brasil Energia |
| Projeto Ibitucatu, Ceará | 2010 | Equinor Brasil Energia |
| Projeto Mangará, Piauí | 2010 | Equinor Brasil Energia |
| Projeto Pecém, Ceará | 3010 | Shell Brasil Petróleo |
| Projeto Piauí, Piauí | 2520 | Shell Brasil Petróleo |
| Projeto Ubu, Espírito Santo | 2520 | Shell Brasil Petróleo |
| Projeto White Shark, Rio Grande do Sul | 3010 | Shell Brasil Petróleo |
| Quaresmeira, Rio de Janeiro | 2960 | BlueFloat Energy do Brasil |
| Querência, Rio Grande do Sul | 3000 | Shizen Energia do Brasil |
| Quesnelia, Espírito Santo | 1240 | BlueFloat Energy do Brasil |
| Redentor dos Mares, Rio de Janeiro | 1520 | Acciona Energia Brasil |
| Rio Grande Offshore, Rio Grande do Sul | 1200 | Geradora Eólica Brigadeiro V |
| Serra do Mar, Espírito Santo | 2850 | Fiabe Participações |
| Site de Teste Porto do Açú, Rio de Janeiro | 15 | Secretaria Energia Economia do Mar |
| Sítio de Testes, Rio Grande do Norte | 22 | SENAI/RN |
| Sopros do Ceará, Ceará | 3000 | Totalenergias Petróleo & Gas Brasil |
| Sopros do Piauí I, Piauí | 3135 | Totalenergias Petróleo & Gas Brasil |
| Sopros do Rio de Janeiro II, Rio de Janeiro | 3015 | Totalenergias Petróleo & Gas Brasil |
| Sopros do Rio de Janeiro, Rio de Janeiro | 3000 | Totalenergias Petróleo & Gas Brasil |
| Sopros do Rio Grande do Norte, Rio Gande do Norte | 3000 | Totalenergias Petróleo & Gas Brasil |
| Sopros do Rio Grande do Sul II, Rio Grande do Sul | 3000 | Totalenergias Petróleo & Gas Brasil |
| Sopros do Rio Grande do Sul, Rio Grande do Sul | 3000 | Totalenergias Petróleo & Gas Brasil |
| Taim, Rio Grande do Sul | 3000 | Shizen Energia do Brasil |
| Tatajuba, Ceará | 3000 | Shizen Energia do Brasil |
| Tecnoluft Wind Offshore, Rio Grande do Sul | 2700 | SPE Bravo Vento |
| Tramandaí Offshore, Rio Grande do Sul | 702 | Ventos do Atlântico |
| Turmalina, Rio Grande do Sul | 3180 | BlueFloat Energy do Brasil |
| Vento Tupi, Piauí | 999 | Ventos do Atlântico |
| Ventos do Açú, Rio de Janeiro | 2160 | Prumo Logística |
| Ventos do Atalaia, Piauí | 2955 | Monex Geração de Energia |
| Ventos do Atlântico, Rio de Janeiro | 5009 | Ventos do Atlântico |
| Ventos do Caicara, Rio Grande do Norte | 1965 | Monex Geração de Energia |
| Ventos do Delta, Maranhão | 2640 | Kaanda R. M. Cunha |
| Ventos do São Francisco, Ceará | 2955 | Monex Geração de Energia |
| Ventos do Sul, Rio Grande do Sul | 6507 | Ventos do Atlântico |
| Ventos dos Bandeirantes, Ceará | 2748 | Kaanda R. M. Cunha |
| Ventos Fluminenses, Rio de Janeiro | 2820 | Bosford Participações |
| Ventos Litorâneos, Rio Grande do Sul | 1245 | Bosford Participações |
| Ventos Potiguar, Rio Grande do Norte | 2484 | Internacional Energias |
| Vitória Offshore, Espírito Santo | 1200 | Geradora Eólica Brigadeiro II |
| Votu Winds, Espírito Santo | 1440 | Votu Winds |