#Flyinggreen by Novo Nordisk

Through an innovative direct-to-source partnership on sustainable aviation fuel, Novo Nordisk has secured future emissions reductions of 19.000 tons of CO2 and ensured vital funding for a technology essential to the green transition

Background & Circular for Zero:
At Novo Nordisk, our goal is to eliminate all CO2 emissions from our transportation activities by 2030. We call this initiative Circular for Zero.
Most of our emissions come from our products that are distributed by air, sea, or road to patients around the world. Air freight accounts for a large majority of our product distribution emissions. In 2021, carbon emissions from our product distribution totalled 70,859 tons. Of these air freight account for 58,265 tons.

Circular for Zero started as an ambition at a time when Novo Nordisk was already widely considered best in class as far as volumes transported via ocean freight as opposed to air freight. In addition, when air freight was necessary, Novo Nordisk has always sought out carriers with a modern fleet or direct services. Also, the company has been undertaking various supply chain redesign projects that would further reduce our CO2 emissions.

Rethinking sourcing & leveraging global supply chain disruptions:
Because of these early successes, it became a real head-scratcher to find additional opportunities for reducing carbon emissions without blowing the transportation budget out of the water. It became clear that the only way to achieve significant CO2 reductions and at a financially sensible cost was to fundamentally rethink the way we sourced logistic services. We needed to flip the freight-forwarding model on its head if we wanted to make progress. For us to achieve our CO2 targets, we needed access to competitively priced sustainable aviation fuel (SAF), and logic suggested that the only way to achieve this was to contract with entities that were already buying it.
It was easier said than done to pursue the Direct-to-Carrier model, as we've come to call it. In many ways, the freight forwarder model has become the gold standard for procuring logistic services. The challenge of convincing air carriers to break from a convention that served them well required significant volumes, which we couldn't even provide despite being Scandinavia's largest exporter.
As a result of the COVID-19 pandemic in spring 2020, supply chains became chaotic, giving us the leverage to push forward with the direct-to-carrier initiative.
We were in a unique position to offer air carriers the level of business certainty they needed during a difficult period. With the direct-to-carrier model, we were able to guarantee the capacity needed to deliver life-saving medicines during volatile times and reduce CO2 emissions by incorporating a SAF element into some trade lanes.

Breaking with convention:
While we were able to obtain SAF at a lower price point, it was not a financially responsible solution. Additionally, we learned that while the direct-to-carrier model had many advantages, it had some disadvantages, particularly regarding sustainability. As airlines were only buyers of SAF, they could not provide us with absolute assurances that the feedstock used to manufacture SAF was sourced sustainably. As a consequence, it was quickly apparent more needed to be done if we were to achieve our Circular for Zero ambitions while ensuring adherence to the highest sustainability principles.
Building on the direct-to-carrier model, we had to look deeper into the supply chain and explored the possibility of entering into direct agreements with SAF producers. We were however rejected by many SAF

producers because of the lack of precedent - after all, their customers were airlines, not pharmaceutical companies.

Direct-to-source partnership with a start-up:
A start-up, SkyNRG, was open to breaking with conventions and partnering with a corporate like Novo Nordisk. At the end of 2021, we reached a long-term agreement with this SkyNRG, making us among the first companies and the first healthcare company globally to pursue a direct-to-source strategy. The deal allowed us to purchase SAF at a competitive price while securing the necessary sustainability assurances. Further, the agreement will result in the construction of a new manufacturing facility for SAF, scheduled for completion in 2025. This agreement served two purposes - attracting the necessary funding needed to construct the facility and, once the facility was in operation, ensuring that SAF manufacturing costs would be covered. Besides advancing a vital industry, we are also reducing our CO2 emissions by effectively replacing 6.000 MT of fossil jet fuel with sustainable aviation fuel on the European market.
We should note that the SAF will not necessarily be pumped onto aircraft flying our products. This was, however, a deliberate act, as we wanted to be able to claim the maximum reduction in CO2 emissions. Since the SAF producer is located in the Netherlands, it wouldn't be practical to transport SAF to Copenhagen. Instead, the fuel will be injected into the airport tank farm closest to the SAF producer's facility.

In short:
By breaking with conventions, applying innovative procurement concepts and utilizing the supply chain disruptions caused by COVID-19 we have made significant progress towards reducing our emissions from our product distribution.
In turn, we have also secured vital funding for a nascent technology that will be essential to the green transition globally.
• The direct-to-carrier initiative has already reduced 4.000 ton CO2 annually
• The direct-to-source partnership with SkyNRG will reduce another 19.000 ton CO2 by 2025
• Our funding has ensured the construction of a new manufacturing facility for sustainable aviation fuel in The Netherlands, thus being able to accommodate future demand