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### IMPACT REPORT 2021

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## We are farmers at heart

We believe innovative aquaculture has the power to **transform** the way people **think**, **shop**, **cook**, and **eat** all over the world.

At Atlantic Sapphire, our vision is to **nourish** both people and planet with **sustainable, ocean-safe** seafood — and *we've brought that vision to life*.

Atlantic Sapphire's mission is to innovate fish farming locally to impact protein production globally. We are passionate about our work because we love our oceans, our planet, and the people that make it our home.

#### ATLANTIC SAPPHIRE.

#### IMPACT REPORT 2021

Company background



*Over the past decades*, aquaculture has greatly **contributed** to the **protection** of depleting wild stocks and is expected to continue to be a **significant contributor** in feeding the world's increasing population. However, there is much more to be done in **protecting** our **ecosystems** and, in particular, *our oceans*.

Atlantic Sapphire has become increasingly aware of the issues facing us, and we need to adapt to global changes and embrace new technologies as they become available to mitigate the negative impacts that our actions may have on our environment and society.







Zero Impact on our oceans

The conventional salmon industry faces numerous challenges. Sea-based farmed fish in net pens host diseases and parasites, including sea lice, requiring the use of pesticides or other prevention methods. Seabased farmed salmon can also escape into the surrounding wild waters, potentially in non-native regions, that may interfere with the local ocean ecosystem and the wild salmon. Fish waste dissipates untreated into the coastal areas.

Bluehouse technology eliminates all these issues.

Almost all sea-based farmed salmon starts its life in a landbased facility, spending up to half of its life there, before being transferred to a sea-based net pen or cage. An alternative is to keep the whole farming process on land, which is the idea behind the Bluehouse. By containing the salmon within our Bluehouses, Atlantic Sapphire eliminates the threats to wild fish stock and our own fish from sea lice, parasites, and other diseases being transferred, avoids untreated ish waste being emitted into coastal areas, and ensures that no microplastics, mercury, and other contaminants are present in the water.



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#### Zero Impact on our oceans

*Atlantic Sapphire* is actively looking into the development of alternative raw materials for our feed. In 2021 Atlantic Sapphire partnered with Veramaris to introduce **a novel algae oil** to replace 25% of the fish oil in our feed.

This means that we have lowered our marine ingredient consistently over time, resulting in a 0.75 feed fish inclusion factor ("FFIF") and making us a **net positive marine protein producer**. Having a sustainable EPA and DHA alternative to fish oil is critical in helping it achieve its ambition of having zero impact on the oceans.



We have a target to **remove all marine ingredients from our feed** by 2025. We will then be able to produce seafood without having any impact on the ocean and *zero of the contaminants coming from the ocean such as mercury, microplastics, PCBs, or dioxins.* 

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Zero Impact on our oceans



Climate change is one of the world's most pressing challenges. Food production plays a major part of the climate challenges and contributes to a significant amount of global greenhouse gas emissions.

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Carbon sequestration



Atlantic Sapphire is determined to support growth in seafood consumption as part of lowering the global carbon footprint of the food sector. By producing and selling fresh product 'in-market' and close to the end-consumer, Atlantic Sapphire avoids the cost and carbon footprint incurred of using airfreight transportation to reach the end-consumer. In 2021, no commercial shipment of our fish was made via airfreight. This is in line with our commitment to reduce our carbon footprint from transportation by supplying the US market from Miami, FL.

In addition, our operations are estimated to be sequestering carbon at an average rate of **128 tons per day** when US Phase 1 and 2 are both operational thanks to the **unique water environment** we're operating in. This makes us one of 10 locations in the U.S. currently participating in **carbon sequestration**.

We can do so by injecting our treated wastewater into the Boulder Zone of the lower Floridan Aquifer, located at a depth of nearly 3,000 feet underground. The Boulder Zone then acts as a storage zone and natural filter with a natural current that slowly filters the water over thousands of years until it eventually returns to the ocean as clean water, thus eliminating any wastewater impact on the ecosystem and removing tons of carbon dioxide from our atmosphere.

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Using **recirculating aquaculture systems** ("RAS") technology, our water is filtered before it re-enters into a tank system. **Over 99% of the water entering our tanks is recirculated and filtered**, which significantly limits our water consumption. Of all the water used, **under 5% is freshwater** and **over 95% is saline water which is not suitable for irrigation or human consumption**.



IMPACT REPORT 2021

Water management

Water Recirculation and Filtration: Water recirculation is continuously performed throughout the different farming areas and in independent systems to ensure optimal water quality for the fish, while de-risking operations.



Filtration is performed through both mechanical and biological filters. First, water is treated in mechanical filters ("drum filters") that capture the solids generated in the tanks, mainly feces and uneaten feed pellets. Water continues to circulate to biological filters ("biofilters") for the nitrification of the water, a process by which the ammonia generated by fish is converted into nitrite and nitrate in a two-step process.

In the future, it is our intention to invest in technology to con-vert all sludge generated in our Bluehouses into a resource such as agriculture fertilizer, soil amend-ment, or biogas energy.

#### Water Discharge:

Less than 1% of the total water that is sent through the filtration system is then discharged as non-toxic wastewater through the injection well and into the Boulder Zone of the lower Floridan Aquifer, located at a depth of nearly 3,000 feet underground. The Boulder Zone acts as a natural filter with a current that slowly filters the water over thousands of years until it returns to the ocean as clean water, eliminating any wastewater impact on the ecosystem.

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*The unique groundwater* resources of South Florida are well suited for Bluehouse farming at scale. A stable supply of fresh, brackish, and saline groundwater, along with a proven and **environmentally desirable method** for wastewater disposal, are critical elements.

In 2018, Atlantic Sapphire was granted a United States patent for its systems and methods of intensive recirculating aquaculture, incorporating the use of wells constructed for groundwater supply and wastewater disposal. Further, water consumption is comparatively much lower than other proteins, with Atlantic Sapphire stating a goal of 200 liters per kilogram of edible meat.





Water management

Farmed salmon has a low carbon and water footprint compared to other sources of protein such as meat production and **can contribute to a solution to the climate challenge**.

The Feed Conversion Ratio is an estimate of the amount of feed required to increase the animal's bodyweight by one kilogram. The table here shows that beef cattle hold the highest feed conversion rate, with an average ratio of eight, while in contrast an industry-average salmon needs only about 1.3 kilograms of feed to increase its bodyweight by one kilogram, making it a highly favorable conversion ratio. Feed conversion ratio of selected meat and fish worldwide (KG)





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#### IMPACT REPORT 2021

Feed conversion

Aquaculture's share of total fish supply will grow from approximately **46% in 2016** to approximately **53% in 2026** and salmon farming is expected to play *an important role in this development*.



Atlantic Sapphire has a limited *impact* on the local biodiversity in the locations where it operates due to its closed production method and efficient land occupation. For example, it can farm up to 1,000 tons annually of salmon on one acre of land, which is the highest yield per acre of animal protein in the world. Atlantic Sapphire believes it has a duty to find a balance between producing enough healthy proteins to feed the world and protecting the limited resources of the planet.

Atlantic Sapphire has a limited impact on the local biodiversity

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Feed conversion



Our commitment to sustainability starts with what we feed our salmon. Salmon feed is made from a variety of raw materials, including grains such as wheat and soy, and marine ingredients such as fishmeal and fish oil, which we are gradually phasing out.





Sustainably Sourced Feed Ingredients

Atlantic Sapphire chose to work with feed suppliers which fulfill the requirements of the MarinTrust, which is the international program for marine ingredient certification, in line with the FAO Code of Conduct for Responsible Fisheries. All the fish used in our feed comes from responsibly managed fisheries with well-regulated biomass stocks and with zero-tolerance policies against Illegal, Unreported, and Unregulated ("IUU") fishing and full traceability systems in place.

Another major area of focus in aquaculture feed production is the use of sustainably sourced soy. Atlantic Sapphire believes it is a joint responsibility for both feed suppliers and salmon farmers to uphold strict requirements in the selection of soy with a strong focus on minimizing and eliminating the risk of deforestation and with zero tolerance against forced labor.

The soy utilized by Skretting North America, our feed partner, is sourced using sustainability criteria and primarily comes from CJ Selecta, a company that is committed to the Amazon Soy Moratorium, an international agreement in support of protecting the Amazon biome by blocking the acquisition of grains from deforestation areas, together with the Brazilian Association of Grain Exporters ("ANEC") and the Brazilian Association of Vegetable Oil Industries ("ABIOVE").

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Sustainably Sourced Feed Ingredients

Skretting purchases credits from the Round Table on Responsible Soy ("RTRS credits") for all soy from Brazil and ensures suppliers meets their criteria for non-deforestation areas. CJ Selecta, Skretting's main soy supplier, has published a goal to stop entirely sourcing soybeans from the Amazon biome by 2022.



Our production combines both primary processing and secondary processing. The products produced are head-on gutted (HOG) salmon, fillets, and value-added products. The products are stored and transported to the end market at a temperature between 0 and 2 degrees Celsius.



IMPACT REPORT 2021

Atlantic Sapphire is committed to using sustainable packaging solutions across our operations. Atlantic Sapphire's main packaging material for HOG salmon and salmon fillets is expected to be made of fully recyclable or biodegradable material.

*Together with a sustainability-minded supplier*, we have developed boxes **using 90% cellulose fiber** and **will only use sustainable material such as vegetable ink** for prints. Inside every box, we anticipate there will be **a 100% biodegradable bag or liner** containing all fillets or HOG fish packed in bulk.







Recyclable packaging



*Atlantic Sapphire* uses the waste and byproducts from the Bluehouse **to minimize overall waste**. Currently the company is selling all byproducts from filleting **to pet food processors**.

In the future, all natural fish wastes continuously filtered from Bluehouse waters will be processed *for reuse as an energy source, biogas, or fertilizer.* 





#### IMPACT REPORT 2021

Circular economy

Our facility in Denmark exported sludge generated from farming operations to a biogas facility **that uses it to produce energy**. We continue to monitor energy consumption closely, and to determine the origin and amount of renewable energy used in our operations.

Atlantic Sapphire is excited to form relationships **with traditional agriculture partners** who can benefit from upcycled fish wastes. Fish trimmings and byproducts will be processed into **fish oils and protein powders**.







Circular economy



Atlantic Sapphire seeks to create prosperity for the business, investors, buyers, suppliers, and its employees. Atlantic Sapphire contributes economic value to the local societies and communities where it operates and to the business partners it transacts with.



IMPACT REPORT 2021

Local job creation

Atlantic Sapphire's most obvious and direct contributions to driving prosperity and economic growth are its job creation and its payments to employees, suppliers, distributors, authorities, and financial partners. The company **aims to provide** *more high-quality jobs in the rural areas where it operates*.



Atlantic Sapphire hires local and empowers local business partners whenever possible. Some of our marketing agencies are local to the Florida market and are women owned. Atlantic Sapphire is sponsoring work permits for approximately 10% of our workforce, a number lower than our original target of 30%, which implies a positive local impact from our ability to source talent locally at a higher extent than originally targeted.



ATLANTIC SAPPHIRE.

#### IMPACT REPORT 2021

Local job creation



Atlantic Sapphire's primary investment in 2020 and 2021 has been the Phase 1 construction of its Miami Bluehouse facility in Homestead, Florida, and the construction of the Phase 2 expansion with started in Q2 2021. Its indirect economic impacts include investment in building the infrastructure leading to its production facilities, including roads and new power lines build in cooperation with the power company.



According to an independent assessment conducted by The Washington Economics Group, Inc., Atlantic Sapphire's business plans are estimated to generate direct, indirect, and induced employment of over 3,500 jobs for Miami-Dade County and the State of Florida by 2021.

ATLANTIC SAPPHIRE.

### IMPACT REPORT 2021

Local job creation



Salmon has become a sought-after product as consumers increasingly demand more healthy, delicious, and sustainable protein options. The health benefits of Atlantic salmon are widely documented and include richness in Omega-3s, proteins, and essential vitamins (A, D, and B-12).

Thanks to its high level of Omega-3s, our fish has received the American Heart Association's "Heart Check" certification and our Miami Bluehouse location in Florida paves a path to a locally produced and healthier diet for American consumers.





#### IMPACT REPORT 2021

Healthier for people

Another meaningful product attribute to consumers across all segments is the fact that our Bluehouse Salmon is raised completely in closed water containment which means less contaminants such as micro plastics and **no need for the use antibiotics or pesticides** at any point during its life. Our Bluehouse Salmon is not exposed to viruses, diseases, or parasites that exist in the wild because our water source comes straight from artesian aquifers which have not been exposed to any man-made contamination. Additionally, all ova supplied to Atlantic Sapphire meet the criteria of "no genetic engineering involved" under the terms of the EU regulations. *Atlantic Sapphire is committed to never using genetically modified ova in its production.*  Omega 3s powered by algae



No Antibiotics ever

Our fish swim in pure aquifer water free of



Mercury





Although the USDA has been planning to develop an **organic certification standard for seafood**, such a standard has yet to be formalized in the United States. Nonetheless, Atlantic Sapphire believes that our fish is one of the **cleanest seafood options available** thanks to our on shore closed containment technology and we will be working with the authorities as an organic framework for seafood is being put in place in the years to come.

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IMPACT REPORT 2021

Healthier for people







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Thank you!