Fish-Farming As A New Offshore Business Expansion

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March 1946: Tonawanda, CA (19328 tons raw oil)
March 1978: Amoco Cadiz (723,300 tons raw oil)
June 1979: Torrey Canyon (of, 5484 tons raw oil)
March 1992: Gulf War, Iraq (2.8 Million tons raw oil)
October 1999: PELLEAS, (110,000 tons heavy oil)
December 1999: Eriska, (17,000 tons heavy oil)
November 2002: Prestige, (21,000 tons heavy oil)
April 2010: Deepwater Horizon (4,200,000 tons heavy oil)

Consolidated data about the growing fish consumption associated with the environmental impacts in a timeline of 50 years.

Industrial Fish-Farming is an Economical Alignment Industry

Closed Containment Fish-Farming has a lot of Benefits & Public Support

Closed fresh water containment offers sustainable products.

But is it sustainable for the fish, the human and the environment?

Because of the growing pollution inside our international waters, fish and fish products contain high amounts of pollutants. The toxic pollutants that have been found in high amounts - among independent research - are polychlorinated biphenyls (PCBs) and heavy metals. PCBs are toxic to all aquatic life, influence development of the present generation of POPs (Pesticides, Organic solvents, Dioxin/polych- durates, and the most toxic substances, that ever have been developed. Only minor amounts of PCBs are leading to cancer, deformities at fish animals and their descendants.

Cage Farming is a proofed industrial process technology for economic business, but it is a risk for the balance of the ecological environmental nearshore.

Integrated Fish-Farming could be the future of a new phase in the offshore wind industry (OWI), because fish production itself already represents the fastest growing food system in the world. To increase the numbers of the CAPEX (capital expenditures) and OPEX (operating expenditures) for offshore wind projects, several parties, different stake holders and industries have to consolidate. With an integrated sustainable Fish-Farming business concept it is not only possible to reduce costs - using synergies of the different industries - it is even more important to use the advantage of each industry, in order to raise the ecological and environmental friendly acting. The aim of the Poster is to highlight the existing technologies of Fish-Farming and to show the pros and cons of the different systems. The existing Fish-Farming technologies on- and offshore are illustrated, finally showing the advantage of the integration in offshore wind projects. To reduce costs and protect the environment, we show that the goal of the OWI could be to expand the business model, combining the interests of each party. Cost cutting solely is no longer the solution to sustainable profitability. The key to success is finding creative ways to establish new synergies-driven, environmental friendly offshore services. As a result the existing Fish-Farming technologies are combined with the environmental impacts of the last 50 years. The goal is to show that existing Fish-Farming technologies could be a factor to improve the business models of the OWI, helping to protect the environment. Key aspects of the different influences on the environment are analysed for the OWI.

If our generation wants to preserve and protect a healthy sustainable and natural fish food production, we have to change our thinking towards resource based cooperation of our industries. It is expected to be useful for the increasing OWI to use and protect the natural biological infrastructure in the waters with consolidated projects, which not only lead to ruthless exploitation of the waters. Solutions for offshore farming like the closed containment fish-farming are created in fear of toxic and chemical biological pollution. It is a fact that for the last 25 years the most fish species have been terminated by human pollution and overfishing. As one advantage of the growing OWI, the biological sphere now got the chance for regeneration in offshore windmills. So the OWI Fish-Farming could be a chance for regeneration of destroyed fish species like salmon. Currently the salmon farming is making a lot of trouble. In an aquaculture within the size of 9 acres, 15,000 tons of salmon can be produced. The process creates as much garbage as a city with 450,000 people living in it, in the same period. According to the ‘Food and Agriculture Organization’ of the United Nations, 65 percent of the 40 million tons of farmed fish is farmed in Norway. Fish-Farming becomes ineffective and highly polluting. Reports of toxic waters in several fjords of Norway, in which Fish-Farming is the root cause, increased recently. Usually aquaculture is fed with fishmeal. Worldwide the fishmeal industry uses a quarter of the fish production, more than 80 % of the fishmeal production is fed in aquaculture.

Closed containment is the only solution for the future. Even with this high energy consumption and waste of land. If we are not change the way of thinking towards innovative and synergy-driven methods, like offshore-Fish-Farming. The OWI has a responsibility to protect a healthy environment, to preserve the clearness of the waters and the animals and plants living in it. The environment of the waters is still a self-regulated repairing system, but we have to investigate and highly reduce our industrial pollution, to support and increase the self-healing process of the environment. New ecological systems in offshore windmills are growing over the last years to a stable healthy biosphere as a result of the fact that fishing is prohibited. Therefore the basement structure of a Wind power unit is perfectly designed as an artificial reef and possible main-subsidies for OWI Fish-farming. Offshore Fish-Farming not only has a future with a step towards biological regeneration of the oceans and toxic free feeding, in order to protect biological diversity. This will even open the OWI, generating an Offshore Wind-friendly public opinion.

References


CLOSED CONTAINMENT SALMON AQUACULTURE Report of the Standing Committee on Fisheries and Oceans

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