The Natural Ice Factory at Røsneshamn, Norway: How to Compete with Big-Tech by Using Nature

Ingo K. Heidbrink

Summary

Since the 1880s the main preservation method onboard European fishing trawlers was ice manufactured in the fishing ports with mechanized technology based on direct or indirect use of fossil fuels. In 1929 the Norwegian entrepreneur Harald Berg opened a large-scale natural ice factory in northern Norway and challenged the artificial ice producers by providing natural ice to the trawlers, a sustainable and renewable resource. In response, the artificial ice producers tried to discredit natural ice as polluted, unhealthy, and not acceptable for food preservation, with a German district veterinarian at the fishing port of Geestemuende supporting this effort. After several local and Reich authorities became involved, the *Reichskuratorium für Technik in der Landwirtschaft* conducted an on-site study in Norway in 1936 that stated that there was absolutely no pollution or food safety/health concern and that the ice was safe to be used onboard the trawlers. In the end, the whole campaign by the artificial ice producers in Geestemünde needs to be understood as a campaign of a fossil fuel-based industry to push a competitor out of the market—a competitor who had found a way to manufacture an identical product in a sustainable and renewable way.

Each time when a European trawler left her home port and headed for far-distant fishing grounds in the North Atlantic up to World War II, it was equipped with fishing gear, spare materials, and food supplies, but not least with coal and ice. The coal was the fuel for whole operation and ice was the means for preserving the catches. The volume of ice required for a three-week trip could easily amount to 80 tonnes and all ice was taken on board prior to the beginning of the trip.

From about 1910 onwards, nearly all the ice for the trawlers was manufactured by fossil fuel-powered ice works. Natural ice produced in the winter at ice ponds in the fishing ports or imported to these ports was a thing of the past and industrialized and mechanized artificial production had taken over despite the substantial energy demands of the new ice works.

Local natural ice production at places like Bremerhaven or Cuxhaven was unreliable due to often mild average winter temperatures and importing natural ice required transportation and storage. As the ice was traded in blocks it also needed to be crushed before it could be used in the fisheries. Furthermore, artificial ice was manufactured year-round in a controlled process while natural ice could only be harvested in the winter and if cut in the wrong places could be contaminated with various bacteria.

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Aerial photograph of the natural ice factory in Røsneshamn, c. 1936.

Photograph by Fjellanger Widerøe, c. 1936.
Courtesy of Perspektivet Museum, Norway.

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This situation changed when Harald Berg, a Norwegian entrepreneur in Tromsø, figured out that natural ice production could again provide a business opportunity and established a new large natural ice factory in 1929 a little north of Tromsø at Røsneshamn that specialized in providing ice to foreign trawlers. Contrary to the parallel experiments with deep-freezing fish, the new natural ice factory required only small upfront investments and labor was easily available for little cost due to the lack of employment opportunities in northern Norway.

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Harald Berg (1881–1951)

Unknown photographer, n.d.
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The Røsneshamn factory was located between a lake and an anchorage for trawlers and consisted of a huge warehouse with a capacity of more than 25,000 tonnes for the ice that was cut at the lake, a system of wooden slides between the lake, the warehouse, the pier, and an ice crushing mill at the pier, as well as barracks for the workers and a small diesel power station to provide the electricity for some conveyors and the crushing mill. Basically, it was the same design as previously used for many smaller ice factories when Norway was a major exporter of natural ice to countries like the United Kingdom, France, Belgium, and Germany prior to the invention of artificial ice production. The main differences with these earlier factories were the ice crushing mill that allowed for the direct delivery of crushed ice as needed for the preservation of catch onboard the trawlers and the factory's location close to some of the most important fishing grounds.

The factory became a success: for example, 83 trawlers bunkered ice in Røsneshamn in the month of November 1932 alone.

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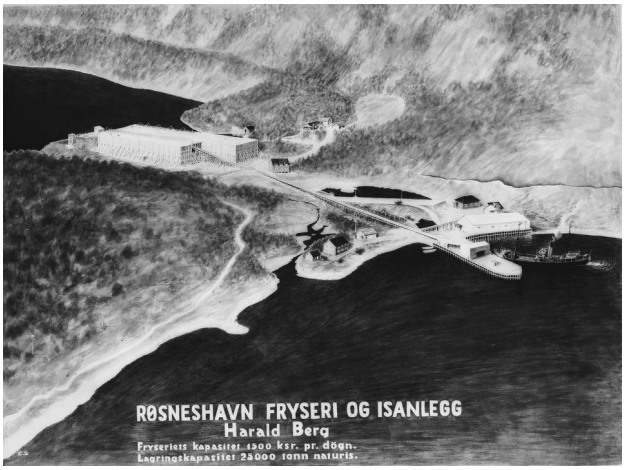
While the story of the factory is interesting enough in itself, it is even more interesting to see how artificial ice producers at German fishing ports responded to the opening of the factory in Røsneshamn given its size and its potential to completely take over the ice supplies for the trawlers. Of course, the new natural ice factory was a direct competitor to their business and as the Røsneshamn factory did not need fossil fuels and large-scale upfront investments to produce ice, but simply relied on winter temperatures, production costs of ice were significantly lower than at the artificial ice works at the ports around the North Sea. In addition, there was a surplus of labor in northern Norway, so that cutting the ice at the lake could be done for very reasonable expenses.



PR material for Harald Berg's ice operations in the Tromsø region.

Illustration by Anders Beer Wilse, 1939.
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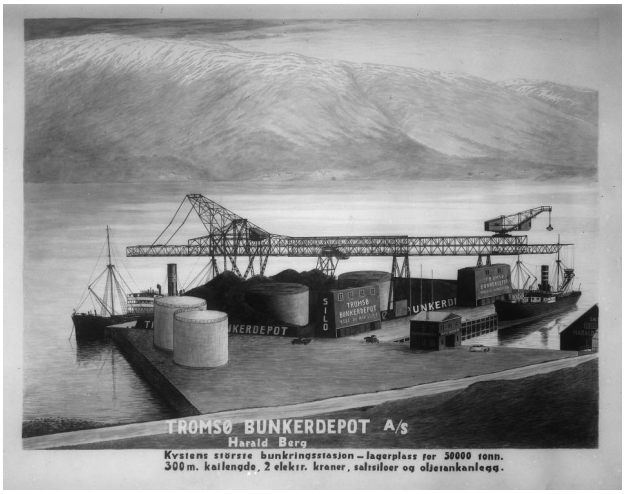

PR material for Harald Berg's coal operations.

Illustration by Anders Beer Wilse, c. 1940–1949.
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Therefore, the German ice producers employed a tactic of maligning natural ice as a potential risk for food safety, and the chief district veterinarian in Geestemünde seemed eager to help with the campaign to discredit the unexpected competitor. After going back and forth between a wide variety of administrative offices at all levels up to the Reich Ministry of the Interior, the *Reichskuratorium für Technik in der Landwirtschaft*, an advisory body to the Reich Ministry of Food and Agriculture, organized a research trip to northern Norway and specifically to the natural ice plants in the Tromsø region in summer 1936. The results were absolutely clear and confirmed that there was no pollution issue with the ice produced at Røsneshamn and that it could be used onboard trawlers. For the time remaining until the outbreak of World War II German trawlers operating in the Barents Sea continued using the Røsneshamn ice factory.

From an analytical environmental history perspective, the Røsneshamn ice factory is a perfect example of how a

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traditional production process based on a renewable resource could reemerge and compete with fossil-fuel-powered production methods. Furthermore, it shows how a technology that was considered completely outdated could compete with a highly technicized process, given that the right location was used and the size of the operation was large enough. Furthermore, it is a perfect example of how a technicized industry blamed its closer-to-nature competitor for producing products of lesser quality, polluted and unsanitary, and how even public institutions like a district veterinary clinic became complicit.

Further readings:

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Related links:

- The Last Ice Age: Norsk Maritimt Museum
  https://marmuseum.no/en/the-last-ice-age

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Ingo Heidbrink is professor of history at Old Dominion University in Norfolk, VA. A social and economic historian by training, he focuses mainly on fisheries and whaling history and the history of polar regions. After his studies in Hamburg and Bremen he worked with maritime museums in Germany and taught at the University of Bremen before moving to the United States in 2008. He taught two terms at Ilisimatusarfik, the University of Greenland, was a fellow at the Hanse-Wissenschaftskolleg Institute for Advanced Study (HWK), and a Carson Fellow at the Rachel Carson Center for Environment and Society (RCC) in Munich. He is president of the International Maritime History Association (IMHA).
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