

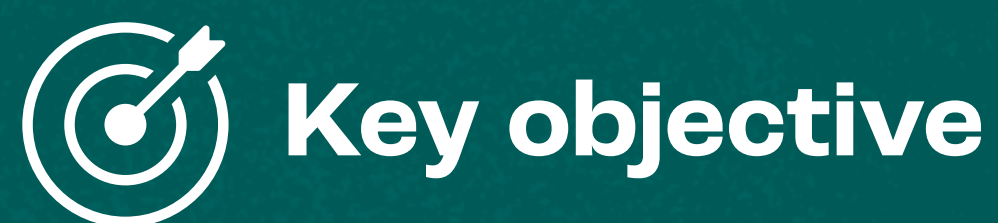
# Case Study: Seafresh

Carbon reductions  
at processing site



# Objective and approach

At their site in Thailand, Seafresh have focused on reducing their operational costs by installing solar panels and replacing their biomass boiler. In turn, they have reduced the carbon footprint of the Vannamei shrimp they produce.



**Reduce carbon footprint**  
at site level and of final retail  
product (cooked shrimp)



**Reduce operational costs**  
at Seafresh processing site



Installation  
of solar panels

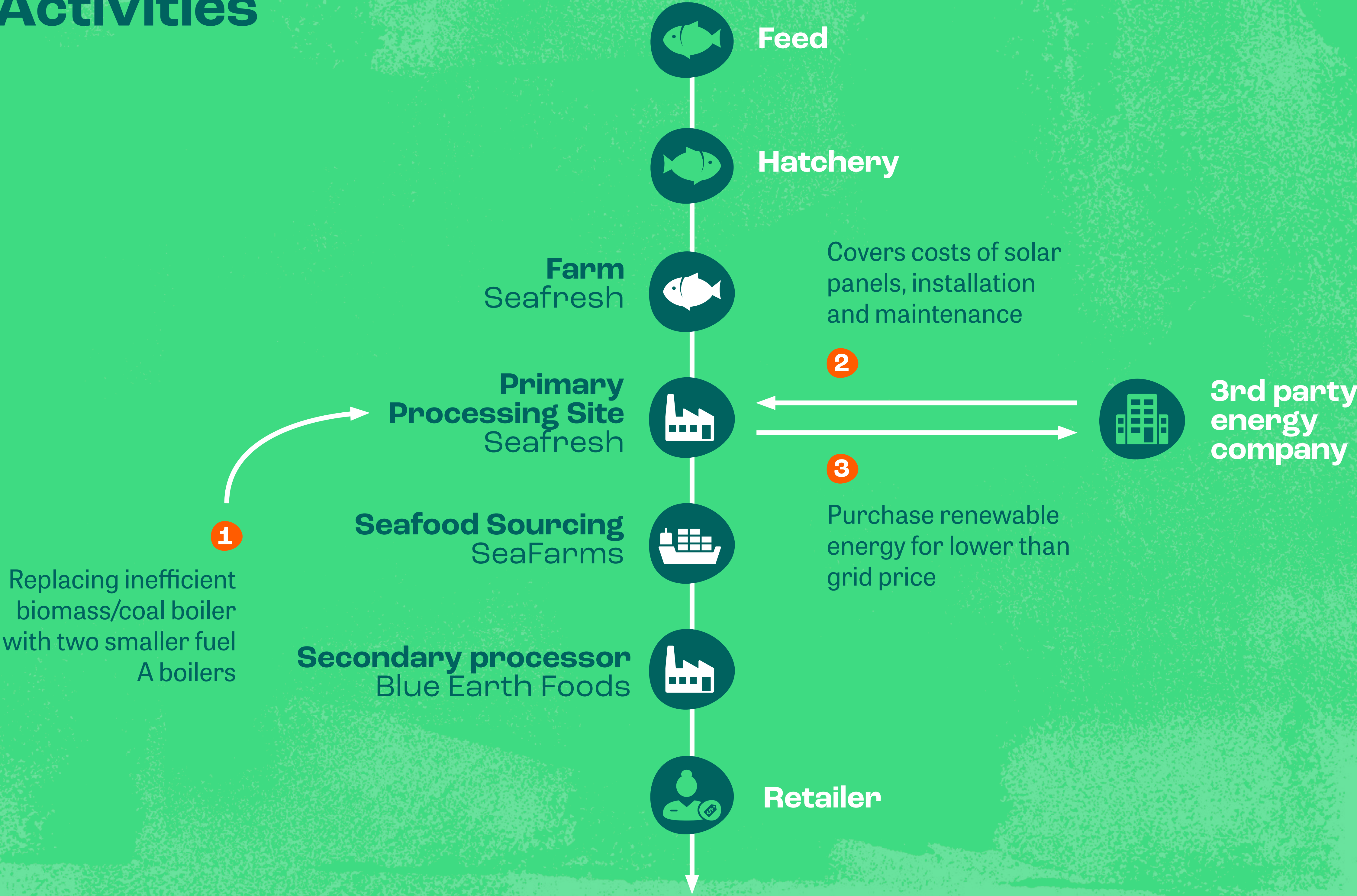


Replacing biomass/coal  
boiler with  
two fuel A boilers





Status:  
Completed

# Activities



# Greenhouse Gas Emissions

	Before intervention	After intervention	Emission reduction
 <b>Total emissions at processing site</b>	<b>8,536,000</b> kg CO <sub>2</sub> e	<b>4,769,000</b> kg CO <sub>2</sub> e	<b>-44.1%</b>
 <b>Emissions per kg product at retail</b>	<b>13.5</b> kg CO <sub>2</sub> e / kg product	<b>13.0</b> kg CO <sub>2</sub> e / kg product	<b>-3.7%</b>

## Detailed emission data

Activity	Energy Reductions (annual)	GHG emission reductions (annual)
Solar panels	2,511,340 kWh	1,255,000 kg CO <sub>2</sub> e
Boiler replacement*	4,491,143 kWh	2,512,000 kg CO <sub>2</sub> e

\* Estimate derived from primary data as the boilers have not yet been in place for a full year.

# Costs and Benefits

	Total investment costs	Annual savings	Break-even of investment	Cost per carbon reduction unit*
<b>Boilers</b>	<b>153,881</b> USD	<b>26,997</b> USD/year	<b>5.7 years</b> year	<b>-0.0046</b> USD/kg CO2e
<b>Solar panels</b>	<b>0</b> The energy company took up all investment costs for the solar panels	<b>95,913</b> USD/year Fixed prices for solar energy are lower than grid prices	<b>N/A</b>	<b>-0.076</b> USD/kg CO2e

\*Estimates based on actual data

# Reflections



## Internal processes

- Our strategy was to focus on the 'low hanging fruit', i.e. the primary processing stage – as a way to build buy-in within the company and wider industry and start the process of reducing our footprint.
- Incentivised by the need to bring down energy costs, the Board engaged with a third-party energy company.
- The old biomass boiler presented challenges in biomass supply and an inability to run at a reduced capacity.
- Internal buy-in and mobilisation of Capex was based on demonstrating the dual benefits of carbon reductions and operational savings.



## Challenges

Delays in receiving new boilers from manufacturers.



## Learnings

- Reductions in emissions often leads to reduced costs.
- If capital expenditure is a challenge, the third-party solar array model is a good option. Seafresh has now started a second solar project based on the success of the first.
- Increased efficiency is key in reducing emissions - boiler output can now be tailored to production needs.