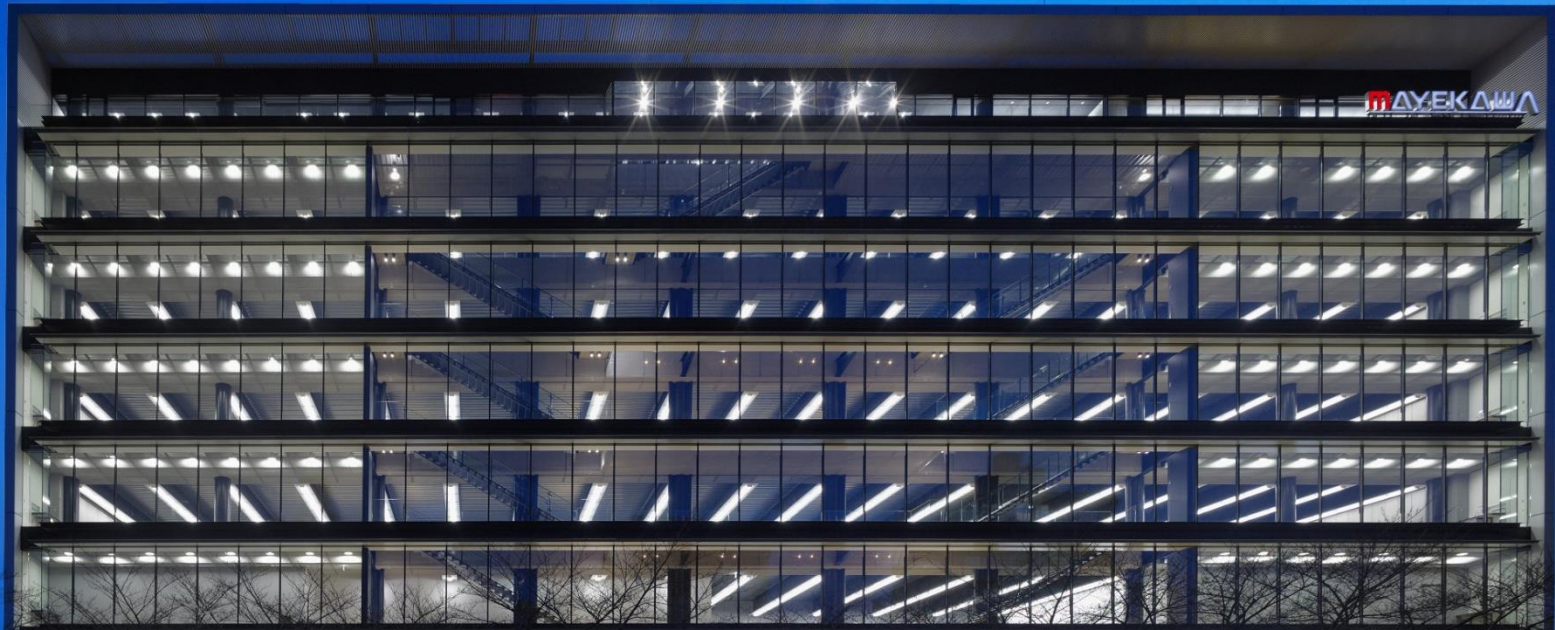


# Energy Efficient Refrigerants for Cold Chain Industry

**PT Mayekawa Indonesia**

**Anggie Dwiyana Putri**



# Company Profile



**MAYEKAWA MFG. CO., LTD.**

**Founded:** Since 1924 (in Tokyo, Japan.)

**Corporate offices :** 3-14-15 Botan, Koto-ku, Tokyo 135-8482, Japan

**Established in 1924**

**Capital :** 1 billion yen

**Employees:** 4562 (31/12/2016 , including group companies.)

**President :** Shin Maekawa

Promotion of  
energy efficiency  
in Indonesia



PT. Adib Global Food  
Supplies

## **National Master Plan for Energy Conservation (RIKEN)**

### **Promoting energy efficiency**

To reduce energy consumption in various fields, e.g. factory, commercial, transportation, housing, etc.

## **PT. Adib Global Food Supplies**


**demand to create cold chain network to cover the growing market of frozen food due to economic growth.**

Constructing cold storage for keeping frozen food.



**Building the cold chain network with energy efficiency solution**

# 1. The history and background of this project

<b>Project Name</b> Adopting high efficiency cooling system for cold storage Adopting high efficiency cooling system for quick freezing facility in fish processing plant		Host country: <b>INDONESIA</b>
Representative company MAYEKAWA MFG. CO., LTD.	Cooperating company PT. Adib Global Food Supplies PT. Mayekawa Indonesia	
<div data-bbox="79 516 1105 1192" data-label="Image"></div> <div data-bbox="1145 556 1827 778" data-label="Text"><p>Using two stage screw compressor, with high quality screw rotor and IPM motor, to implement an efficient cooling system for cold storage and quick freezing facility.</p></div> <div data-bbox="1145 819 1678 908" data-label="Text"><p>By using natural refrigerant (ammonia and CO2)</p></div> <div data-bbox="1145 909 1756 1086" data-label="List-Group"><ul style="list-style-type: none"><li>• Energy efficiency, non Freon refrigerant</li><li>• Reduce the emission of greenhouse effect gas</li></ul></div>		
Object for CO2 reduction Reduction of power consumption	Reduction target of greenhouse effect gas <b>165 t-CO2/Year</b>	

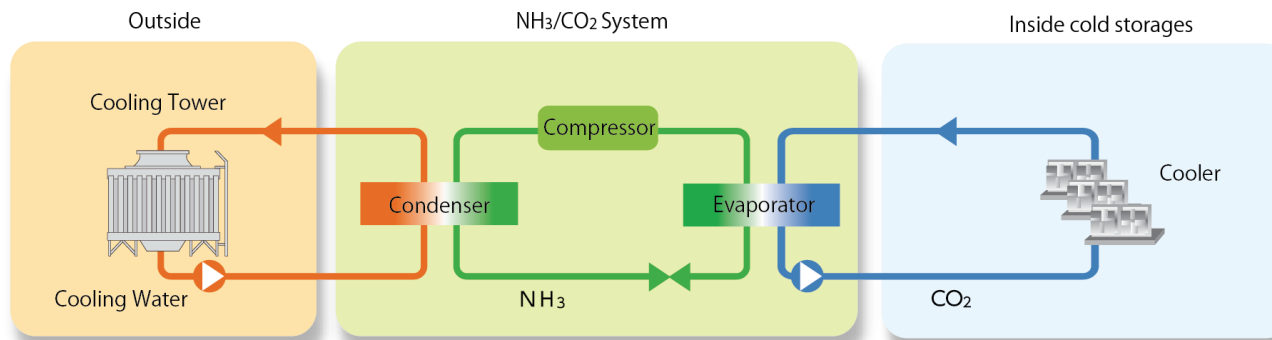


## 2. Project Outline

**Project site 1:** PT. Adib Global Food Supplies / Bekasi plant  
*Adopting high efficiency cooling system for cold storage*



Technology applied

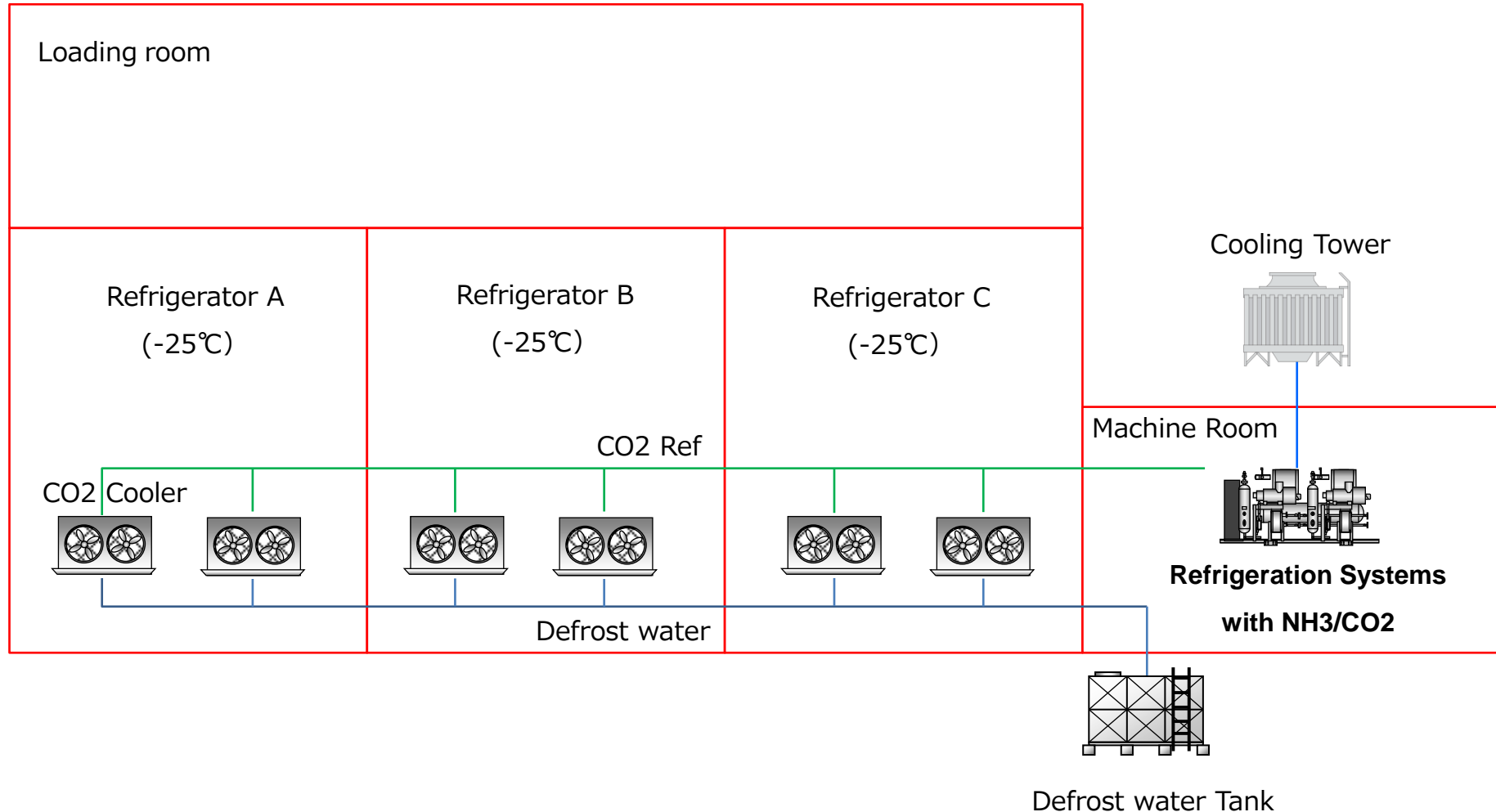


High efficiency  
Cooling system



## 2. Project Outline

**Project site 1:** PT. Adib Global Food Supplies / Bekasi plant  
Adopting high efficiency cooling system for cold storage

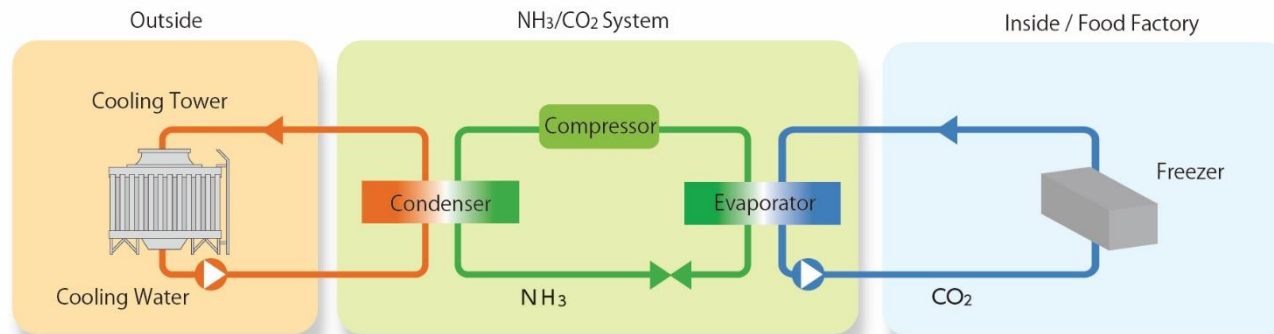


## 2. Project Outline

**Project site 2:** PT. Adib Global Food Supplies / Karawang plant  
Adopting high efficiency cooling system for quick freezing facility in fish processing plant



### Technology applied

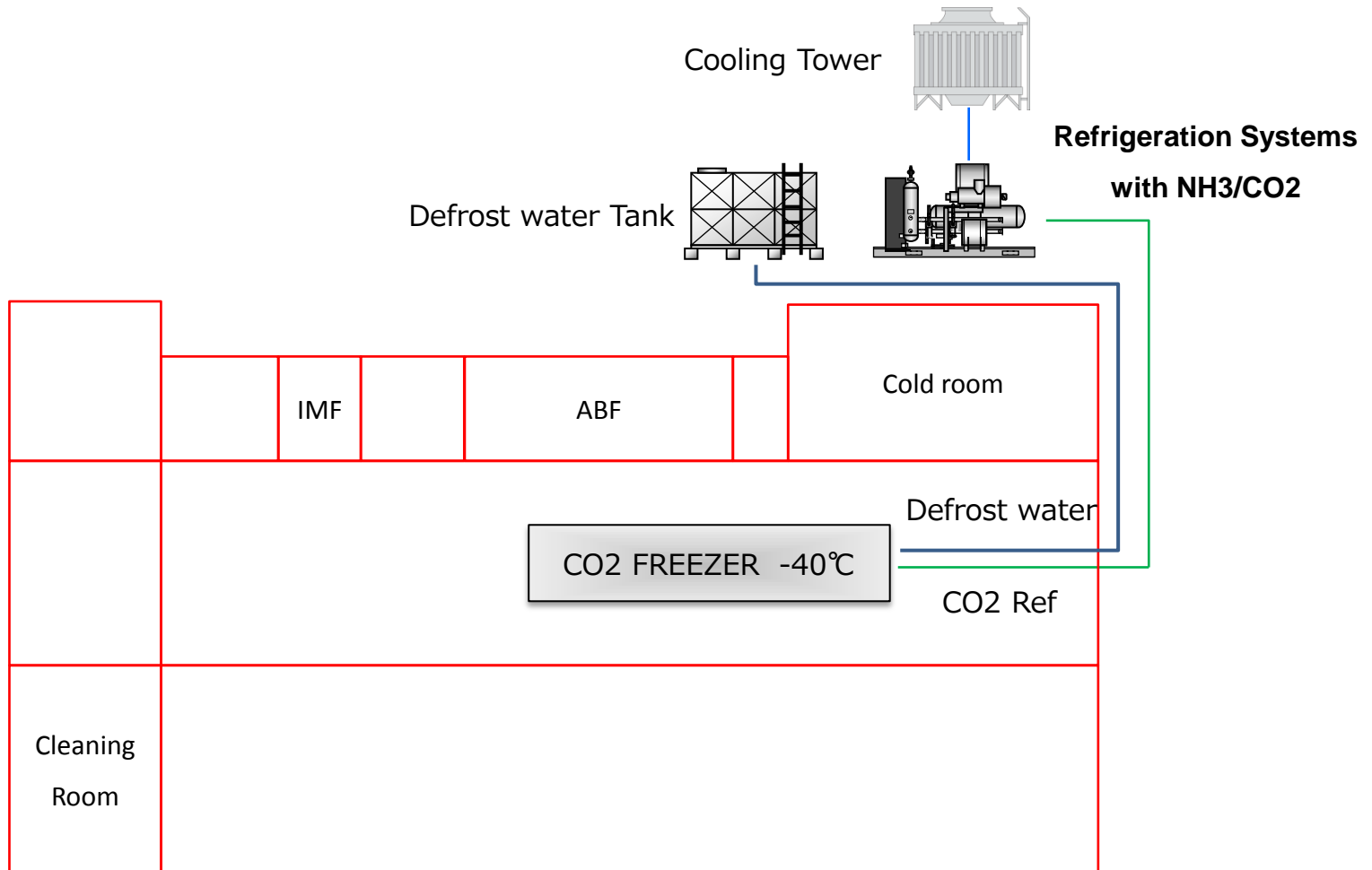


### Thermo-Jack Freezer



## 2. Project Outline

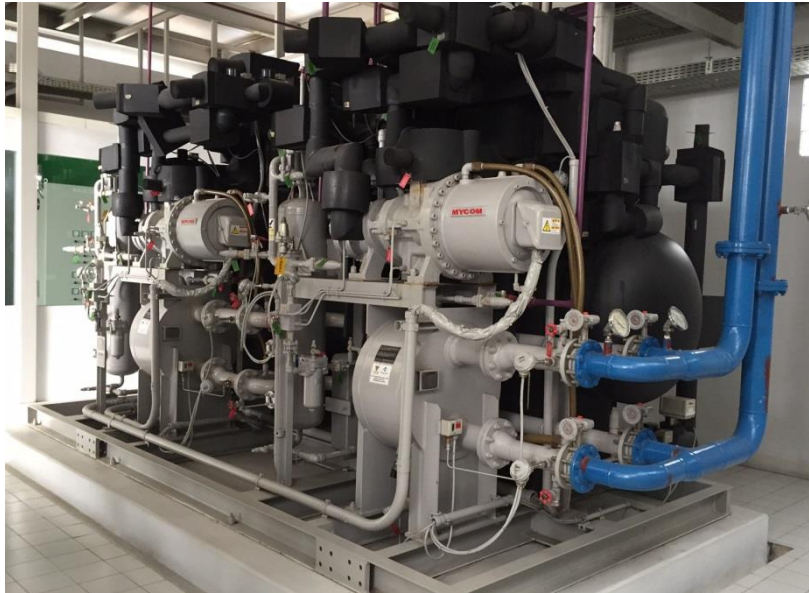
**Project site 2:** PT. Adib Global Food Supplies / Karawang plant  
Adopting high efficiency cooling system for quick freezing facility in fish processing plant





## 2. Project Result

**Project site 1**  
*Cold storage (NewTon R-6000)*



**Project site 2**  
*Quick freezing system (NewTon F-300)*



	Newton R-6000	Newton F-300
Cooling Temperature	-25℃	-35℃
Cooling Capacity	189 Kw	70 Kw
Power Consumption	86 Kw	43 Kw
COP (Coefficient of Performance)	2.2	1.6
Refrigerant	NH3 + CO2	NH3 + CO2
Remarks	Inverter Drive	

### 3. Project Progress and Future Schedule

#### Credit Issue Status

April 22<sup>nd</sup>, 2016

Project Name	Project Outline	Observation time for Credit Issue	Credit Issue (tCO <sub>2</sub> )	Credit Issue for Japan Government (tCO <sub>2</sub> )
Adopting high efficiency cooling system for cold storage	Adoption of high efficiency compressor for <b>cold storage</b> .  The use of natural refrigerant - Energy efficient, non-Freon refrigeration system - Reducing the emission of greenhouse effect gas	<u>Feb. 2<sup>nd</sup>, 2015~</u> <u>July 31<sup>st</sup>, 2015</u>  <i>(6 months)</i>	29	20 (Approx. 69%)
Adopting high efficiency cooling system for quick freezing facility in fish processing plant	Adoption of high efficiency compressor for <b>quick freezing facility</b>  The use of natural refrigerant - Energy efficient, non-Freon refrigeration system - Reducing the emission of greenhouse effect gas	<u>Feb. 2<sup>nd</sup>, 2015~</u> <u>July 31<sup>st</sup>, 2015</u>  <i>(6 months)</i>	11	7 (Approx. 64%)
			40	27 (Approx. 68%)