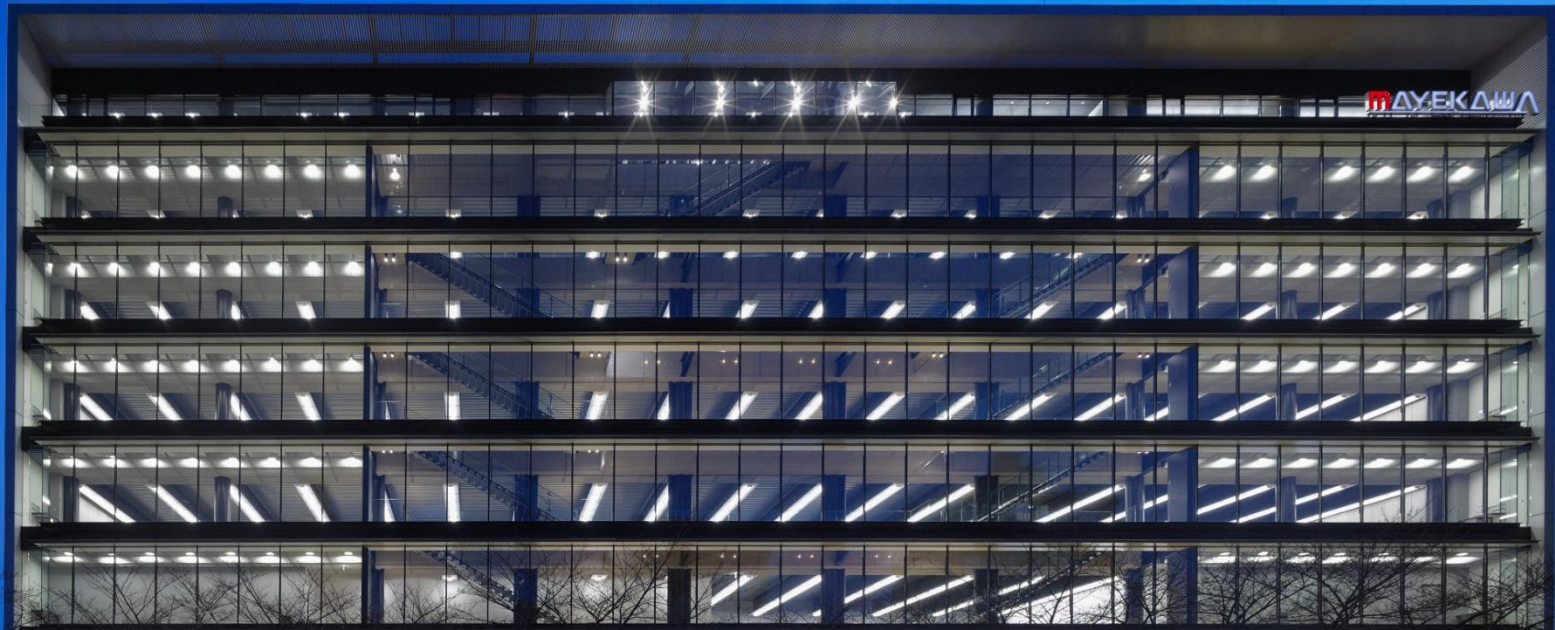


# Energy Efficient Refrigerants for Cold Chain Industry

**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**

**demanding 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

## Project Name

Adopting high efficiency cooling system for cold storage

Adopting high efficiency cooling system for quick freezing facility in fish processing plant

Host country:  
**INDONESIA**

## Representative company

MAYEKAWA MFG. CO., LTD.

## Cooperating company

PT. Adib Global Food Supplies

PT. Mayekawa Indonesia



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.

By using natural refrigerant (ammonia and CO2)

- Energy efficiency, non Freon refrigerant
- Reduce the emission of greenhouse effect gas

## Object for CO2 reduction

Reduction of power consumption

## Reduction target of greenhouse effect gas

**165 t-CO2/Year**

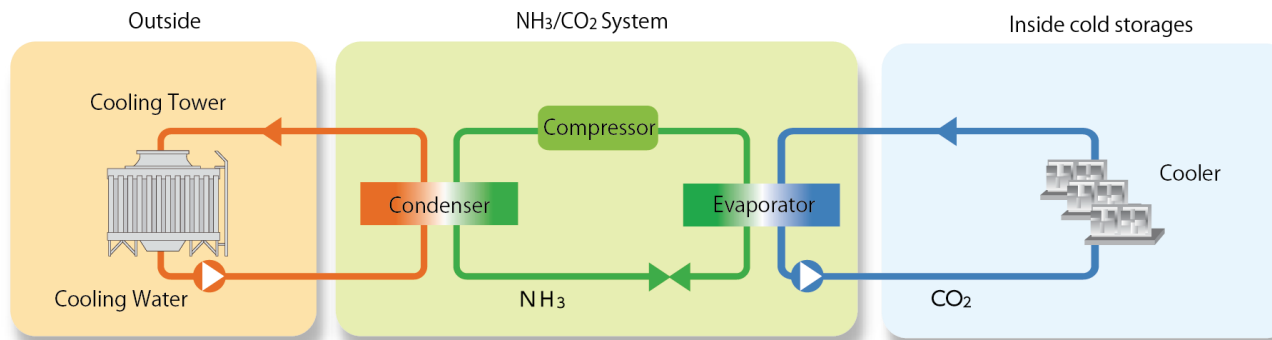


## 2. Project Outline

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



Technology applied

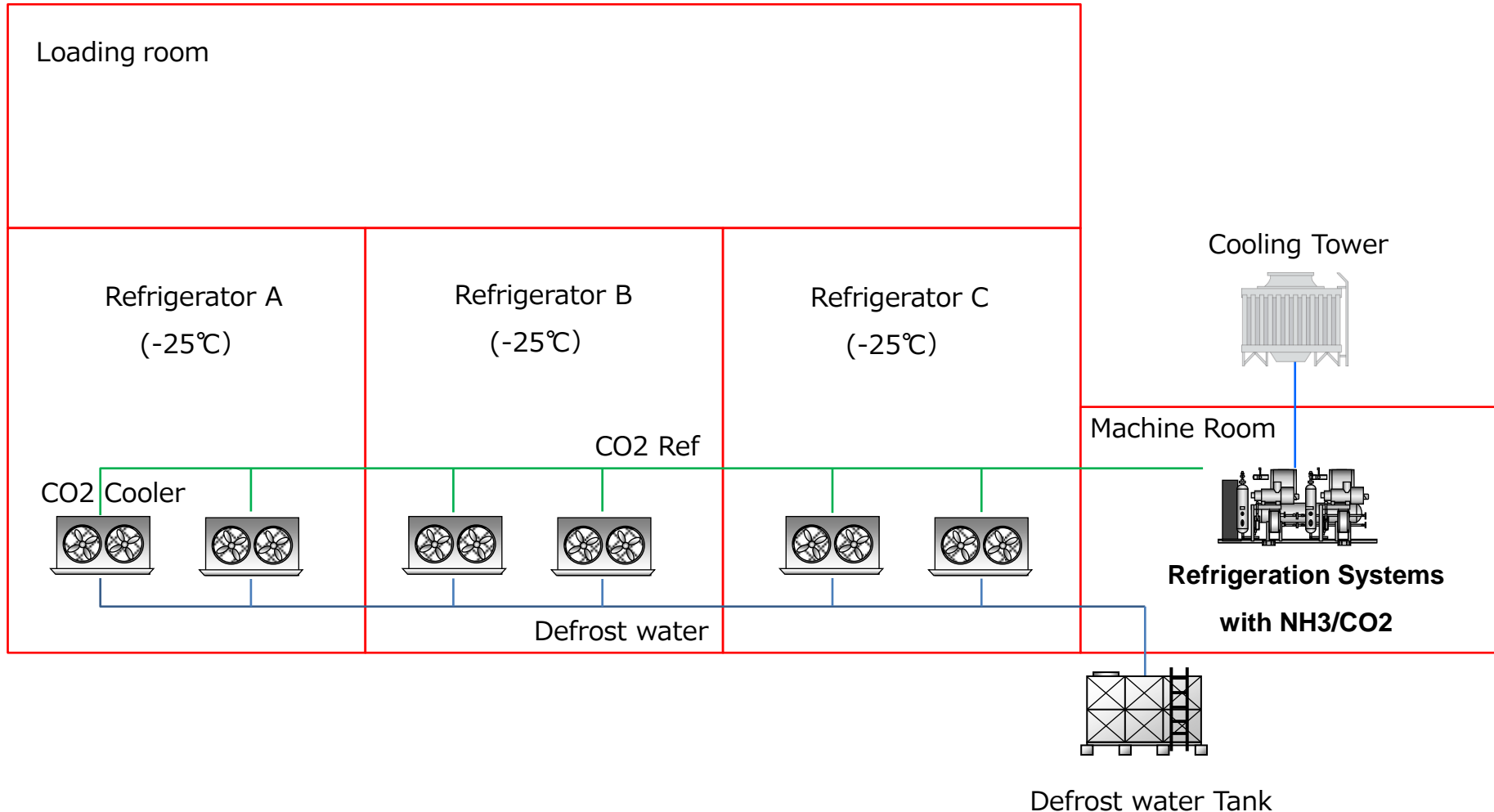


High efficiency  
Cooling system



## 2. Project Outline

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

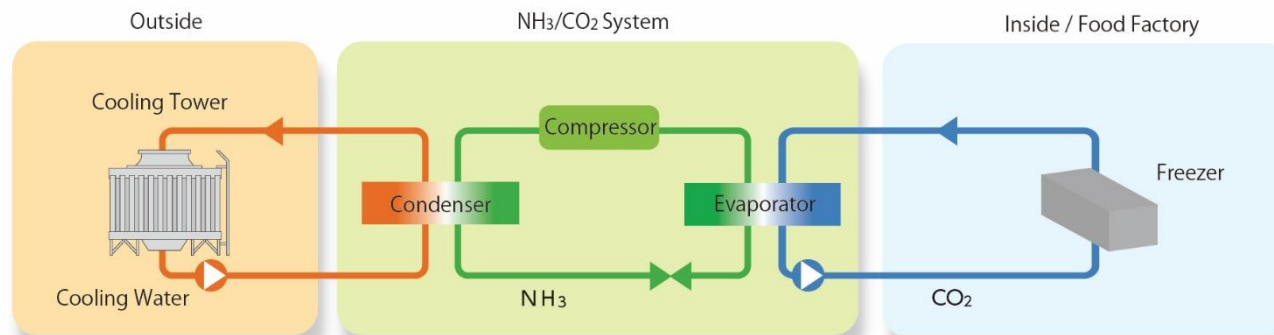


## 2. Project Outline

**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

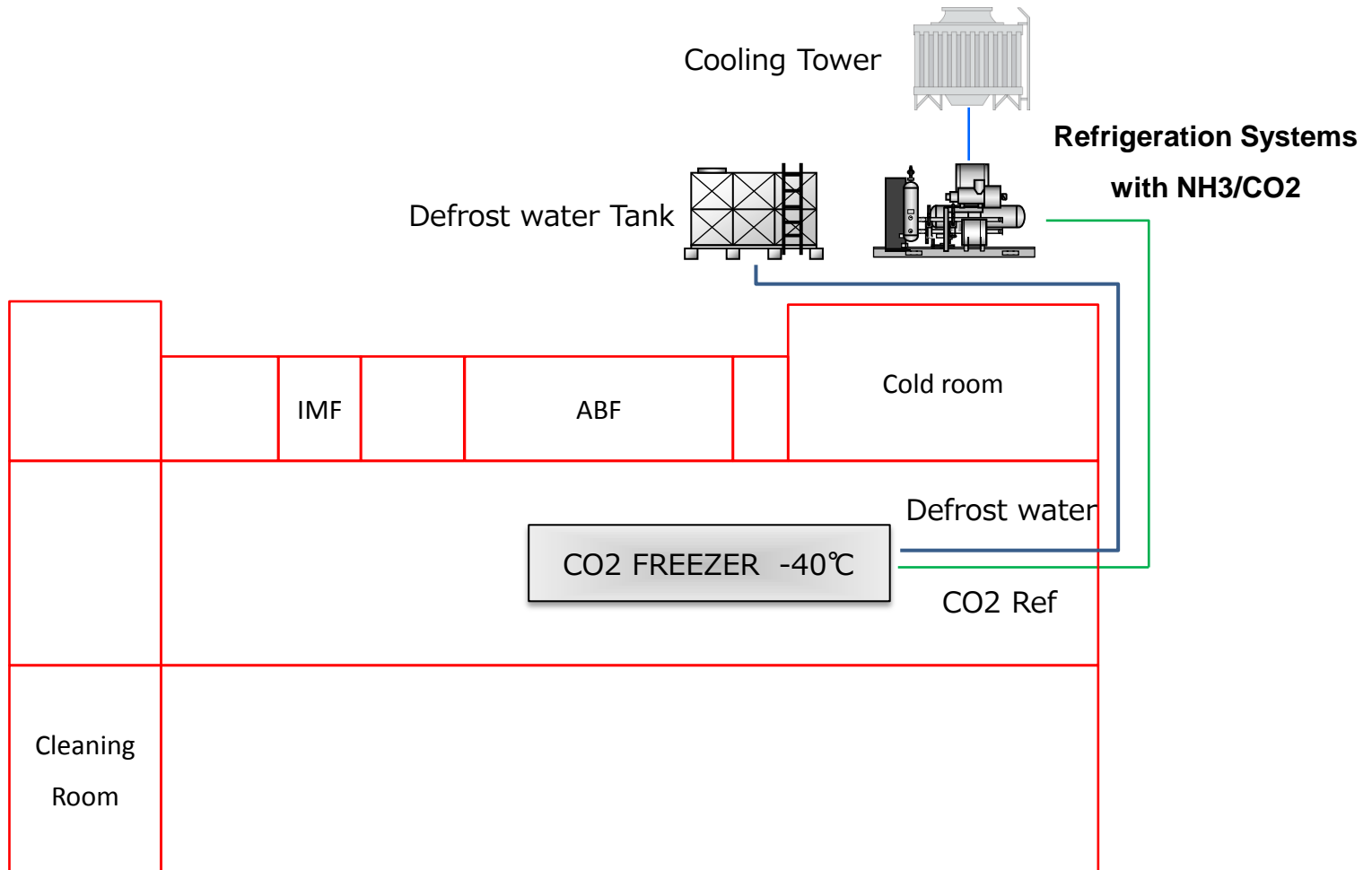


### Thermo-Jack Freezer



## 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%)