



COMPANY PROFILE

# PT Investasi Hijau Selaras (HIJAU)

Green Energy *Without Worry*

## Cooling As A Service Study Case



**INTRODUCTION**

**OUR PRODUCT**

**OUR PORTFOLIOS**

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Private and Confidential

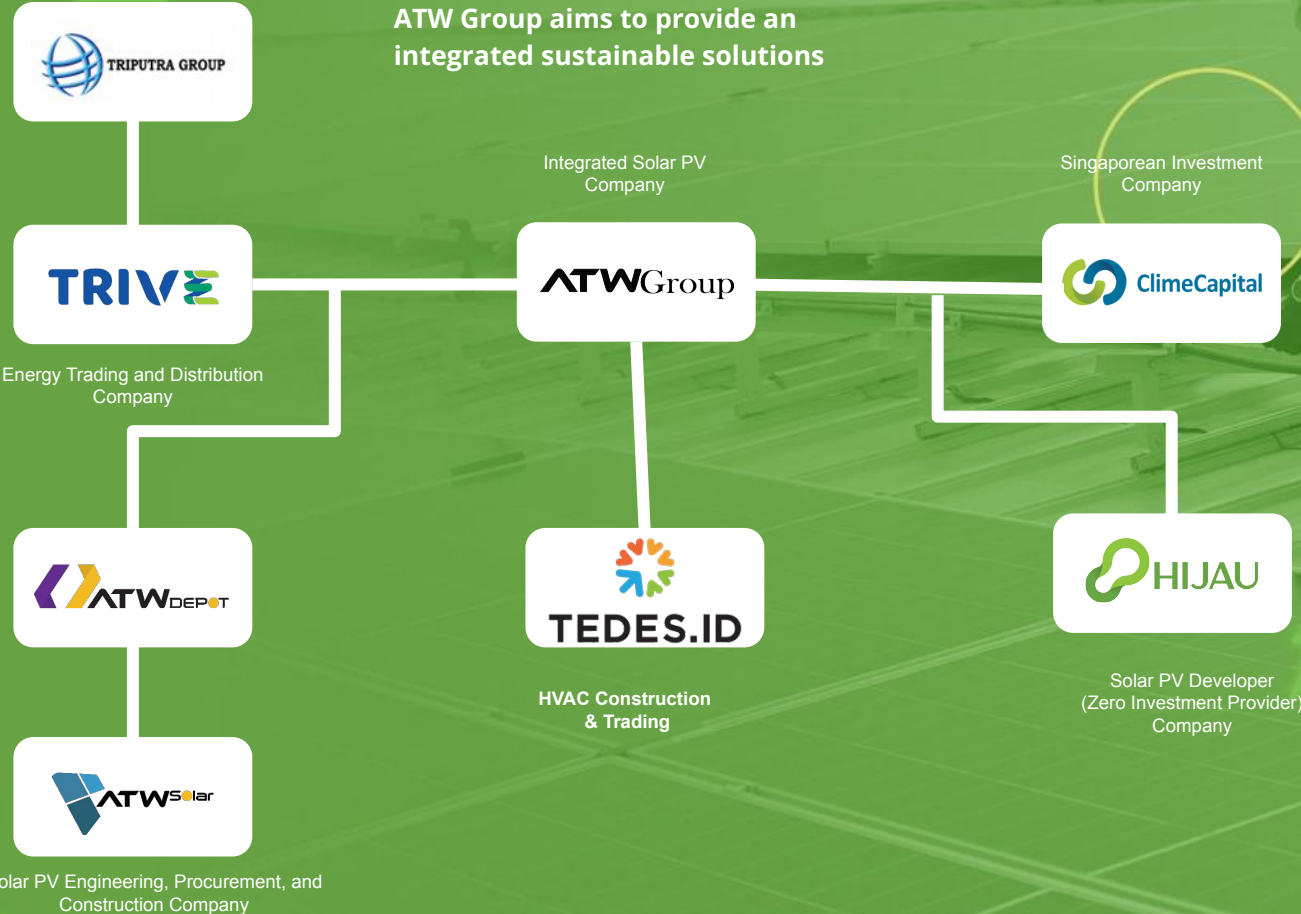


# INTRODUCTION



# Group Structure

ATW Group aims to provide an integrated sustainable solutions



# Company Milestone

HIJAU envisions energy independence for everyone by the power of the sun.

## Setting Up ( 2017 )



1. ATW Group officially launched its business.
2. Secured a distributorship for REC\*.
3. Formed partnerships with SMK Ma'arif (Djarum Foundation), Politeknik Jember, and Prasetiya Mulya University.

## Partnership ( 2019-2020 )



1. ATW Group entered the EPC market under ATW Solar.d
2. Market growth surged following regulatory improvements (MoEMR 13/2019)
3. Established a JV partnership with Shizen Energy, a global developer.
4. HIJAU was designated as the local co-developer.

Launched full-fledged operations with a 15 MWp installation under the JV

## First Operation ( 2023 )



# Company Milestone

Moving forward, HIJAU intend to take part in developing sustainable infrastructure through Cooling-as-a-Service business

1. HIJAU secured its initial round of funding from SEACEF II
2. The company has 4.3 MWp in operation, 12 MWp in development, and a 185.4 MWp pipeline under its independent management.

Engaged in funding partnerships within the rental business with prominent industry players, Launched Cooling-as-a-Service product.

Intends to achieve 70 MWp of solar photovoltaic capacity installation, secured debt funding from SMI and expansion of business lines, including the pilot operation of CaaS.



**Seed Capital**  
( 2024 )



**Continue Expanding**  
( 2025 )



**Target**  
( 2025 )



# Our Client

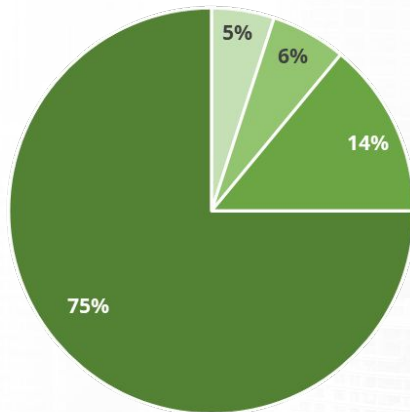


Our clients are living proof of the trust and quality we offer.

# Cooling Industry Outlook



Businesses opting for lower upfront costs on an inefficient cooling often face higher long-term cost



Water Equipment Maintenance Electricity

Source: BASE CaaS Alliance, 2024

Over 90% of cooling system costs come from operations and maintenance, yet **businesses prioritize low upfront costs** over long-term savings. High CAPEX for efficient systems keeps them locked with **inefficient options**, leading to higher lifecycle expenses.

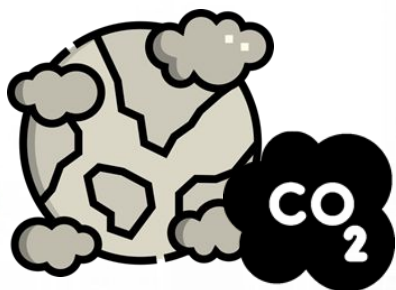
Shifting **from CAPEX to OPEX** unlocks energy-efficient systems without upfront costs. Cooling as a Service (**CaaS**) offers a pay-per-use model, providing high-performance cooling with predictable costs.



# Invisible Emission of Refrigeration



## The hidden climate threat from refrigerant leakage in Indonesia



Over  
12 Million  
tons CO<sub>2</sub>

leaked from Indonesia's air conditioners in 2020 alone. That's equal to the yearly emissions of all cars in Jakarta and a 500 MW coal power plant combined.



Nearly  
**100% of**  
**refrigerants used in Indonesia**

mainly high GWP HFC-134a\* are **released** into the **atmosphere**, with usage **growing 16% annually**. This is worsened by **unethical servicing practices**, where technicians deliberately vent and recharge systems for profit.

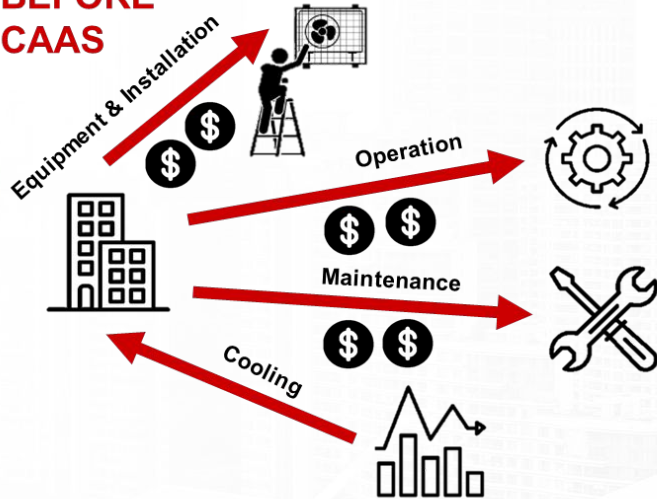
*\*HFC-134a has a GWP (global warming potential) of 1430, meaning it is **1430 times more destructive than CO<sub>2</sub>**.*

# Cooling as a Service (CaaS)



Businesses opting for lower upfront costs on an inefficient cooling often face higher long-term cost

**BEFORE  
CAAS**

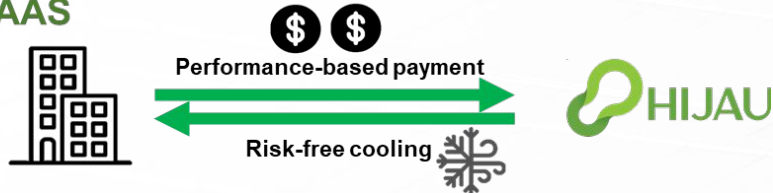


Our cooling as a service (CaaS) scheme enables client to save money on a high-performing cooling system **without any capital expenditure/upfront cost.**

At **Hijau**, we will **invest in, install, operate, and maintain** the cooling system for you – fully tailored to your needs by our experts. This means you will benefit from an energy-efficient cooling solution **without risks.**

Our monthly CaaS bills are based on the cooling energy we supply, guaranteeing **lower overall cooling costs** while you focus on **growing your core business.**

**AFTER  
CAAS**



# Benefits of Cooling as a Service



# Comparison: Direct Purchase vs. CaaS



CaaS offers a no-CAPEX, hassle-free solution with optimized performance and long-term efficiency, managed entirely by HIJAU.

Aspect	Direct Purchase	Cooling as a Service (CaaS)
Capital Expenditure	High upfront CAPEX for equipment and installation.	Zero upfront investment; pay-per-use or subscription model.
Operation & Maintenance	Client is responsible for maintenance, repairs, and replacement	HIJAU handles all maintenance, ensuring optimal performance
Operational Risk	Client bear the risk of the system's performance	Technical risk mitigated by professional and guaranteed system performance
Energy Efficiency	Dependent on client's maintenance and operational practices.	Professionally managed for optimal efficiency.
Ownership	Clients fully owns the system	HIJAU owns the system
Contract Commitment	No contractual obligation; full ownership.	Long-term contractual obligations

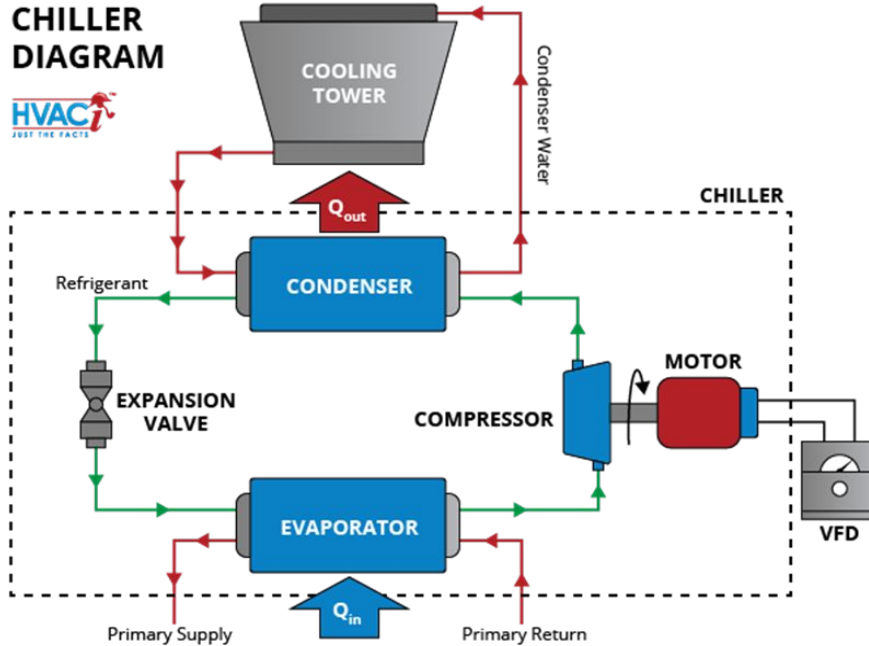




# OUR PRODUCT

# Water-Cooled Chiller

## WATER-COOLED CHILLER DIAGRAM



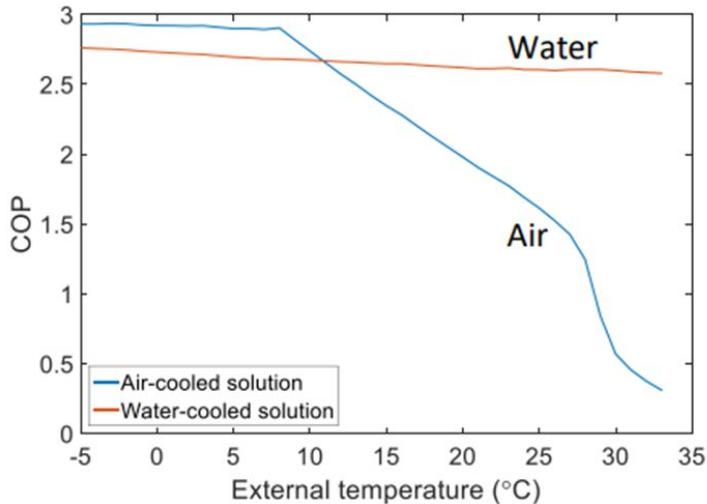
A continuous cooling cycle repeats the following steps:

- Cooling Demand Initiation
- Heat Absorption in the Evaporator
- Compression and Heat Transfer
- Heat Rejection in the Cooling Tower
- Refrigerant Expansion and Recirculation

# Chiller Technology

Modern chiller technology are more efficient due to the improve heat exchanger design, variable speed drive (VSD), and low GWP refrigerant

**COP Variation at different Load Conditions  
Old vs Modern Chillers**



The key features in the latest chiller technology are as follows:

- Implementation of **improved heat exchanger design** leads to higher heat transfer efficiency, extended equipment lifespan, and lower maintenance requirement.
- **Variable-speed drive (VSD)** technology significantly **enhances COP** of chillers compared to constant-speed models.
- Adaptation of **low Global Warming Potential (GWP) refrigerants** provide enhanced energy efficiency and carbon emission reduction.

# IoT-integrated system



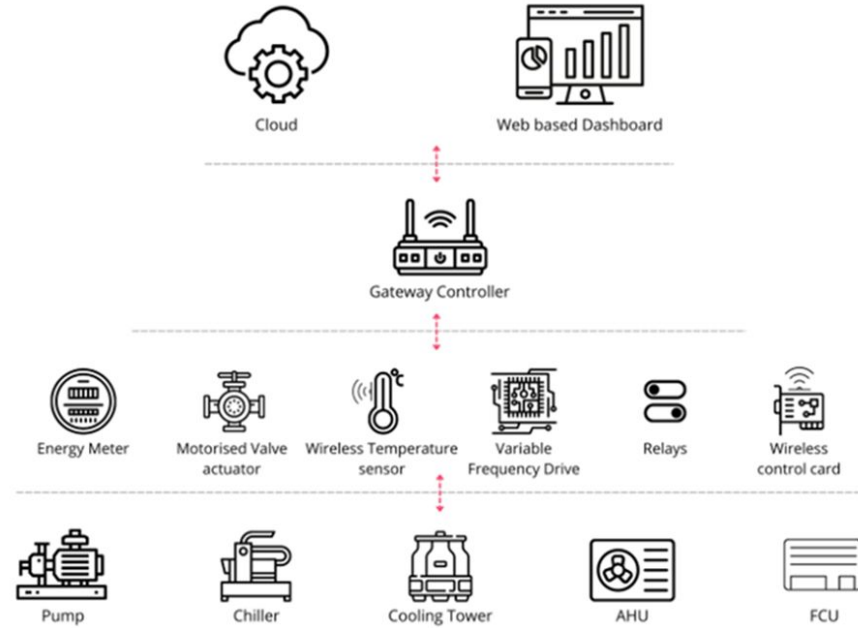
An AI-driven IoT monitoring system will be implemented for real-time performance tracking, predictive maintenance, and intelligent optimization.

Cloud & Dashboard

IoT Gateway Controller

IoT Sensors & Actuators

HVAC Equipment



Smart sensors collect and transmit data to a cloud-based platform, where AI continuously **analyzes system performance, predicts potential failures, and detects anomalies** before disruptions occur. This **AI-integrated IoT** system improves operational efficiency, extends equipment lifespan, and reduces energy consumption.



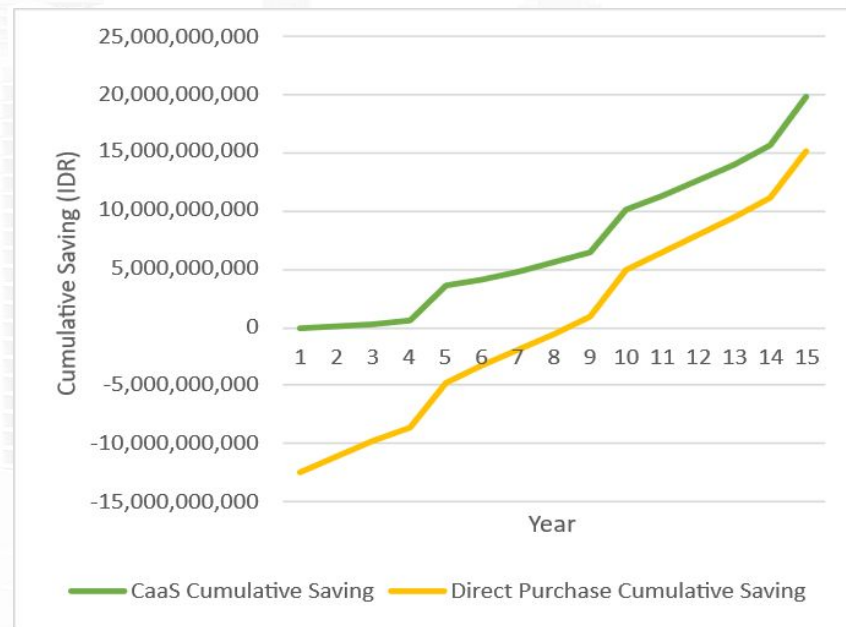


# STUDY CASE

# CaaS Low Risk, High Saving



Saving within 15 Years	Scenario 1 - New, CaaS, High Efficiency	Scenario 2 - New, Direct Purchase, Medium Efficiency	Scenario 3 - Old, Existing, Low Efficiency
Electricity cost	77,557	88,636	112,403
Preventive maintenance	0	12,451	12,686
Corrective maintenance	0	49,805	47,121
Equipment & Installation	0	13,602	0
Component Replacement	0	0	7,500
Caas Fee	82,292	0	0
<b>Total Cost (Million IDR)</b>	<b>159,849</b>	<b>164,495</b>	<b>179,710</b>
<b>Reduced Cost</b>	<b>11.05%</b>	<b>8.47%</b>	<b>0.00%</b>
<b>Annual Savings (Million IDR)</b>	<b>1,324</b>	<b>1,014</b>	
<b>Monthly Savings (Million IDR)</b>	<b>110</b>	<b>85</b>	





# OUR PORTFOLIO

# Our Portfolio



**TANGERANG**




## PASSIVE AND ACTIVE COOLING FOR SPECIALTY COFFEE ROASTERY

HIJAU supports the development of a premium specialty coffee roastery by delivering a complete cooling solution for its new processing facility and office. Our scope includes building insulation, ventilation, and high-efficiency cooling systems under the Cooling-as-a-Service (CaaS) model.



# Contact Us

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Head Office PT Investasi HIJAU Selaras

A background image showing a man and a woman in a data center. They are both wearing white hard hats with the HIJAU logo and white shirts. The woman is wearing a green hijab. They are looking at a tablet held by the woman, with the man pointing at the screen. The background is a blurred view of server racks in a data center.

# Thank You!

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