

# VARCOR™ System

## Sedron Technologies

[info@sedron.com](mailto:info@sedron.com)



**SEDRON**®  
TECHNOLOGIES

# SEDRON BACKGROUND

CONFIDENTIAL  
INFORMATION



**SEDRON**<sup>®</sup>  
TECHNOLOGIES



Peter Janicki  
CEO & Founder



- ✓ Founded 1993
- ✓ Aerospace Parts
- ✓ Advanced Composites
- ✓ Complex Tooling
- ✓ 5-Axis CNC Machining
- ✓ 1,200+ Employees



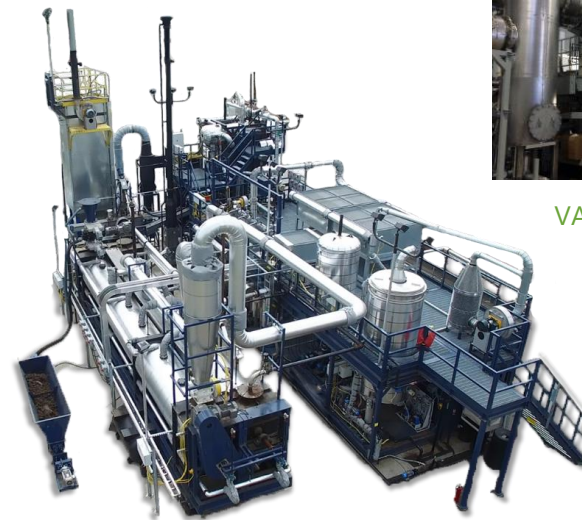
ORION CREW MODULE



JOINT STRIKE FIGHTER



- ✓ Founded 2014
- ✓ Water & Sanitation
- ✓ >200 Employees



JANICKI OMNI PROCESSOR

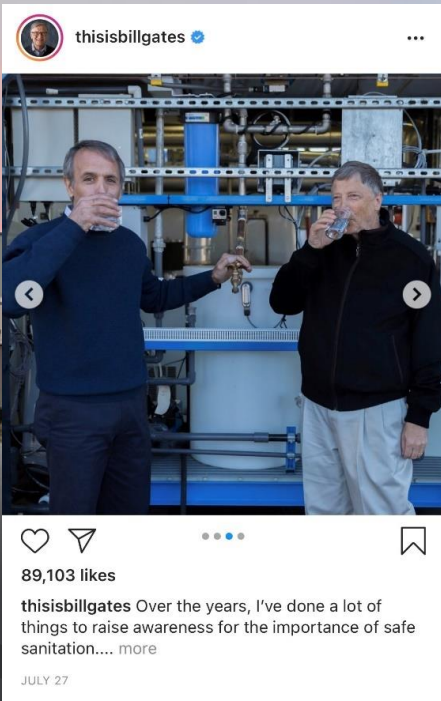


VARCOR SYSTEM



FIRELIGHT TOILET





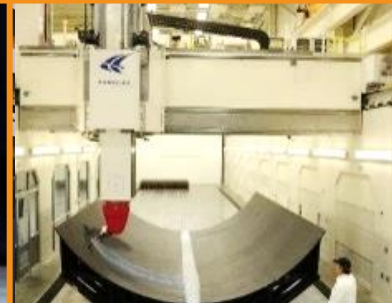
Janicki wins, Boeing loses in Northrop contracts for Air Force B-21 bomber

Email Share LinkedIn Share Twitter Print Order Reprints



RECOMMENDED  
MANUFACTURING  
Alaska Airlines expects

# Ongoing Commitment to Innovation



CONFIDENTIAL  
INFORMATION



# STRONG ENGINEERING TEAM



CONFIDENTIAL  
INFORMATION

# THE VARCOR™ SYSTEM

CONFIDENTIAL  
INFORMATION



**SEDRON**®  
TECHNOLOGIES



# VARCOR™ SYSTEM

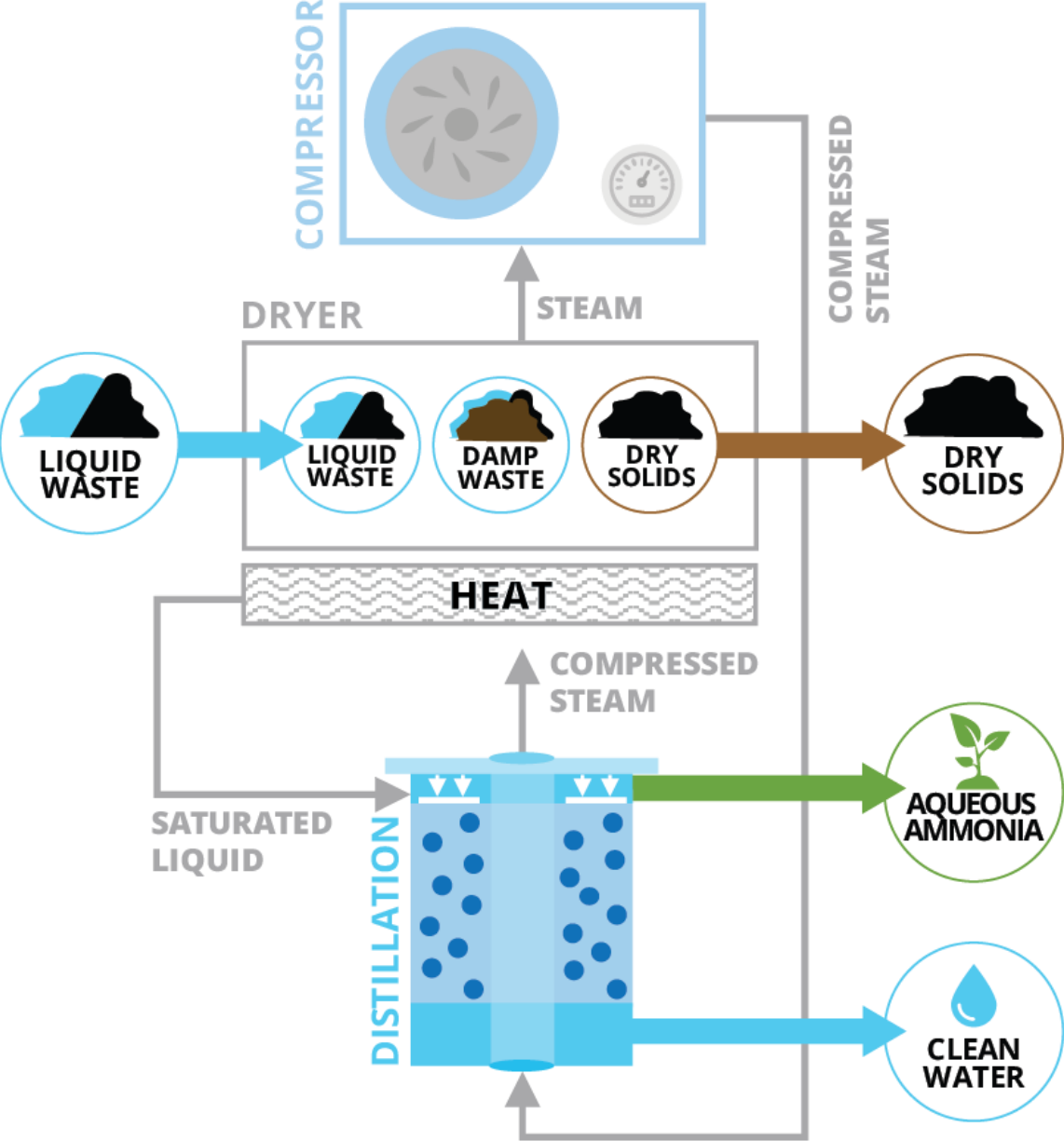
## A COMPLETE, HOLISTIC LIQUID WASTE HANDLING SYSTEM

- ✓ Combined dewatering and drying
- ✓ Solids recovery for beneficial use
- ✓ Very clean steam stripped condensate



# VARCOR™

What it Does

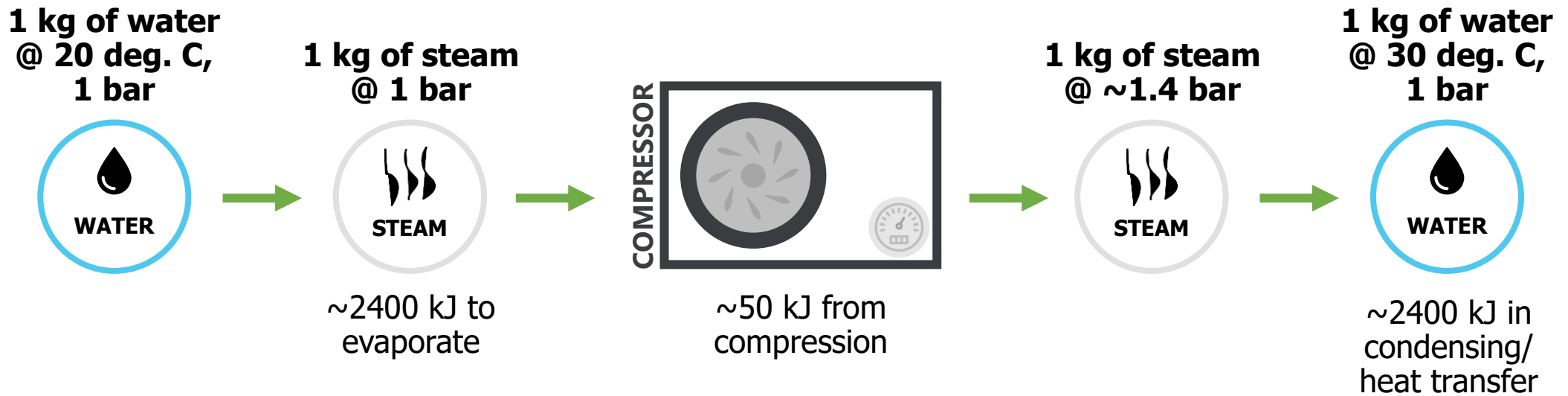




# BACKBONE OF THE TECHNOLOGY

## Mechanical Vapor Recompression (MVR)

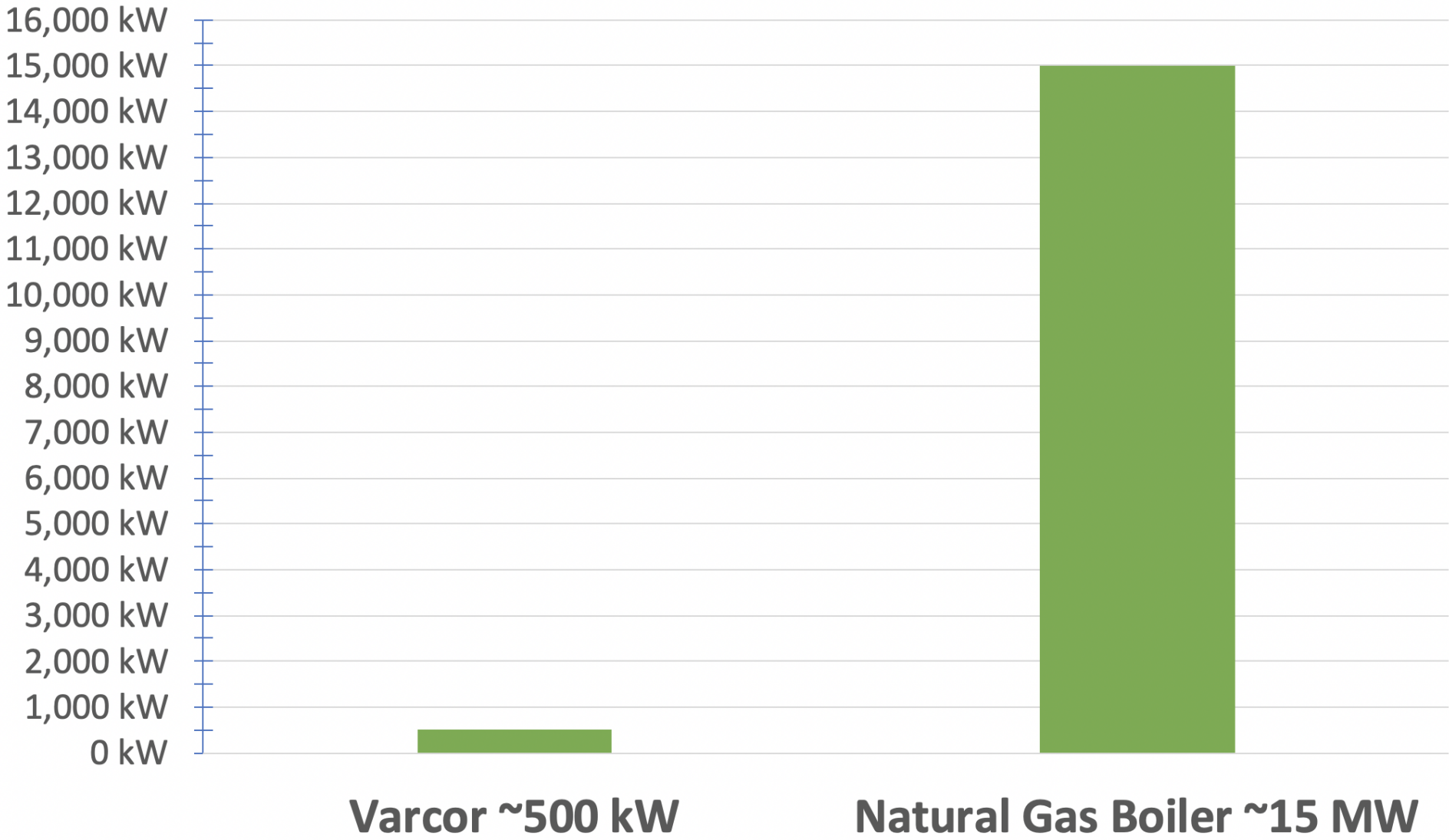
SIMPLIFIED THERMODYNAMIC ANALYSIS:



$$2400 \text{ kJ} + 50 \text{ kJ} - 2400 \text{ kJ} = 50 \text{ kJ}$$

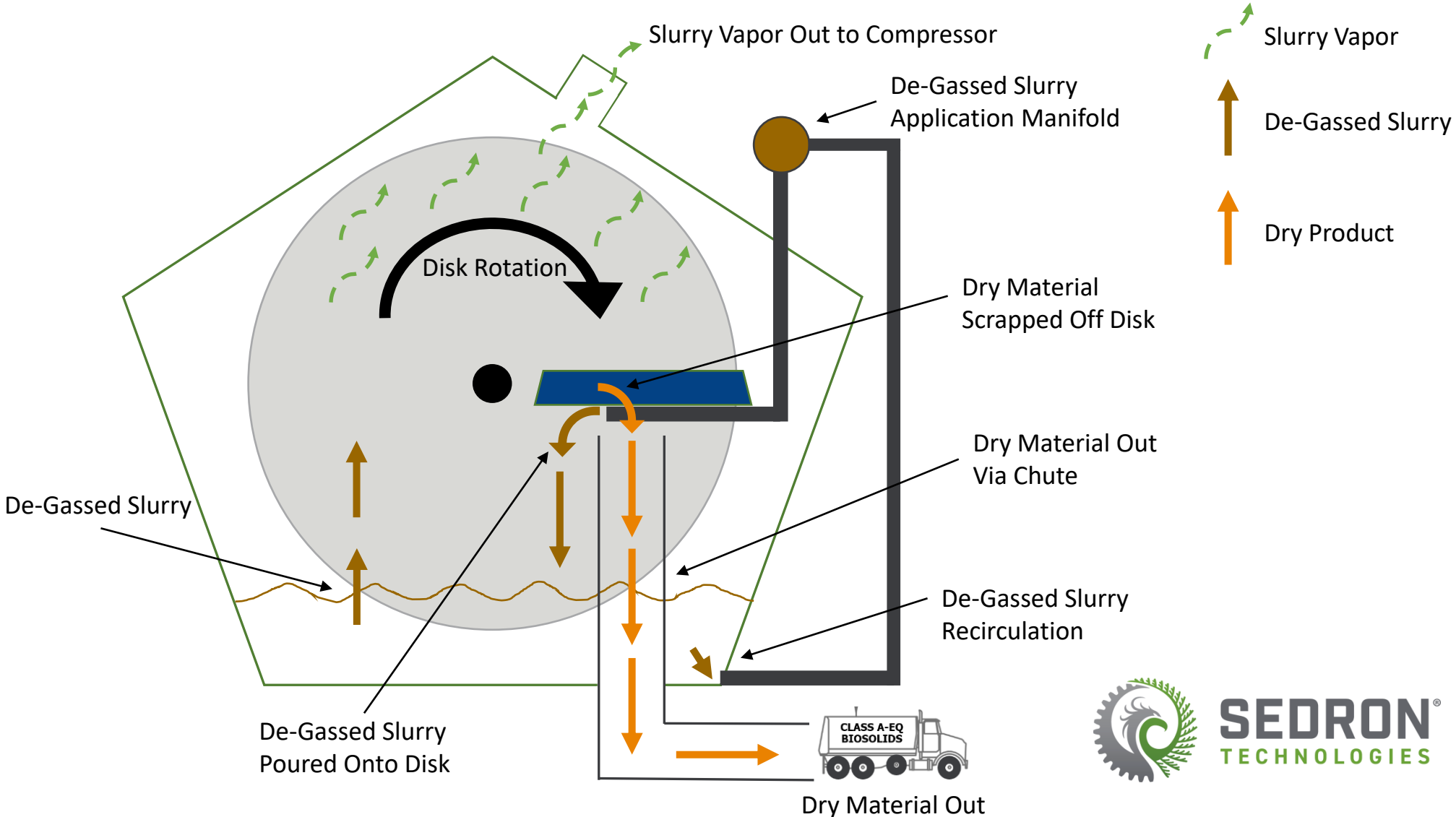
# VARCOR™ Energy Input vs Traditional Methods

Energy Required to Evaporate 370 Litres / Minute of Water

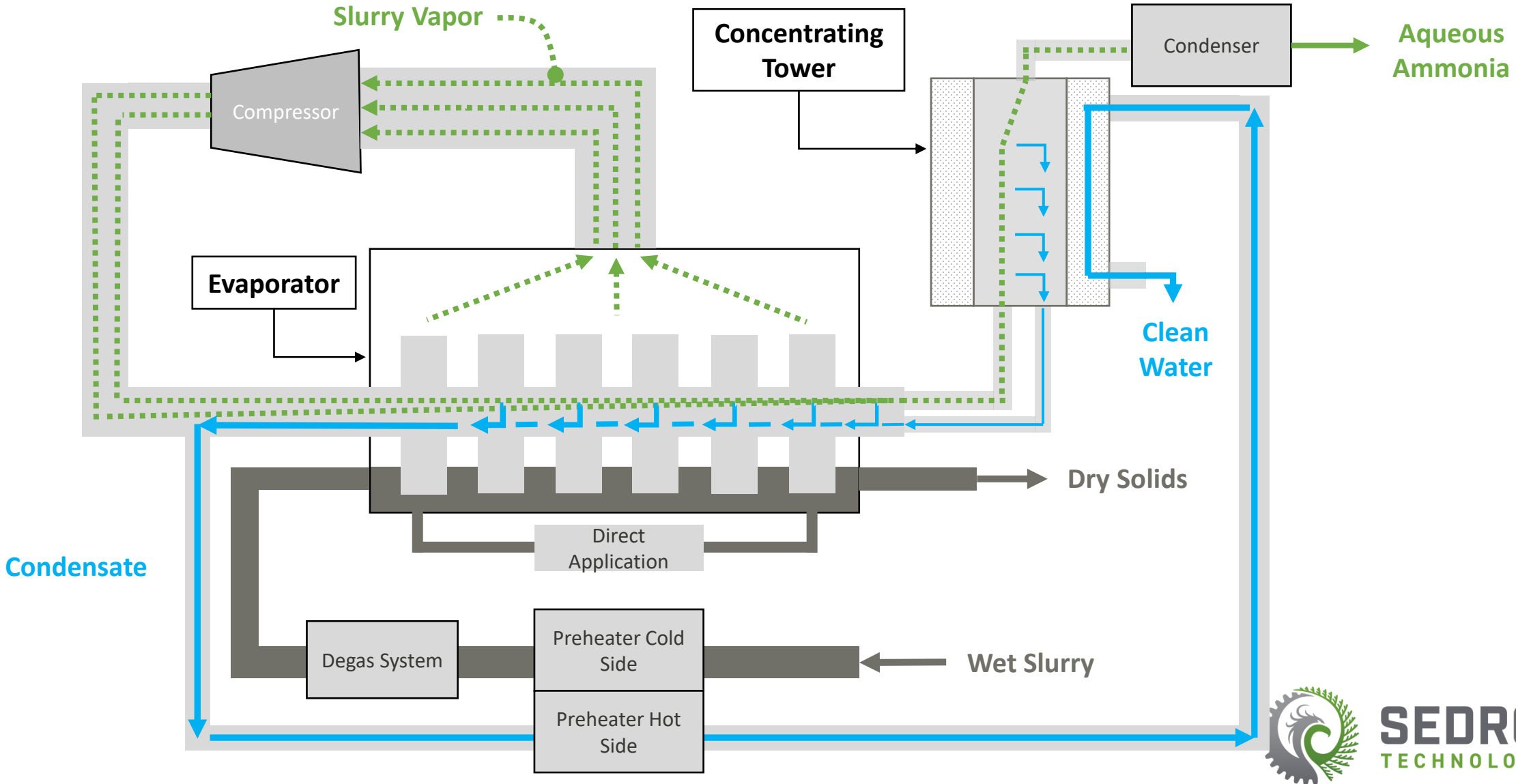




# VARCOR Slurry Application & Thin Film Drying



# VARCOR™ Detailed Process Flow

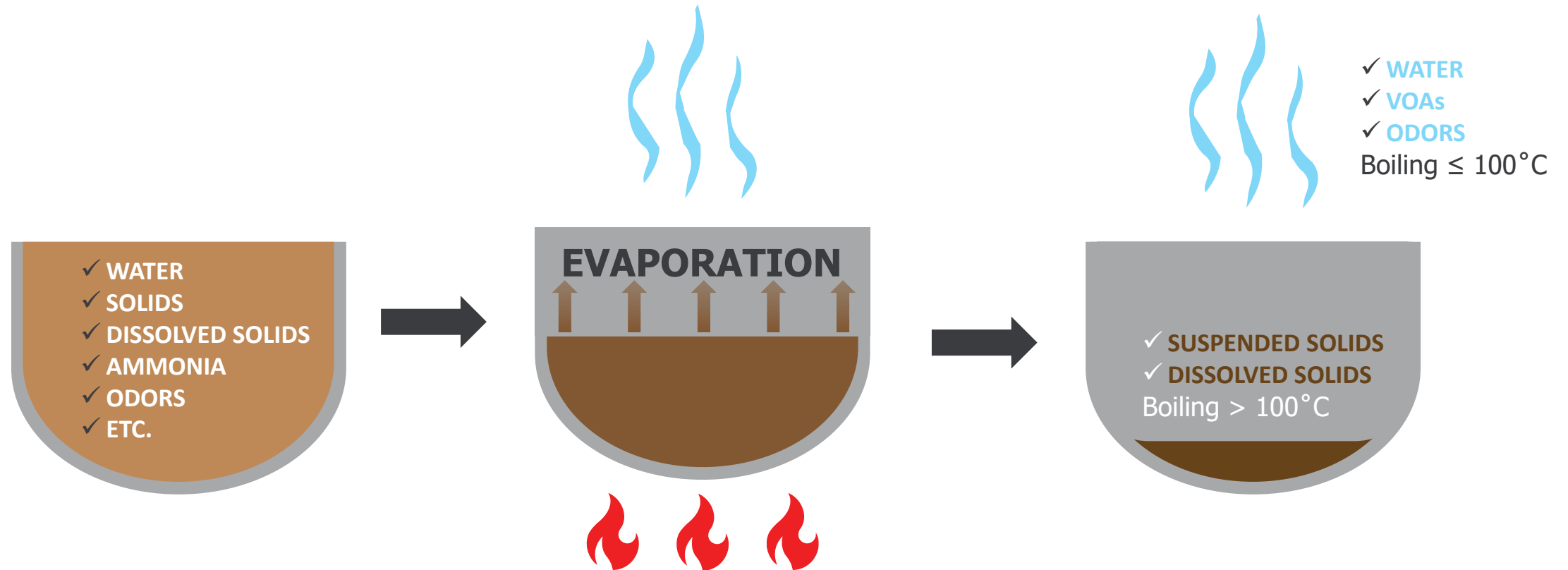




# VARCOR™

Why is Varcor so effective?

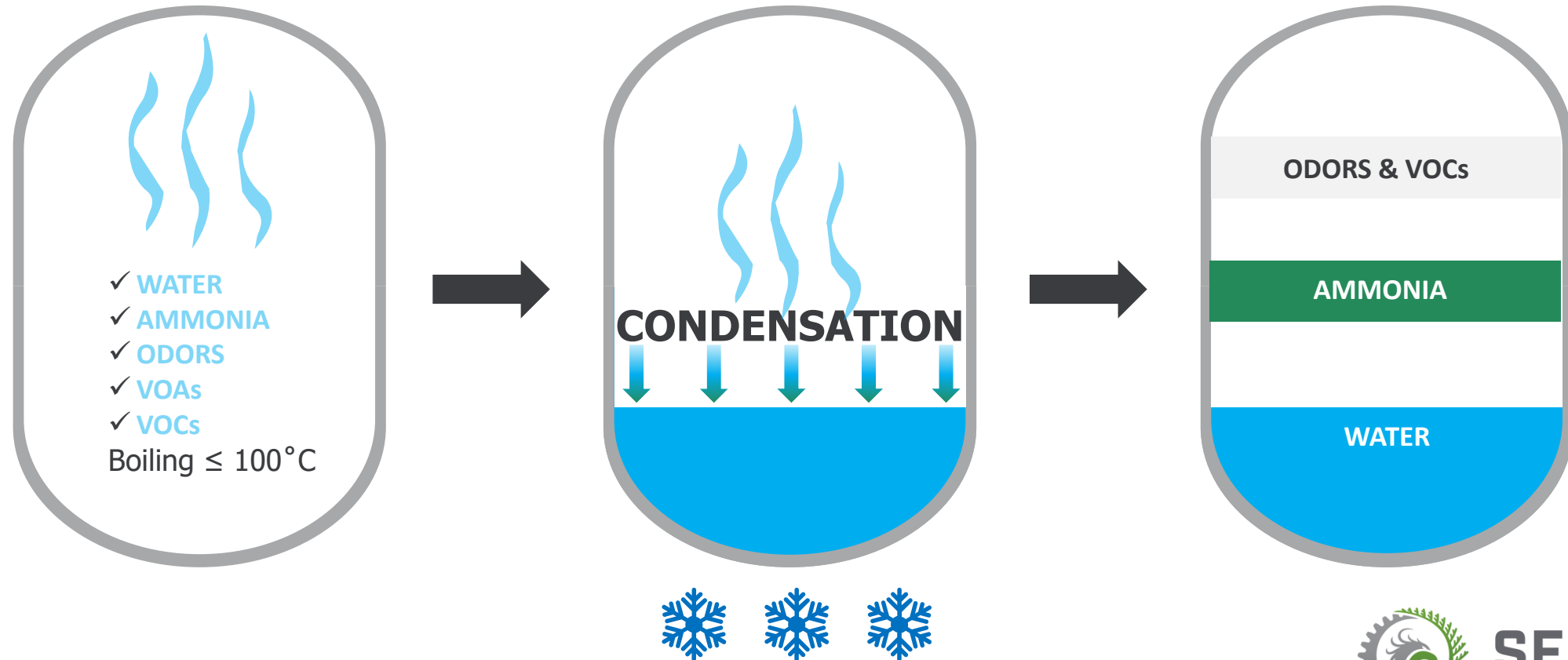
1. When you apply heat, evaporation separates the solids from the other components.



# VARCOR™

Why is Varcor so effective?




2. As the vapor cools & condenses, it releases each component at a different temperature through distillation.





# VARCOR™

## Separation & Recovery Overview

COMPONENT IN SLURRY	BOILING POINT > 100 CELSIUS?	END PRODUCT
AMMONIA	NO	DISTILLATE 
WATER	NO	CLEAN WATER 
P <sub>2</sub> O <sub>5</sub>	YES	DRY SOLIDS 
K <sub>2</sub> O	YES	
ORGANIC NITROGEN	YES	
ORGANIC CARBON	YES	



**SED RON**<sup>®</sup>  
TECHNOLOGIES

**CLEAN  
WATER**

**WATER  
PRODUCT  
FOR RE-USE**



**SEDRON**  
TECHNOLOGIES



# DRY SOLIDS

## AG:

- ✓ OMRI Certified
- ✓ Dry
- ✓ Pathogen Free





# AQUEOUS AMMONIA

ORGANIC  
HIGH  
NITROGEN  
PRODUCT

OMRI  
CERTIFIED





# USE CASES

CONFIDENTIAL  
INFORMATION

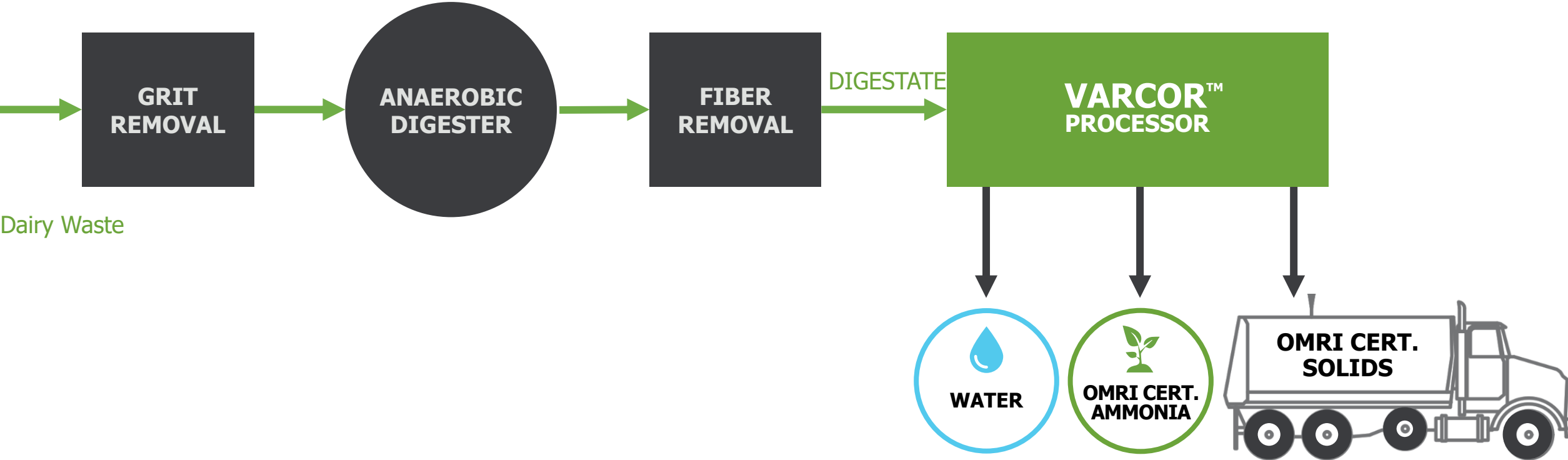


**SEDRON**<sup>®</sup>  
TECHNOLOGIES

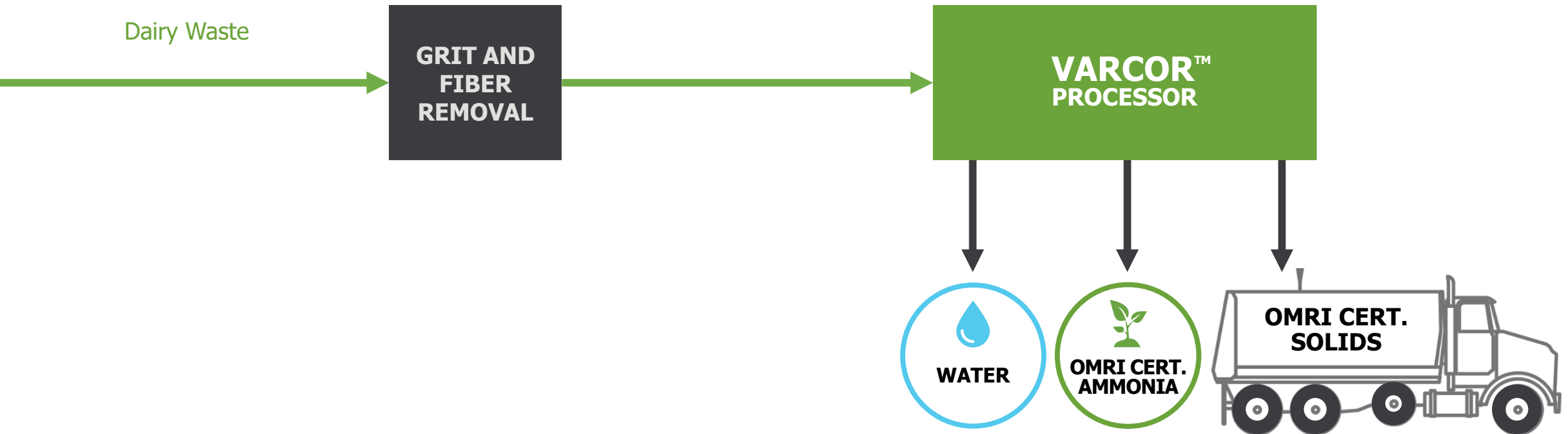
# CORE BUSINESS MODEL: INFRASTRUCTURE AS A SERVICE (IaaS)



# DAIRY FACILITY WITH DIGESTER



# DAIRY FACILITY W/O DIGESTER





# Example Sites

CONFIDENTIAL  
INFORMATION



**SEDRON**<sup>®</sup>  
TECHNOLOGIES

# VARCOR™ SYSTEM

4,000 Cow Dairy

Indiana

Operational  
Since 2020

~40,000,000  
gallons per year  
of capacity

~10,000 sq-ft  
building





# VARCOR™ SYSTEM

Major Rum Distillery

US Virgin Islands

Operational Since  
2022

Available for  
additional pilot trials





# VARCOR™ SYSTEM

Regional Septage /  
Biosolids Processing  
Facility

Seattle Washington

Currently  
Operational

~40,000,000 gallons  
per year of capacity

~10,000 sq-ft  
building

EPA 503 Class A EQ  
Biosolids Permit





# VARCOR™ SYSTEM

20,000 Cow Dairy

Indiana

Operational Q1 of  
2024

~200,000,000  
gallons per year of  
capacity



**SEDRON**  
TECHNOLOGIES



# VARCOR™ SYSTEM

12,000 Cow Dairy

Wisconsin

Operational Q4 of  
2024

~140,000,000  
gallons per year of  
capacity



**THANK YOU!**



**SEDRON<sup>®</sup>**  
TECHNOLOGIES