



# Making Green Energy available for all

September 2024

[www.storagedrop.com](http://www.storagedrop.com)

# Disclaimer

"The information contained in this presentation and any other information provided during the presentation (hereinafter: the "Information") is presented for convenience purposes only, does not replace independent collection and analysis of information and does not constitute an offer to the public for the purchase or sale of securities of Storage Drop Storage Technologies Ltd. (hereinafter: the "Company") or an invitation to receive such offers and this presentation and/or anything stated therein should not be considered as guidance and/or recommendation and/or advice regarding securities mentioned therein and does not constitute a substitute for the discretion of any potential investor. In addition to the above, the following presentation does not constitute a substitute for investment advice by an investment advisor licensed by law that takes into account the data and special needs of each person. It is recommended that every purchaser of securities conduct the tests he sees fit, independently. The contents of the presentation with regard to the Company are concise only, and in order to obtain additional information about the Company's activities, it is necessary to read the Company's immediate reports, including the reports of the Board of Directors and its financial statements reported through the Israel Securities Authority's website at the address: [www.magna.isa.gov.il](http://www.magna.isa.gov.il) (hereinafter: the "Public Information"). The information included in this presentation is similar to the public information, but there are data included in the presentation, presented in a different manner and/or edit. The information presented in the presentation is not a substitute for the public information. In any contradiction or discrepancy between the information detailed in this presentation and the information appearing in the Company's reports, the contents of the Company's reports shall prevail.

# About Storage Drop



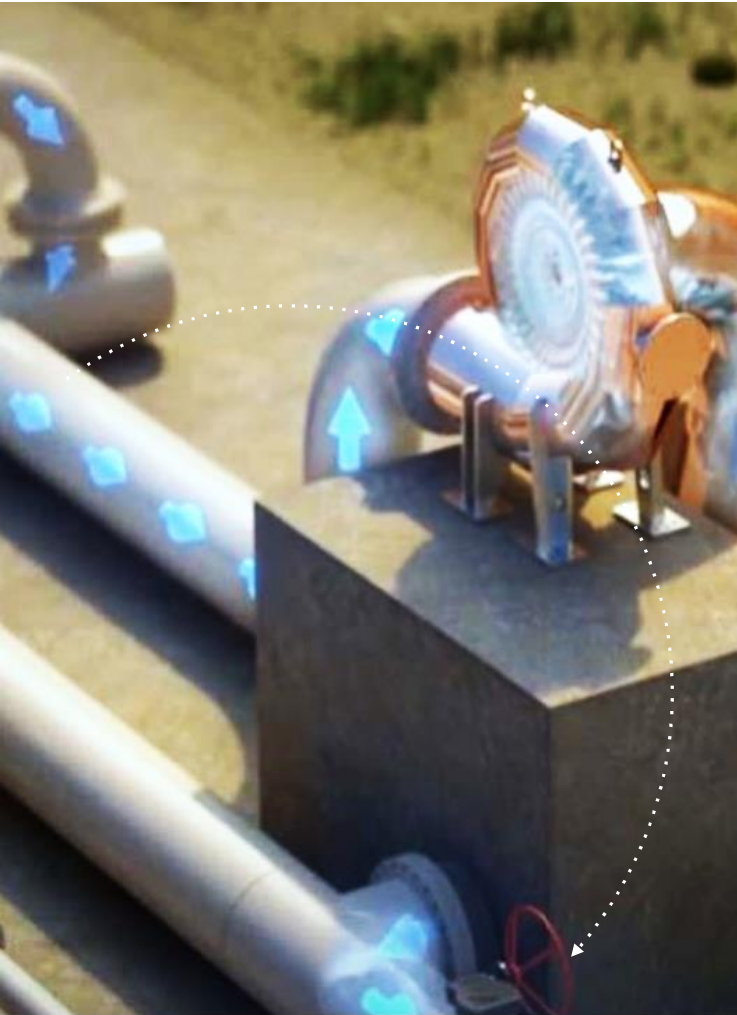
Storage Drop operates in the field of Energy Storage and develops several products in the energy industry to address the challenge of clean and efficient energy storage, compressed air and cooling.

1. Electricity – Horizontal Pumped Energy Storage System (“**HyDrop**”)
2. Compressed Air – Liquid Piston Compressor (“**DropX**”).
3. Cooling - CO2 based chiller for wide range of temperatures (“**CoolDrop**”)



The systems are based on isothermal compression using liquid piston technology

# Allowing continuous energy from natural resources



30  
Employees and  
Service  
Providers

7 million US\$

Raised so far



Public  
company  
since  
July 2021

13 Patent  
Applications  
Filed in Europe,  
U.S.A and Israel

+  
Exclusive rights for  
GLIDES patented  
technology developed  
in a US DOE  
laboratory.

Cooperation

DORAL

OAK  
RIDGE  
National Laboratory

ASHDOD  
PORT  
THE PORT OF ISRAEL

BIOFRESHTECH  
INNOVATION & SOLUTION

UCA UNIVERSITÉ  
Clermont Auvergne

cnrs

UNIVERSITAT  
ROVIRA I VIRGILI

TECHNION  
Israel Institute  
of Technology

AristEng  
Disseminate your process!

inveniam

# Company Milestones

Establishment of an Energy storage system 12.5 kWh  
Partial Funding - Israel Innovation Authority, Kiryat Gat

IPO – Public Company  
Traded in TASE  
Storage Drop Technologies Storage Ltd.

Construction of an energy storage system generating cooling at a size of 45 kWh  
Rehovot

Winning a €2.5 million grant Horizon EIC  
Development of a cooling system for temperatures 12C to -40C in cooperation with the Technion, CNRS France and URV Spain

**2017**

**2020**

**2021**

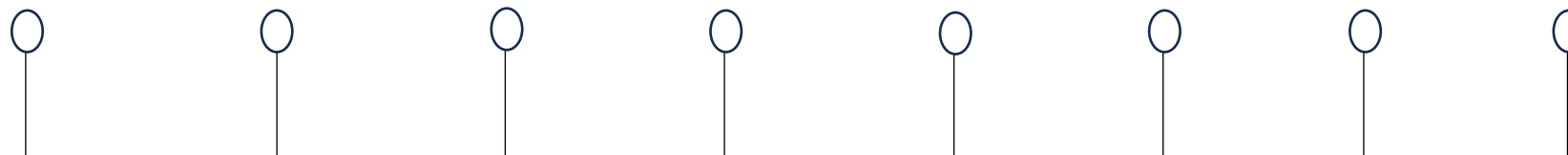
**2022**

**2022**

**2023**

**2024**

**2024**



Change ownership structure  
Establishment of a new company  
Storage Drop Israel Ltd.

Construction of an energy storage system for electricity generation 100 kWh  
Ashdod Port

First Commercial Agreement  
Construction of a Compressed Air facility in TNUVA Alon Tavor Dairy  
Partial Funding – Israel Innovation Authority

Preparations for setting up an Energy Storage system for electricity generation at a commercial level  
1-10 MWh

# The Challenge



**Low-Cost  
CAPEX and  
OPEX**



**Reliability**



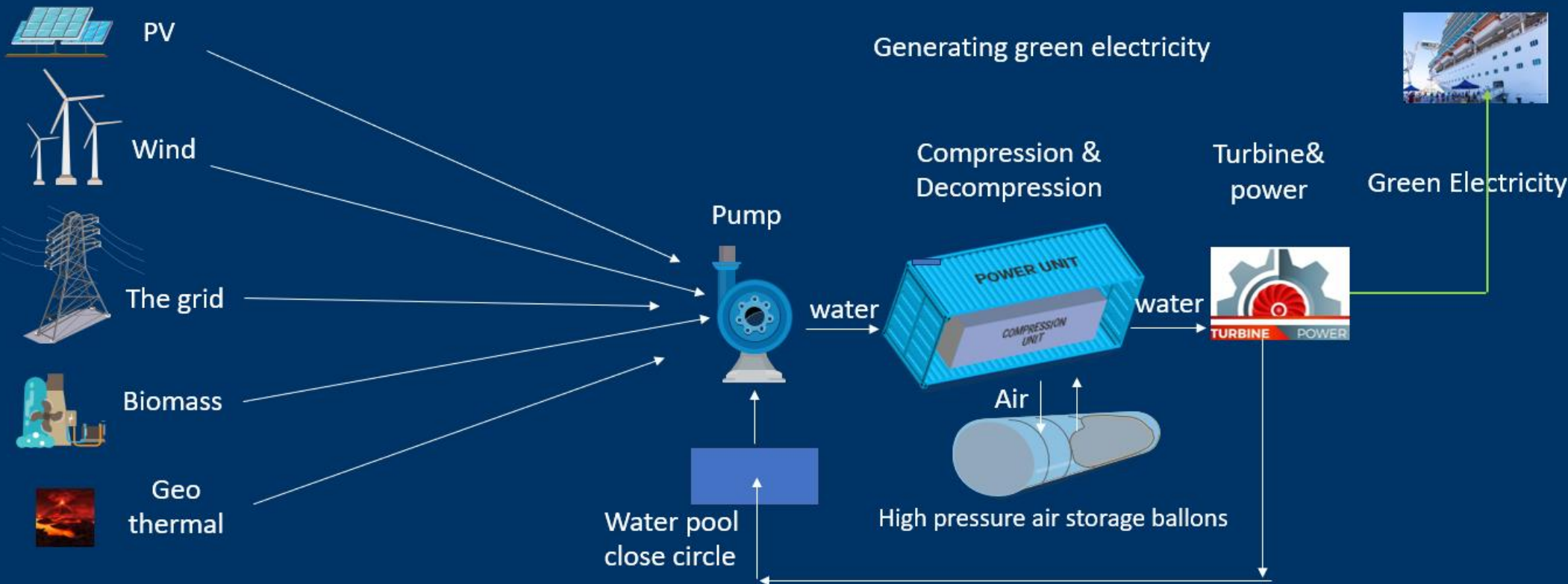
**Clean  
Solution**



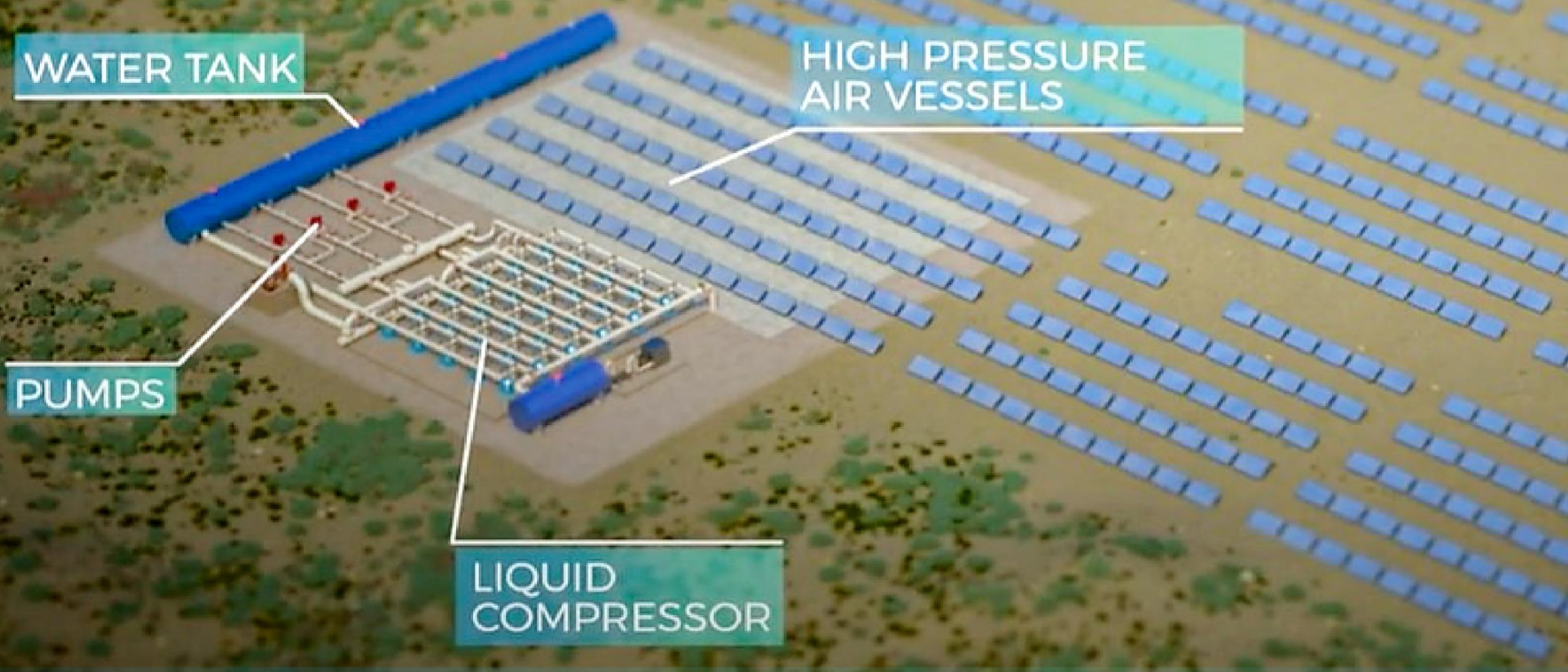
**High  
Efficiency**

# HyDrop - Energy Storage for electricity generation

Any Energy source:



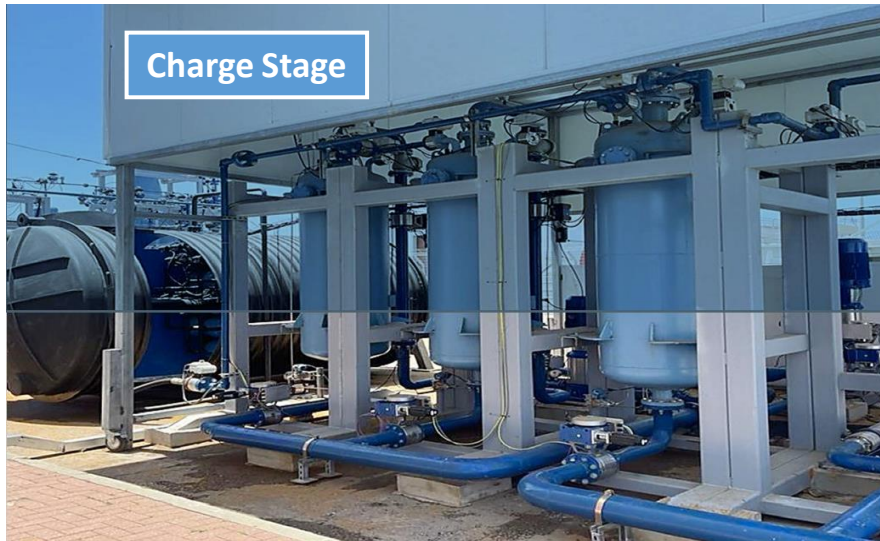
# HyDrop - Energy Storage for electricity generation





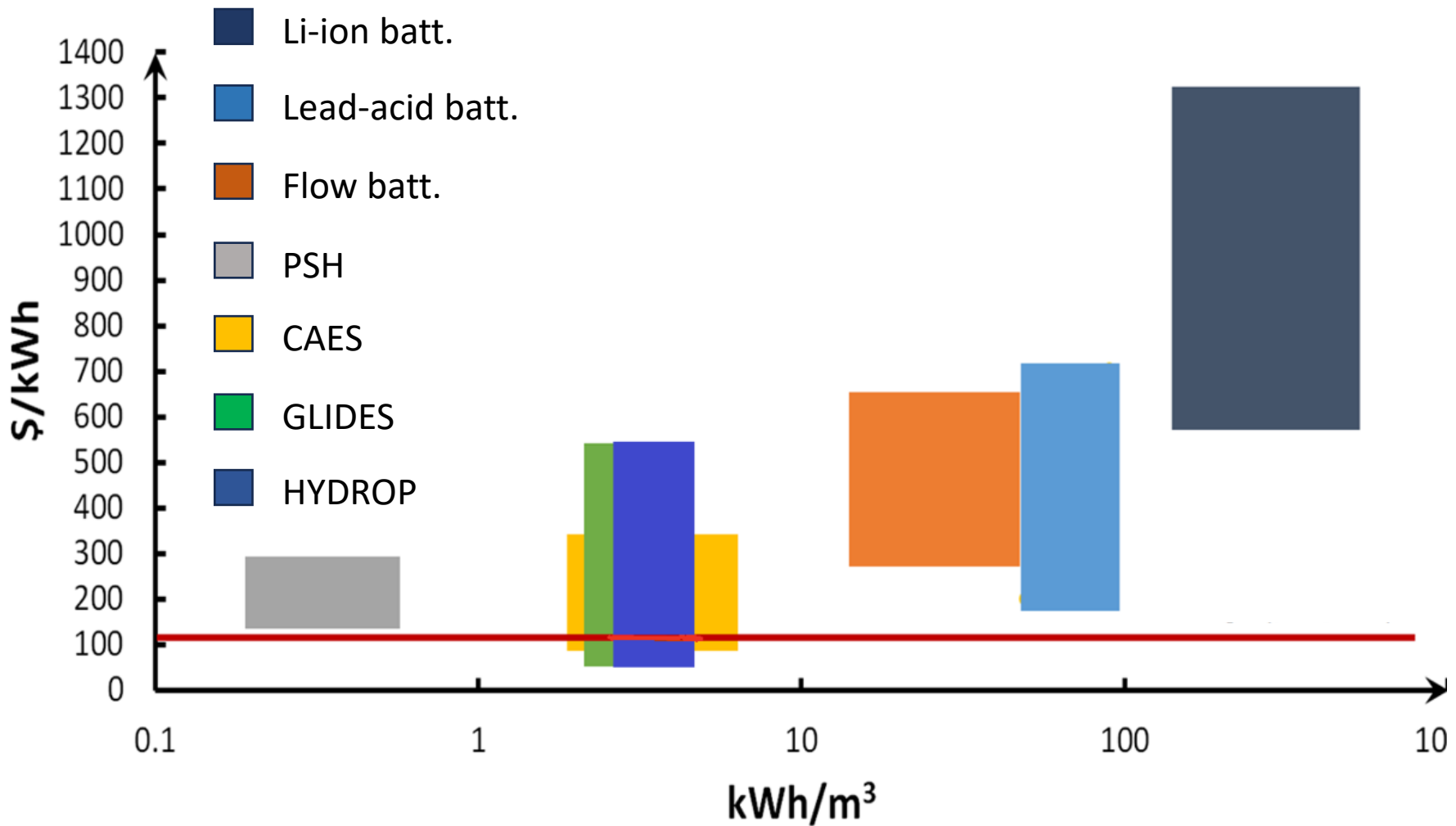
# HYDROP Demo System - Ashdod Port

- Ashdod port is the largest Israeli port
- HYDROP validated with a facility of 100kWh
- The storage was built to store and generate 100kWh
- Source of power – the grid



# HYDROP comparison vs other LDES Technologies

## Capex and storage volume:



# HYDROP comparison to alternative power storage

Technology	HYDROP Horizontal Pumped Energy	CAES Compressed Air Energy Storage	Hydrogen	Vertical Pumped Storage	LI-Ion Battery
Category	Used with compressed air	Used with compressed air	Electrolyze separation	Potential storage	Chemical Storage Li-Ion batteries
Application	Grid Support	Bulk Energy - Management		Bulk Energy\Grid Support	Reserve & Response Services and Grid Support
Power Range	10MWh-1GWh	100MWh-10GWh		3GWh-100GWh	1KW-10MW
Maintenance	Low	Medium		Medium	High
Life Span	40 years	40 years		40 years	10 years
Reliability	High	Medium - High		High	Medium - High
Humidity Resistance	high	high		Medium - high	Low
Discharge rate when charge is removed	Energy stored forever	Energy stored forever		Energy stored for months pending on evaporation	Weeks\days
Modular Size and Capacity	Y	X		X	Y
Environmentally Friendly	Y	Y		X	X
Unlimited number of cycles	Y	Y		Y	X
Asymmetric Charge\Discharge	Y	Y		Y	X
LDES	Y	Y		Y	X
Energy Density (post Installation)	Medium	Medium		Low	High

\* Increased performance requires additional CAPEX for heat storage system.

# HyDrop - Energy Storage System For electricity generation

## Comparison: HYDROP versus Li-Ion Batteries for operation of 200 MWh Storage for 40 years lifetime

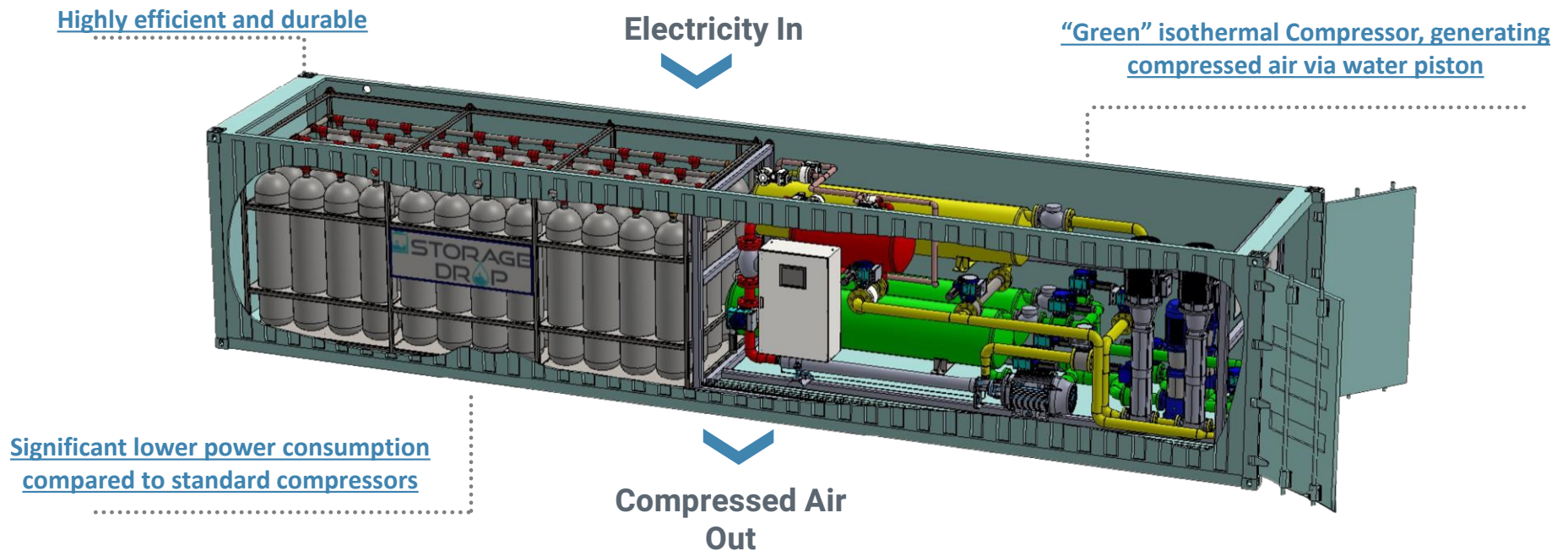
Technology	HYDROP Performance	LI-Ion Batteries Performance	Remarks
Charge/discharge Duration	<b>2-24 hours</b>	2 - 6 hours	After 4 hours a significant decline in battery performance
Life cycle	40 years	10 years	Efficiency decline >50%
Annual efficiency decline	<b>None</b>	First year: 5-7% Thereafter: 3%	
Guaranteed charge/discharge cycles	<b>Unlimited</b>	Average limitation < 300 cycles per annum	Will not meet daily charge/ discharge requirement
Energy density pre - installation	5,000m <sup>2</sup>	3,000m <sup>2</sup>	
Energy density post - installation	5,000m <sup>2</sup>	10,000m <sup>2</sup>	Based on existing installed facilities
Safety location limitation	<b>None</b>	Subject to strict regulation requirements	Batteries must not be adjacent to urban facilities
Materials in use	<b>Air, Water, Iron</b>	Lithium, Kobalt, Graphite	
Soil contamination	<b>None</b>	Significant	
EOL materials treatment	<b>None</b>	Significant cost	
Temperature sensitivity	<b>None</b>	Heat\cold sensitive	Significant deviations from normal weather conditions incurs cost and extra energy usage
Long Duration Storage	<b>Unlimited</b>	Limited storage time	

# HyDrop Advantages

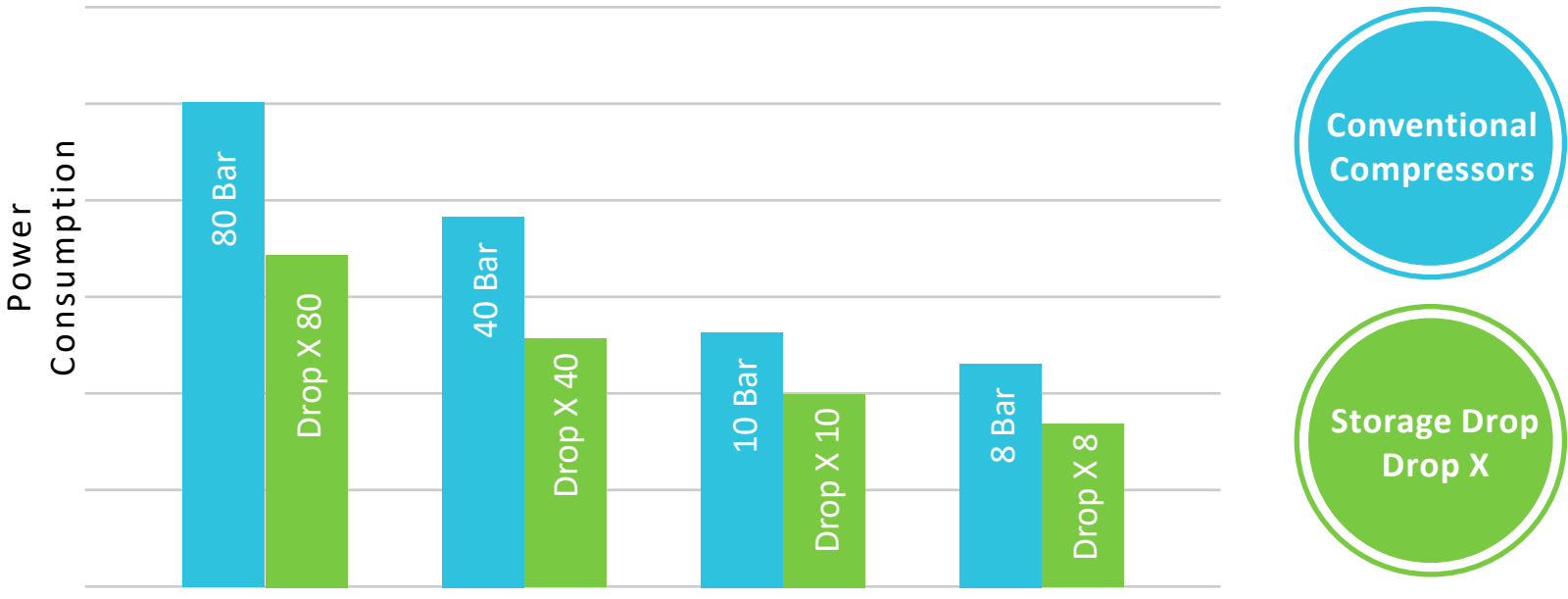
- **No residual waste of hazardous material**
- **No safety concerns with no noise effect**
- **Storing unlimited power for unlimited duration to meet peak period**
- **No storage loss**
- **Energy input - All sources of energy supply, renewable or grid**
- **Modular design scalable for future increase of demand**
- **Can be operated on water, land and underground**
- **Close circle water pool. Can be generated also from sea water**
- **5 MWh storage requires 500 Sqm, 200 MWh demands 5,000 Sqm**

# DropX: HyDrop Charger as Air Compressor

- ✓ The **DropX** technology is a unique Hydraulic “green” isothermal compressor.
- ✓ The compressor is based on water pump compressing the air in an isothermal process, generating compressed air at a higher efficiency than other standard air compressors.
- ✓ Thanks to power savings compared to a standard compressor, Storage Drop's compressor returns the initial investment after 2 to 6 years of operation, depending on the size and delivery pressure of the compressor




# Drop X: Storage Drop Liquid Compressor versus Conventional Air Compressor – the competitive advantage





Drop X: Storage Drop  
Liquid Compressor  
versus Conventional  
Air Compressor – the  
competitive  
advantage

	DROPX	Conventional Compressor
Maintenance	Low	High
Life Span	4 x longer	Limited
Efficiency	High	Low
Size	X3	Small
Noise Level	Low	High
Environment	Oil Free	Polluting



# COOLDROP: CO2-based CoolDrop cold production system for cooling applications

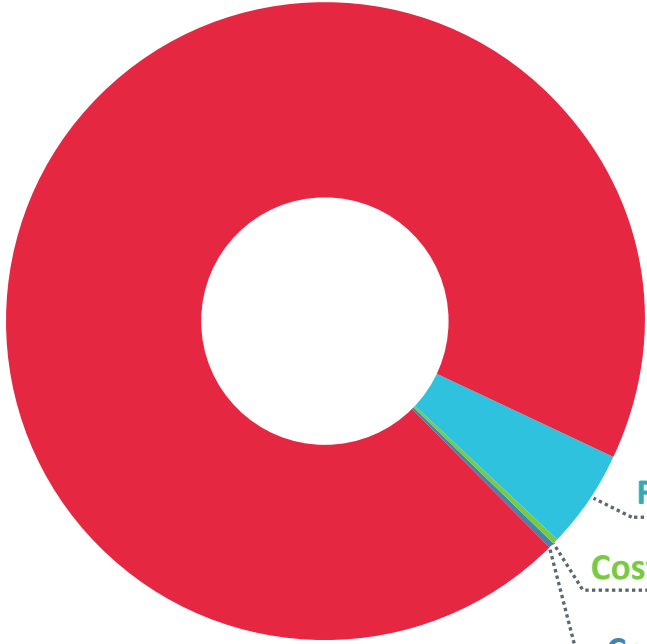


# High cost of electricity



What is really important over the life of the chiller?

Cost of electricity 94.17%



First cost of chiller 5.18%

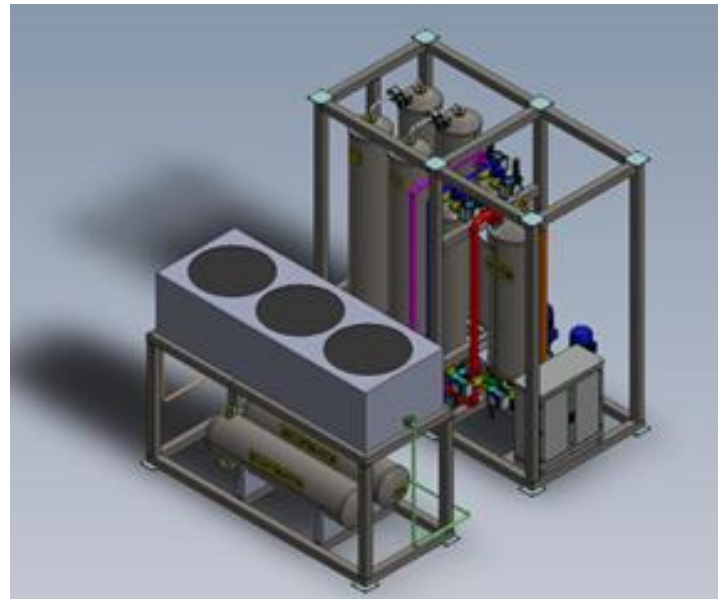
Cost of initial refrigerant 0.25%

Cost of lifetime refrigerant supply 0.40%

## COOLDROP – CO<sub>2</sub> based cooling system and storage for air conditioning purposes

- When comparing COOLDROP energy savings with standard chillers, Storage Drop's COOLDROP chiller returns the initial investment after 2 years of operation (this information is a projection only).

Electricity In



Cold water at 4 degrees C out

# CO<sub>2</sub>-based CoolDrop cooling system

Storage Drop developed a CO<sub>2</sub> based chiller for “heating” applications and is now developing a CO<sub>2</sub> based chiller (“**COOLDROP**”) for refrigeration applications using direct compression of CO<sub>2</sub> with water.

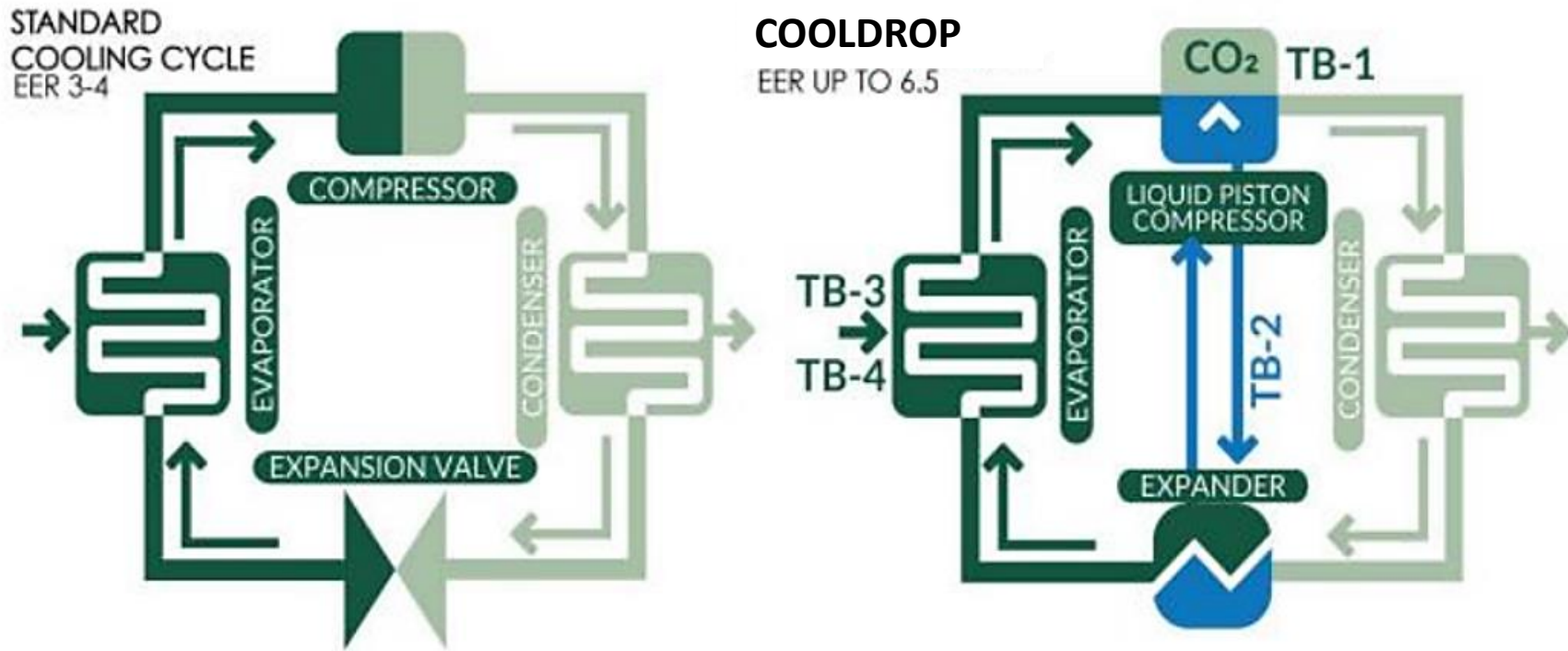
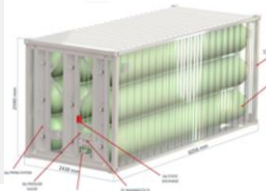
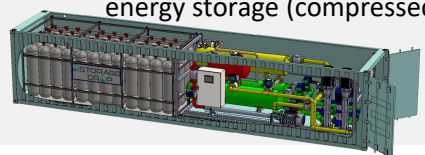
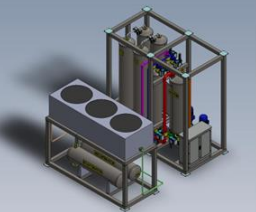


Figure 1- SD diagram vs conventional CO<sub>2</sub> diagram.

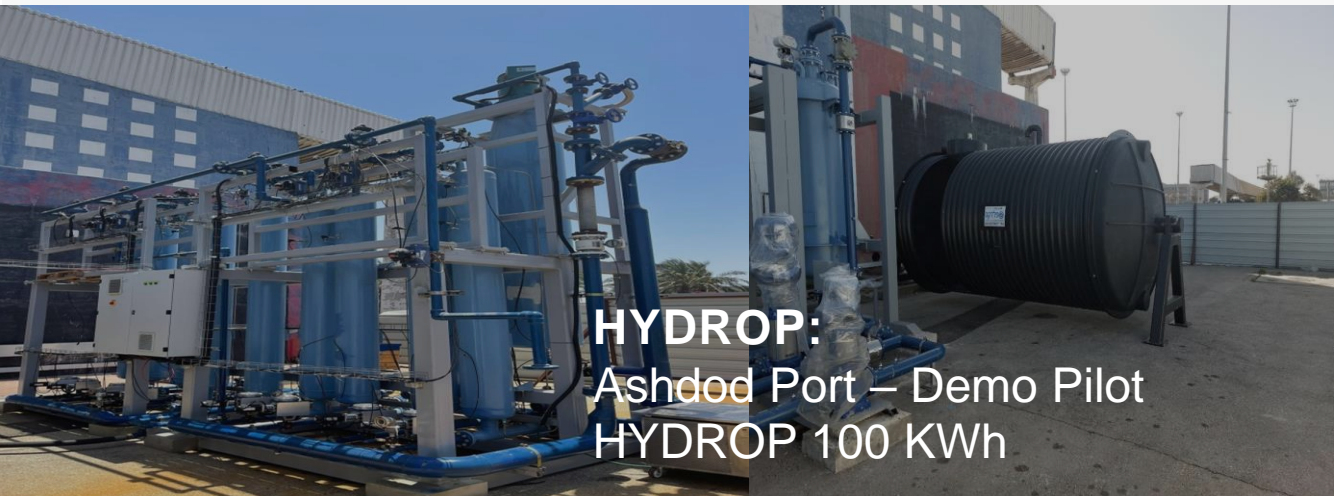
# Supply of products inside containers

Product	Goal	Containers	Advantage
HYDROP	Energy Storage and Power Generation	 <p>High pressure energy storage containers (compressed air)</p>	<ul style="list-style-type: none"> <li>✓ Off-site system production</li> <li>✓ Plug &amp; Play system connection</li> <li>✓ Possibility to install containers on several levels to save space</li> <li>✓ Product standardization</li> </ul>
DROPX	Compressed Air storage and compressed air generation	 <p>Air compression container and energy storage (compressed air)</p>	
COOLDROP	Cooling storage and cooling power generation	 <p>Chiller container (cold production)</p>	

# Business Model

Product	Goal	Market	Business Model
HYDROP	Energy Storage and Power Generation	Electricity generation during peak hours when no alternative energy source is available	Electricity sales at peak tariffs (evening hours)
DROPX	Compressed Air storage and generation	Industrial plants consuming compressed air (food, pharma, semiconductors...)	System manufactured/installed by SD at no cost to the customer. Revenues from the sale of compressed air based on actual measured quantities + % of electricity cost savings
COOLDROP	Cooling storage and generation	Air conditioning systems, refrigeration rooms, data centers...	System manufactured/installed by SD at no cost to the customer. Revenues from the sale of Ton of refrigeration based on actual measured quantities + % of the electricity cost savings (15 years contract)

# Projects Completed



**HYDROP:**  
Ashdod Port – Demo Pilot  
HYDROP 100 KWh

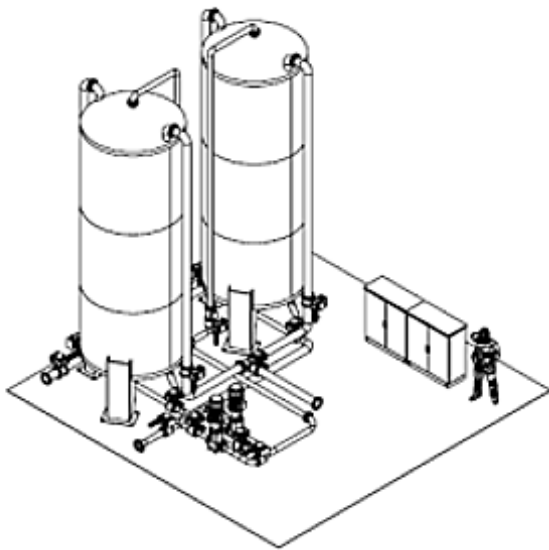


**:COOLDROP**  
Rehovot Demo Pilot  
CoolDrop 5 TR

# Project in progress: 2.3 MNIS TNUVA Elon Tavor

Delivery of a DROPX8 compressor implementing the Liquid Piston Technology developed by Storage Drop

Compressor 8 Bar



## **Work contents by Storage Drop**

- Design, manufacture, supply and installation of DropX8 compressor
- Operating the compressor, selling the compressed air in actual measured quantities and/or revenue share of electricity cost savings

## **Business model:**

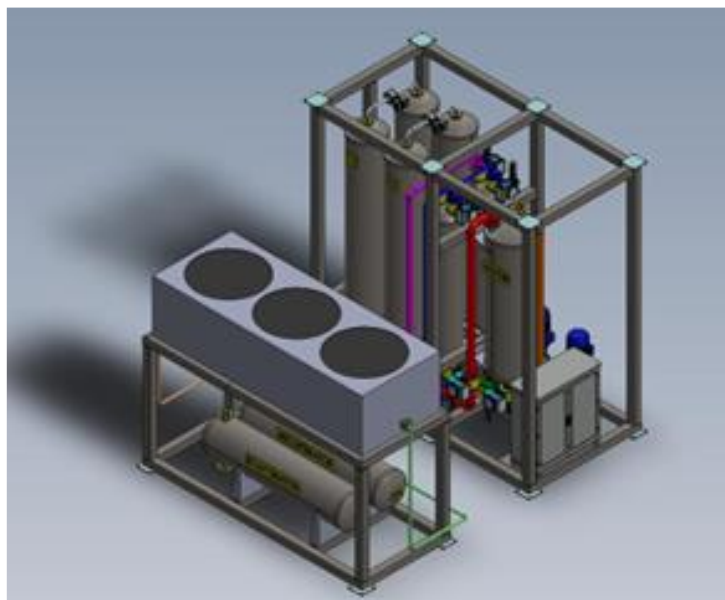
- The system is manufactured and installed by SD at no cost to the customer.
- Revenues from the sale of compressed air based on actual measured quantities and/or revenue share of electricity cost savings
- 15-year contract



# R&D Project in progress: 2.5 MEuro EU Commission

Development of cooling system for low temperatures (-40 c to 12 c)

Electricity In



Cooling -40 c to 12 c

## **Work contents by Storage Drop**

Development, design, manufacture, supply and installation of COOLDROP System.

## **Future Business model:**

- The system is manufactured and installed by SD .
- Revenues from the sale of cooling based on actual measured quantities and/or electricity cost savings
- 15-year contract

# Projects in Pipeline



## Grants approved:

- European Union – Chiller – Total Approved budget of 2.5 million Euros (Q3 2024)
- Israel Innovation Authority – Liquid Piston Compressor - Total approved budget: 2.315 MNIS (Q2-2024)

## Future Projects:

- Compressor DropX40- Beverage companies
- Compressor DropX8 chemical companies
- Commercial Cooling project Process companies
- Construction of Energy Storage System for Electricity Generation 1-10 MWh



Thank you!

Storage Drop Technologies

Making green energy available  
for All.



[www.storagedrop.com](http://www.storagedrop.com)