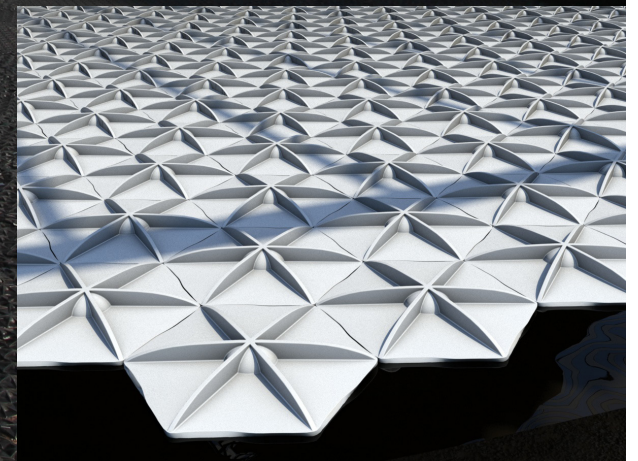


HEXA-COVER® OIL & GAS REFERENCES

PROVEN TECHNOLOGY SINCE 2004



Canada

Harold Marcus Terminals, Inc.:

"In an attempt to reduce fuel odors, and benzene emissions, it was decided to install a Hexa-Cover® system on one of our transmix tanks (gas & diesel mixed), here at the Marcus Terminal in January 2016.

The tank chosen is a 4000 bl. tank, measuring 30 feet wide and 32 feet high. Installation was facilitated through a 24 inch manway cover on top of the tank, where by a large nylon bag containing 1.200 individual hexagonal, interlocking "pucks", was suspended over the manway, using a crane, and the tie on the bottom of the bag released, dispensing the 1.200 pucks in the bag, into the tank, in a matter of seconds. This procedure was repeated for three bags, and in the space of an hour and a half, the installation was complete. A box of 24 additional pucks was supplied and added as the covers came together and interlocked on the fluid surface, exposing gaps.

Since the cover has been installed, it has been observed that odor in the headspace, of the tank has been reduced by an estimated 90%, and around the exterior of the tank, the odor is at times, nonexistent.

Testing of benzene emissions in the headspace of the tank, is ongoing, with preliminary results indicating a reduction of 60 %.

To date, we are very pleased with the performance, and simplicity of Hexa-Cover® that we have installed on our transmix storage tank"

Update November 2025

The Oil & Gas Duty Hexa-Cover® have been perpetually exposed to Transmix Fluids over a 10 year duration. A sample Cover was fished out of the vessel and examined for weight and overall dimensions.

The 10 year used Cover is within the originally stated margin of weight (+/- 5 grams) for their original weight specification.

A darkening of the polymer from the hydrocarbon fluids is the only indication that this Cover is not brand new.

The overall physical dimensions of the used Cover is identical to a new Cover.

Hexa-Cover® Oil & Gas Duty:

Before and after 10 year duration



Canada

More than 3.000 installations for the Hexa-Cover® Oil & Gas technology has been deployed, for controlling i.e.:

- * Reduce tank vent emissions such as BTEX Benzene, Toulene, Ethylbenzene and Xylene
- * Lower tank head space vapour load burdens
- * Reduce water vapour
- * Reduce heat loss
- * Insulation for liquid surfaces
- * Reduce offensive and carcinogenic BTEX odours
- * Reduce expensive defoaming chemicals
- * Reduce energy consumption

CNRL - Canadian Natural Resources Ltd

"Due to the viscosity of produced heavy oil, we need to heat our storage tanks to 80°C in order to liquefy the oil for transport.

Our goal was to reduce the amount of fuel consumed to maintain the temperature in our heavy oil production tanks. The storage tanks are already insulated but a void space exists between the top of the oil and the top of the storage tank where heat rises and escapes.

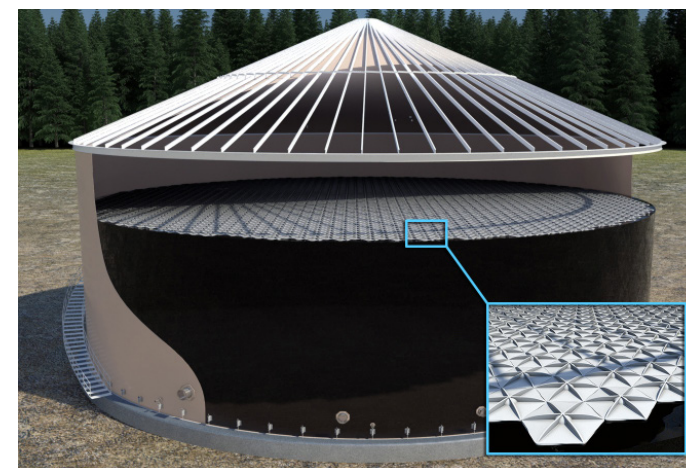
In order to prevent heat loss and improve cost effectiveness, Canadian Natural and a joint venture partner created and tested the installation of a floating blanket that insulates the oil and contains the heat.

This floating blanket consists of several hundred polymer, hexagonal interlocking tiles. Implementation of this floating blanket created a fuel savings of approximately 20 per cent. By consuming less fuel, we expect to avoid over 27kt CO₂e/year of emissions over the 10-year life of the project.

To date, Canadian Natural has installed these floating blankets in over 2,000 heavy oil wells and intends to continue installing them in most of our heavy oil production tanks"

Canadian projects:

Calgary, AB	Heavy Oil
Baie-D'urfe, QC	Gasoline
Goderich, ON	Wastewater
Kitchener, ON	Wastewater
Sarnia, ON	TransMix Fluids
Saskatoon, SK	Wastewater

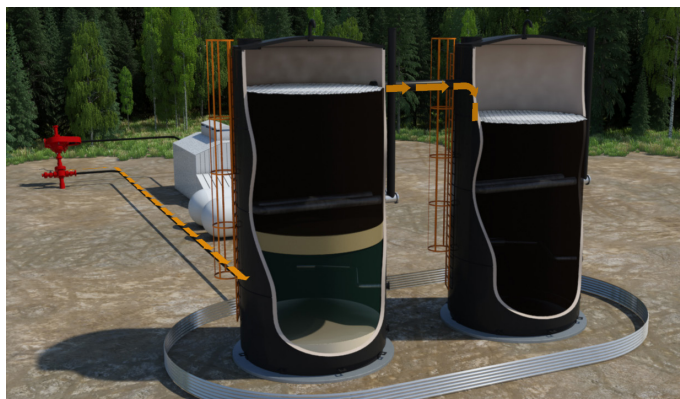


Brazil

Triunfo, RS Wastewater, petrochemical

China

Beijing Industrial wastewater
 Beijing 1.100 m² Industrial wastewater
 Beijing 6.400 m² Industrial wastewater
 Dalian Industrial wastewater
 Dongguan Industrial wastewater
 Harbin 5.500 m² Industrial wastewater
 Hebei Industrial wastewater
 Heinan Industrial wastewater
 Jinzhou Contaminated wastewater
 Nanjing Industrial wastewater
 Tianjin 1.000 m² Industrial wastewater
 Tianjin 3.300 m² Wastewater (petrochem)
 Tianjin 4.000 m² Industrial wastewater
 Qilu SinoPec Contaminated wastewater



Chile

Santiago 800 m² Wastewater, Refinery
 Santiago 2.400 m² Wastewater, Refinery
 BioBio 2.500 m² Wastewater, Refinery
 ConCon 2.700 m² Wastewater, Refinery

Denmark

DK-4400 Refinery (VOC - benzene, toluene)

Finland

FI-99250 CCD (counter current decantation)

France

F-13130 Wastewater / chemicals
 F-13165 Diesel tank
 F-13500 Wastewater Oil & Gas
 F-36670 Wastewater, VOC
 F-44480 Industrial process water (Oil & Gas)
 F-93155 Collection pit (diesel, gasoline etc)

Germany

D-06237 2.300 m² Water storage, Refinery

Greece

GR-1930 1.400 m² Oil & Gas applications
 GR-1930 Crude Oil Tank Farm
 GR-8648 Wastewater (Seawater / Oil mix)

Italy

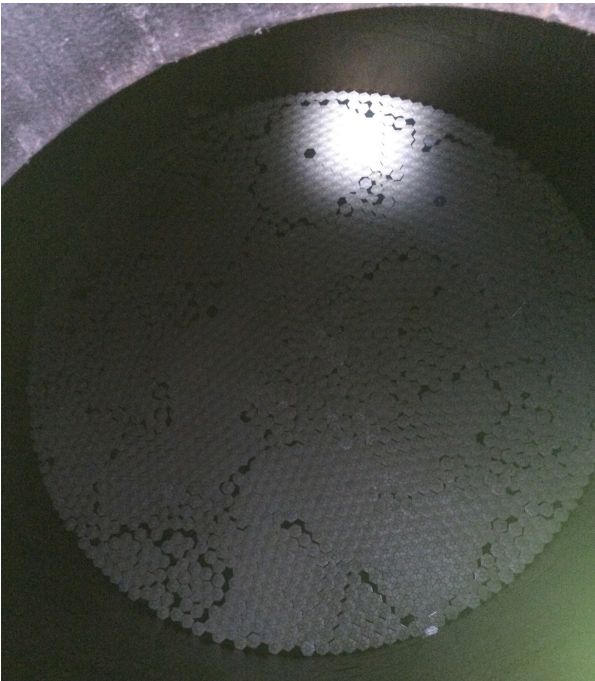
I-74123 Industrial wastewater (Steel)
 I-95121 Water storage facility, Refinery

Jordan

7.900 m² Wastewater

Kazakhstan

Aktogay 4.000 m² PLS reservoir
 Almaty 1.650 m² PLS reservoir





KSA

4.800 m² Wastewater facility
1.100 m² Wastewater pond 60-90°C (VOC etc))
4.350 m² Wastewater

Netherlands, The

NL-6161 Maleic acid / Styrene

Oman

4.200 m² Industrial wastewater, Petrochemical)

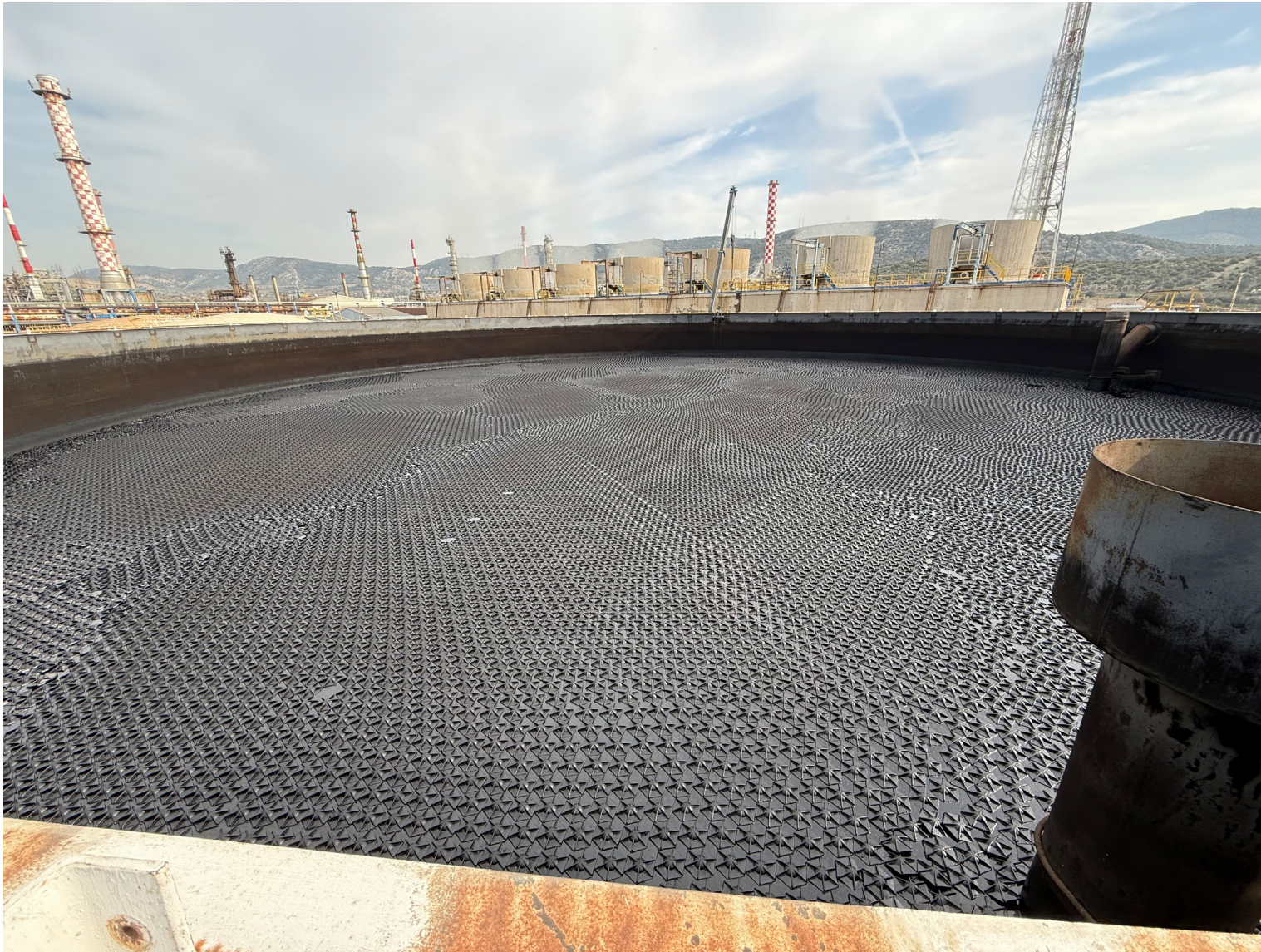
Qatar

4.160 m² Industrial wastewater, Petrochemical)





Effective coverage for all fluids



Effective coverage for all fluids

Water scarcity: a growing problem!

Hexa-Cover® helps Australia reduce evaporation by 73%.

Additionally, Hexa-Cover® eliminates algae growth and prevents unwanted birds and ducks from landing on the covered water.

All to the benefit of the environment and human beings.

[Link, article](#)

Government of Western Australia

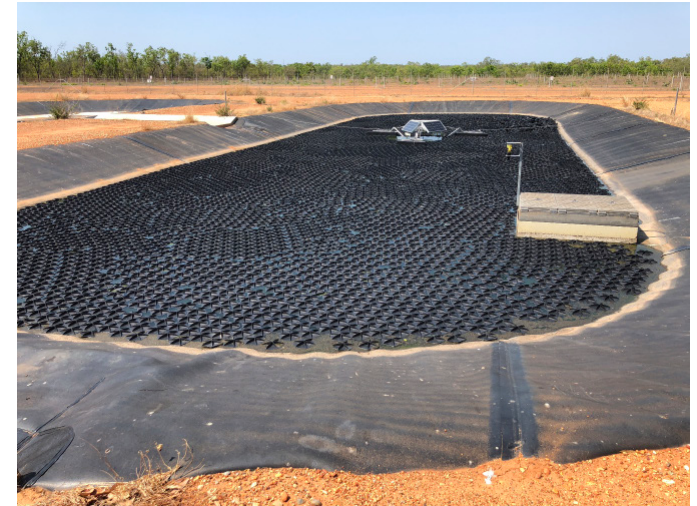


"Made from 100% recycled plastic, the covers were shown to reduce evaporation by 73%, saving more than 1.6 million liters of drinking water, during a recent trial involving researchers from the University of Western Australia in Wellstead, 90km east of Albany."

More Water Better Water

[Link, video](#)

ABC News



Another dam well underway:



Norway

N-5954 Wastewater / crude oil

Spain

E-08272 Hazardous wastewater
E-13500 Indu. wastewater (Refinery/Petro)
E-43110 Styrene

Sweden

S-453 92 Petrochemical wastewater

Switzerland

CH-1868 Water storage facility
CH-8353 Water storage facility

UK

DA11 Industrial water storage (1.500 m²)
EH27 Industrial wastewater

Uzbekistan

Tashkent 6.000 m² Refinery

USA

Clarksburg, WV 2.315m² Frac Water Tank
Colorado 5 x Frac Water Tanks
Pacheco, CA 1.800 m² Water reservoir

Installation, videos:

[Single Tank Thief Hatch](#)

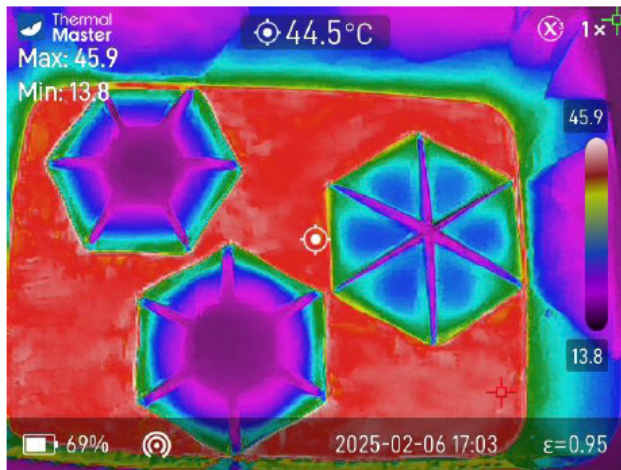
[Side Door / Door Pull](#)

[Multi-Tank](#)



Heat loss

Thermal Imaging of R114 (Far Right, API Middle, HD Far Left)



[Link, full report](#)

Executive Summary

This study extends the Aalborg University thermal performance analysis of the legacy Hexa-Cover R114 model to three modern designs: **ED**, **HD**, and **API**. Using a modernized EPS foam test module and the same three-experiment energy-balance method employed in the Aalborg study, the thermal resistance (R-value) and heat-transfer coefficient (U-value) of each model were quantified under controlled cooling conditions.

All three new models demonstrated substantial insulation improvements relative to a free water surface and significantly outperformed the R114 design. After correcting for background heat loss through the EPS module, the API, HD and ED models stabilized at R-values near **0.31 m²·K/W**, compared to **0.13 m²·K/W** for the R114. This represents a **2.38 times improvement in thermal resistance**. Operationally, the new models reduced conductive, convective, and radiant heat flux by **up to 87.7%** relative to open water, compared to 74% for the R114 model.

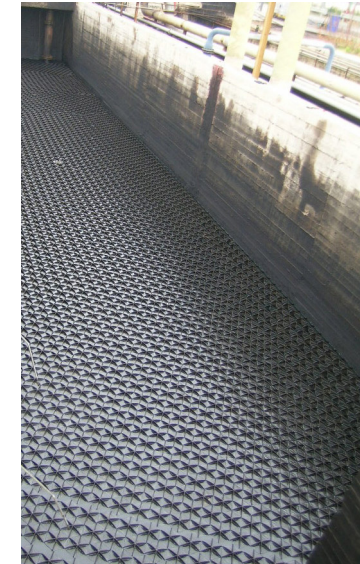
Hexa-Cover® is widely used to reduce heat loss from open tanks, ponds and reservoirs.

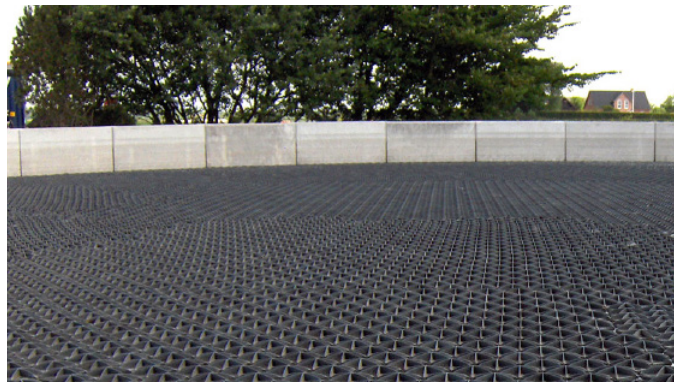
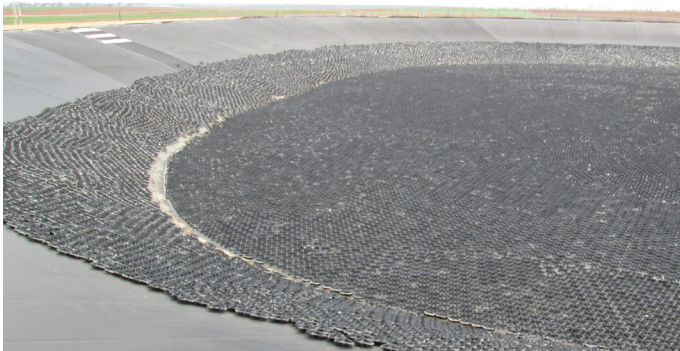
By covering up to 99% of the liquid surface, Hexa-Cover® significantly reduces the primary mechanisms of heat loss, particularly evaporation and wind-induced convective cooling.

The floating elements also reduce surface turbulence and limit direct contact between the liquid and the surrounding air.

As a result, the liquid retains its thermal energy for longer, providing a more stable operating temperature and potentially reducing the energy required for reheating.

This can provide significant operational and energy-saving benefits in applications where maintaining liquid temperature is important.





For more information

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