

## H4™ A SUSTAINABLE TECHNOLOGY SOLUTION FROM BLUMETRIC

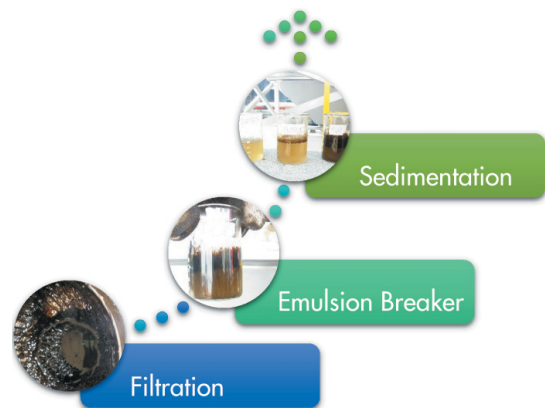
H4 is an innovative, sustainable and cost-effective process that not only treats Heavy Fuel Oil (HFO) waste from marine & industrial applications but also recovers up to 50% of the volume for reuse. Developed by Canada's BluMetric Environmental group, H4 is a proven technology platform that can significantly lower the environmental impact of HFO-

based processes and yield a return on investment of 12 months or less. For any operations employing HFO or managing HFO wastes – from port authorities to energy producers and mining companies – H4 is a core component of an effective environmental management program.

### THE H4™ PRODUCT DESCRIPTION

The composition of HFO or Bunker Oil #6 often varies in water content, the quantity and size of suspended particulates and solids. HFO contains contaminants up to 0.6% of the fuel consumed that must be removed before it is used in industrial diesel applications. The resulting HFO waste is a material that can contain up to 50% recoverable HFO but in the raw form has limited use and most often must be disposed of at a cost to the user of the fuel. BluMetric has designed and manufactures a HFO recovery system to refine this waste product and yield up to 95% of the recoverable HFO. This system has been trademarked as the H4 System. It is robust, capable of adapting to a wide range of source waste product. The H4 system is available as an automatic and/or semi-automatic treatment unit and is compact, versatile, modular and therefore scalable to allow the modification of the unit or the

treatment process with the addition or subtraction of a process step to improve treatability and meet the client's waste stream requirements. The H4 employs both physical and chemical treatment processes, based on three major operations.



**BluMetric** provides complete design-build services under turnkey conditions. We develop and manage the implementation schedule, supervise site work and construction,

oversee installation and commissioning, and ensure that client personnel are properly trained in the operation and maintenance of the completed facility.

The compact & modular **H4** package can rapidly, reliably and economically accomplish the following:

- CONVERT WASTE INTO A REVENUE-GENERATING RESOURCE.
- TREAT WASTE-OIL STREAMS FROM AS LESS THAN 2,000 USGPD TO OVER 10,000 USGPD.
- DELIVER A RETURN-ON-INVESTMENT OF AS LITTLE AS 12 MONTHS.

### HEAVY FUEL OIL APPLICATIONS

- CRUISE AND CARGO SHIPS
- POWER GENERATION STATIONS
- INDUSTRIAL FIRE BOILERS
- BLAST FURNANCES



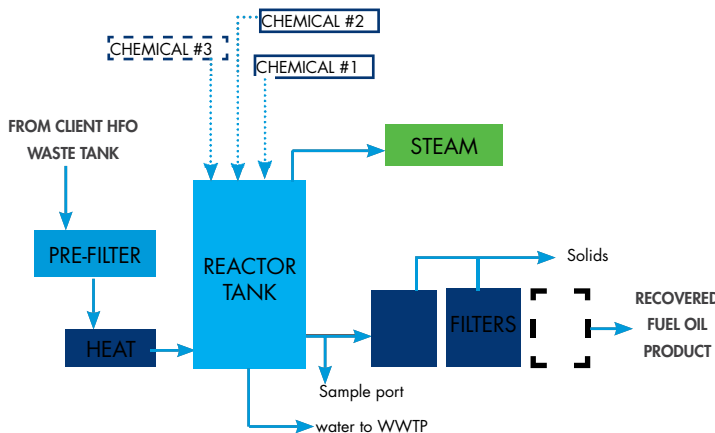
## BENEFITS

With the introduction of H4, BluMetric has developed a unique resource-recovery solution that turns a waste, previously requiring expensive disposal, into a high-value, marketable resource. Typically, the H4 will recover a fuel product with the following characteristics:

Component	HFO Waste Material	Recovered HFO Product	Fuel Oil #6
Water Content (volume %)	60-65	2-1	0.5
Kinematic Viscosity at 50°C (cSt)	3000 – 3600	300 – 600	650 max
Heat of Combustion - Gross (Btu/lb)	7,100 – 7,800	18,000	18000 min
Solids - Particle Size	All size ranges	< 50 microns	20 microns

At **BluMetric Environmental Inc.**, our team of water sector professionals specialize in treatment system design, installation, startup, operation and operator training. Our focus is on the selection of the most appropriate processes and technologies for each individual client and application. Our experts work with the client to develop a complete

understanding of the physical/chemical make-up of the waste (sludge/water/HFO) to be treated, the output requirements, and any regulatory constraints. We then develop a treatment scenario and select the exact process technology components to meet that unique set of requirements.



## H4™ ADVANTAGES OVER TRADITIONAL TECHNOLOGIES

- ✓ SMALLEST POSSIBLE FOOTPRINT
- ✓ HIGHEST QUANTITY AND QUALITY OF RECOVERED HFO
- ✓ EASE OF OPERATIONS AND MAINTENANCE
- ✓ EASY TO EXPAND IN LINE WITH FUTURE CAPACITY GROWTH
- ✓ COST-EFFECTIVE TO OWN AND OPERATE
- ✓ RECURRING-REVENUE GENERATOR

- BluMetric supports industry leaders in not only managing and minimizing their environmental impact but also in seizing the economic benefits that a sustainable approach can yield.
- Our primary goal is the satisfaction of each client's environmental needs in the most technically suitable and cost effective manner.
- BluMetric conduct bench and pilot scale testing to prove the concept, develop control parameters and provide information relevant to the design of full-scale system.



To learn more about the H4 System™, contact BluMetric today: [info@blumetric.ca](mailto:info@blumetric.ca)