THERMINOL
Heat Transfer Fluids by Eastman

From wood to wattage

Canadian forestry companies turn trees into eco-treasure.

PROBLEM	ANALYSIS	SOLUTION	RESULT
Canadian environmental legislation requires sawmills to end traditional burn-off practices commonly used to dispose of waste wood.	The Canadian forestry industry is looking for energy-smart solutions to manage wood waste.	Many companies in the Canadian forestry industry invested in well-established organic Rankine cycle (ORC) technology. Eastman Therminol® heat transfer fluid proved to be a key component in ORC systems that upholds a reputation of reliability and proven performance in similar systems throughout the globe.	These Canadian forestry companies are now powering their plants with their own waste wood while providing excess energy for the local grid.

Trees are the ultimate renewable resource. Sawmill companies and university forestry programs have discovered new, innovative ways to maximize the use of nearly 100% of the excess wood fiber in sawmills, pulp mills, and pellet plants. The result is quality products for customers and green energy to power and heat their operations.

In the past, most sawmills simply burned waste wood into the environment. New technologies introduce a process that recycles waste wood, or biomass, into clean energy resources. Biomass has an alternative use as fuel and is especially advantageous for generating electricity in power stations. Furthermore, because biomass is so plentiful, these sawmill plants then sell the excess energy to the provincial grid.

"There is a strong commitment to sustainable forests here. Many of our customers' woodlands are certified to the Canadian Standards Association Sustainable Forest Management Standard. Today, companies are making sure their operations are just as sustainable as the forests they manage," explains Brad McCann of Eastman Canada. "ORC systems use a biomass burner to heat a synthetic heat transfer fluid which, in turn, heats a working fluid. The working fluid is evaporated to turn a turbine that produces power. The fluid then goes through a condenser where it recirculates to complete a continuous loop. The heat transfer fluid in the primary loop is also maintained within a closed-loop system. The heat that is not consumed in creating power can be used in heating processes to complete the CHP process."

Heat transfer fluids (HTF) are at the heart of every ORC system. They provide the lifeblood necessary to produce power and heat. Before selecting the system to be used, Eastman helps equipment vendors navigate important questions to consider not only when choosing an HTF but also for system design, components of construction, and best practices for operations and maintenance.

Asking the right questions

Sometimes the best answers are found by asking the right questions. Eastman helps companies understand the importance of using an HTF with a solid track record. The team then encourages ORC equipment suppliers to make choices that will best serve operations in years to come. Heat transfer fluids are an investment, and like any good investment, they need to be maintained and monitored.

For ORC biomass combined heat and power (CHP) operations, here are some of the key questions to consider:

- Where is the HTF fluid made and how long has it been manufactured?
- How secure is the supply of the fluids?
- In how many applications has the product proved successful and at what temperatures?
- Is the product readily available for top offs?
- What is the lead time for large fills?
- How is used fluid returned?
- If problems arise, who is available for fluid review and maintenance advice?
- Are there local distributors who can help?

Therminol 66 fits the biomass bill

Several forestry operations in Canada use Therminol 66 because it is a high-temperature, liquid-phase heat transfer fluid ideally suited for biomass fuel production. Therminol 66 is pumpable at low temperatures and offers high-temperature thermal stability. "Customers have found Therminol 66 to save them money in the long run because of its reliability and our ability to service remote locations," says McCann. He adds that many customers take advantage of Eastman's unique TLC Total Lifecycle Care® program. Eastman's TLC program offers extensive customer support following the installation of the fluids to help customers maintain their systems properly. "We offer our customers access to the best minds in the business, and this ongoing support keeps plants online and energy flowing."

For more information or to find the sales or technical contact nearest you, visit the "Contact us" page on our website: www.therminol.com.

North America
Solutia Inc.
A subsidiary of Eastman Chemical Company
575 Maryville Centre Drive
St. Louis, MO 63141 U.S.A.

Telephone:
Customer Service, 800-426-2463
Technical Service, 800-433-6997
Fax: Customer Service, (1) 314-674-7433

Latin America
Solutia Brasil Ltda.
A subsidiary of Eastman Chemical Company
Rua Alexandre Dumas, 1711—Birmann 12—
7º Andar 04717-004
São Paulo, SP, Brazil

Telephone:
Brazil, 0800 55 9989
Other Locations, +55 11 3579 1800
Fax: +55 11 3579 1833

Europe/Middle East/Africa
Solutia Europe SPRL/BVBA
A subsidiary of Eastman Chemical Company
Corporate Village—Aramis Building
Leonardo Da Vincilaan 1
1935 Zaventem, Belgium

Telephone: +32 2 746 5000
Fax: +32 2 746 5700

Asia Pacific
Eastman (Shanghai) Chemical Commercial Company Ltd.
Building 3, Yaxin Science & Technology Park
Lane 399 Shengxia Road
Pudong New District
201210, Shanghai, P.R. China

Telephone: +86 21 6120 8700
Fax: +86 21 5027 9229

EASTMAN
The results of insight™

Eastman Corporate Headquarters
P.O. Box 431
Kingsport, TN 37662-5280 U.S.A.

U.S.A. and Canada, 800-EASTMAN (800-327-8626)
Other Locations, +(1) 423-229-2000

www.eastman.com/locations

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