



News Release

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Ensyn Receives Key Regulatory Approvals From California's Air Resources Board

New York, NY – Barry Freel, Chief Technology Officer of Ensyn Corporation (Ensyn), is pleased to announce that Ensyn has been granted key regulatory approvals by California's Air Resources Board (ARB). These approvals relate to the application of Ensyn's Renewable Fuel Oil (RFO™) as a renewable feedstock for refineries in California for the production of renewable gasoline and diesel (Refinery Co-processing). The approvals have been granted pursuant to California's Low Carbon Fuel Standard (LCFS). Ensyn, Chevron U.S.A., Inc. and Tesoro Corporation were co-applicants in this process.

Ensyn converts forest residues and other non-food biomass to a biocrude known as Renewable Fuel Oil, or RFO, through the application of its proprietary RTP® technology. RTP is a fast thermal process that Ensyn has had in commercial use for over 25 years for the production of food products, chemicals and heating fuels. Ensyn is now increasing production capacity for a broader commercialization of its fuels business, including Refinery Co-processing.

Refinery Co-processing involves the processing of RFO in Fluid Catalytic Crackers (FCCs) in refineries alongside traditional FCC fossil feedstocks, resulting in the production of ASTM specification diesel and gasoline. Ensyn has demonstrated this technology in numerous trials and demonstrations, including in operating commercial refineries. Ensyn is commercializing Refinery Co-processing in alliance with Honeywell UOP, a global leader in technology solutions for the refining industry.

The regulatory approvals received from the ARB covers the production of both gasoline and diesel via RFO co-processing in specific California refineries using RFO produced at Ensyn's facility in Ontario from forest residues. The carbon intensity of the resulting renewable gasoline and diesel was determined to be in the range of approximately 20-25 g CO₂e/MJ, or approximately 70% less than traditional petroleum-based fuels. Ensyn expects that RFO produced at locations closer to the refineries will have reduced carbon intensity due to lower transportation impacts.

CJ Warner, Executive Vice President of Strategy and Business Development at Tesoro, said, "We are very pleased to see these regulatory pathways confirmed. These approvals help support and validate our plans to process these renewable feedstocks using our existing infrastructure to produce less carbon-intensive fuels and help lower the cost of compliance with LCFS requirements in California."

Veronica May, Vice President and General Manager of Honeywell UOP's Renewable Energy and Chemicals business, said, "We congratulate Ensyn, Chevron and Tesoro on securing these regulatory pathways. We believe Refinery Co-processing offers refiners a cost-effective and efficient option for integration of cellulosic feedstocks into their operations."

RFO Co-processing

RFO co-processing is an innovative approach for the production of renewable gasoline and diesel. Conventional biofuel solutions are based on producing blend fuels, such as ethanol and biodiesel that are blended with finished fuels post-refining. In contrast, Ensyn's co-processing solution provides refiners with a renewable feedstock and the result is ASTM specification transportation fuel, not a blend. RFO co-processing is based on the conversion of non-food, cellulosic feedstocks to fuels, avoiding competition with food markets. In 2015, Ensyn received Part 79 approvals from the U.S. Environmental Protection Agency for its renewable diesel (RFDiesel) and renewable gasoline (RFGasoline).

Ensyn & Honeywell UOP

Ensyn and Honeywell UOP have a broad technology alliance that covers the production of RFO, as well as the commercialization of RFO co-processing. Ensyn and Honeywell UOP have established a joint venture known as Envergent Technologies LLC (Envergent) that licenses Ensyn's biomass conversion technology (RTP®) for certain applications and provides performance guarantees to RFO projects that Envergent, Ensyn and Ensyn's partners are developing worldwide. In addition, Ensyn and Honeywell UOP are collaborating on the commercialization of RFO co-processing. Under this collaboration, Honeywell UOP is interfacing with refiners and facilitating a seamless integration of RFO into their refineries.

About Ensyn Corporation

Ensyn utilizes a proprietary and innovative process to produce a biocrude from forest and agricultural residues that is suitable for both heating applications, and further upgrading in existing oil refineries. Ensyn has been applying its core RTP® technology for more than 25 years for the production of food ingredients, chemicals and heating fuels and is in the process of increasing production capacity for a broader commercialization of its fuels business. Ensyn owns and operates a commercial production facility in Ontario, Canada from which it sells RFO to industrial and commercial heating customers in the U.S. and Canada. Additional RFO production capacity is under development in Quebec, Canada; Aracruz, Brazil; and in the U.S. State of Georgia. Ensyn is executing its business plan in conjunction with key strategic relationships, including Honeywell UOP, Fibria Celulose S.A. and Chevron Technology Ventures.

About Honeywell UOP

Honeywell UOP LLC (www.uop.com) is a leading international supplier and licensor of process technology, catalysts, adsorbents, equipment, and consulting services to the petroleum refining, petrochemical, and gas processing industries. Honeywell UOP is a wholly-owned subsidiary of Honeywell International, Inc. and is part of Honeywell's Performance Materials and Technologies strategic business group, which also includes Honeywell Process Solutions, a pioneer in automation control, instrumentation and services for the oil and gas, refining, petrochemical, chemical and other industries.

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