# Project Spotlight

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**Iowa Economic Development Authority** | Des Moines, Iowa

## Anaerobic Digestion and the Water Energy Nexus

Iowa leads the world in renewable fuel production. There are 41 operating ethanol plants with a capacity of nearly 3.7 billion gallons and 15 biodiesel refineries producing a combined capacity of approximately 325 million gallons. The State is also a leader in the use of biomass as feedstocks for the production of a broad range of industrial bio-based products including fuels, chemicals, polymers and materials.

However, maintaining a leadership position requires staying ahead of competition: second-generation technologies and start-ups that can disrupt traditional ways of doing business. This requires being constantly vigilant of emerging trends, future-proofing business models, and writing policy that supports sustainable development. EcoEngineers has consulted for the Iowa Economic Development Authority (IEDA) since 2014. Our aim is to advance IEDA's goals of maintaining Iowa's position as the leader in the clean fuels space.

### Key Performance

- Helped write the Iowa Energy Plan and the Biomass Resource Action Plan for Iowa — a strategy for the State to take full advantage of the opportunities presented by the growth of the global bio-economy sector
- Created the Iowa Biogas Asset Map, which identified statewide potential for biogenic carbon and its potential value in emerging low-carbon fuel markets
- Developed regional waste shed reports and conducted outreach at more than 40 Iowa counties to identify best potential locations for low-carbon fuel production.
- Conducted an in-depth analysis of feedstocks, bio-methane potential, wastewater infrastructure design, and financial pro formas of operating regional wastewater systems as bio-refineries at three locations
- Evaluated environmental and economic impact of regional anaerobic digesters and energy crop production on nutrient runoff to improve overall surface water quality

### Key Results

- IEDA gained a broader and deeper grasp of the integration of farm practices, fuel production, and carbon markets; It has committed resources to lowering the carbon intensity of its first-generation renewable fuel facilities
- IEDA committed resources to reviewing Iowa's wastewater system infrastructure and policies, keeping in mind the potential of operating regional wastewater systems as bio-refineries
- EcoEngineers has been able to bridge the divide for the State between current clean water regulations, their costly upstream pretreatment systems, and emerging clean fuel regulations place a high value on biogenic carbon in the production of low-carbon fuels
- **Project duration:** 2015-present
- **EcoEngineers team:** Jim Ramm, Brad Pleima, Zhichao Wang
- **Project reference available upon request.**