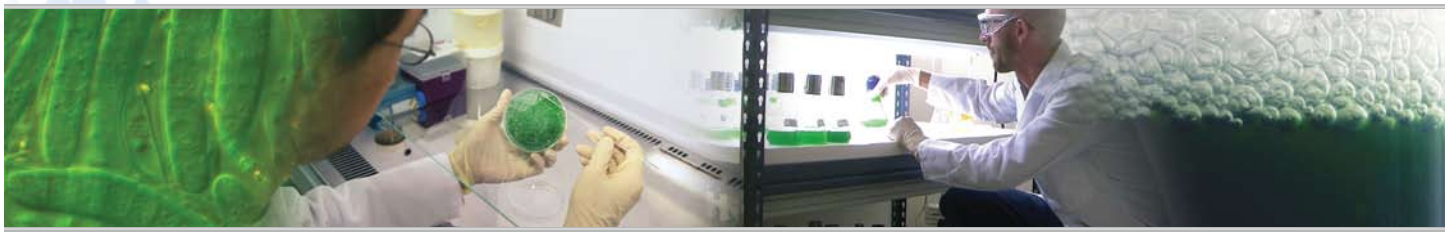
SYNTHETIC GENOMICS®



Next Generation Algal Biofuels Fact Sheet

Alliance between Synthetic Genomics Inc and ExxonMobil Research and Engineering Company

The Alliance and Financial Terms

The strategic alliance between Synthetic Genomics, Inc (SGI) and ExxonMobil Research and Engineering Company (EMRE), represents a comprehensive research and development agreement to explore the most efficient and cost effective ways to produce next generation biofuels using photosynthetic algae.

- Using our scientific expertise, SGI will continue its work to discover and develop superior strains of algae using leading edge genomic technologies. The teams will also look to define and develop the best production systems - open (ponds), and/or closed (e.g. tubular) photobioreactors - for large-scale cultivation of algae and conversion of their products into useful biofuels.

- SGI will receive milestone payments for achievements in developing technology related to algal-based biofuels and related products. Total funding for SGI in research and development activities and milestone payments could amount to more than $300 million with the potential for additional income from licensing to third parties.

- Under the program, if research and development milestones are successfully met, ExxonMobil expects to spend more than $600 million, which includes $300 million in internal costs and potentially more than $300 million to SGI.

- The majority of the research performed by SGI will take place in its facilities located in La Jolla, CA. EMRE will conduct its research primarily at its Clinton, NJ and Fairfax, VA facilities. The sites for scale-up activities will be determined at a later date.

- As part of the agreement SGI will be building a new greenhouse and test facilities, as well as hiring a substantial number of new employees.

Specific Alliance Activities

Through aggressive and comprehensive research and development, SGI and EMRE will work together to develop innovative solutions for the challenges of large scale production and commercialization of biofuels from photosynthetic algae. Main activities include:

- Identifying and/or developing algal strains that can achieve high bio-oil yields at lower cost
- Determining the best production systems to use for growing algal strains - either in open (ponds) or closed (e.g. tubular) photobioreactors, or both
- Determining how to supply large amounts of carbon dioxide needed to grow algae, which could provide benefits for mitigating greenhouse gas emissions
- Developing the large, integrated systems required for full scale, economic production, upgrading and commercialization of biofuels

In the coming years, the SGI/EMRE biofuel advancement from photosynthetic algae will proceed through six phases, each representing an essential step in the production chain:

- **Phase One** –Algae development and growth
- **Phase Two** –Algae harvesting
- **Phase Three** – Recovery of bio-oil produced by the algae
- **Phase Four** – Transport and storage of bio-oil
- **Phase Five** – Conversion of bio-oil to biofuel
- **Phase Six** – Production of commercial products

SGI's primary roles:

- Leadership role in biological research for algae strain development, growth and harvesting
- Key role in determining which type of production systems to use to grow the algae
- Key role in bio-oil recovery research and development

EMRE's primary roles:

- Leadership role in engineering, process development and scale up
- Key role in determining which type of production system to use to grow the algae
- Key role in upgrading bio-oil produced by photosynthetic algae into finished products, and total process integration for development and commercial applications

Advantages of Algae

The potential benefits of biofuel from photosynthetic algae could be significant:

- Algae can be grown using land and water unsuitable for crop plant or food production, unlike some other first and second generation biofuel feedstocks.
- Select species of algae produce bio-oils through the natural process of photosynthesis, requiring sunlight, water and carbon dioxide, supplemented with nutrients.
- Growing algae consume carbon dioxide, providing greenhouse gas mitigation benefits.
- Bio-oil produced by photosynthetic algae and the resultant biofuel will have molecular structures that are similar to the petroleum and refined products we use today. This helps ensure the fuels are compatible with existing transportation technology and infrastructure.
- If successful, bio-oils from photosynthetic algae could be used to manufacture a full range of fuels including gasoline, diesel fuel and jet fuel that meet the same specifications as today's products.
- Algae yield greater volumes of biofuel per acre of production than other crop plant -based biofuel sources. Algae could yield more than 2000 gallons of fuel per acre of production per year. Approximate yields for other fuel sources are far lower. Examples include:
    - **Palm** - 650 gallons per acre / year
    - **Sugar cane** - 450 gallons per acre / year
    - **Corn** - 250 gallons per acre / year
    - **Soy** - 50 gallons per acre / year
- Algae used to produce biofuel are highly productive. As a result, large quantities of algae can be grown quickly, and the process of testing different strains of algae for their fuel-making potential can proceed faster than with other crops with longer life cycles.