

❖ NEWLIGHT TECHNOLOGIES

NEWLIGHT TECHNOLOGIES, LLC (“NEWLIGHT”) has developed, patented, and commercialized a game-changing carbon capture and plastics manufacturing technology. On a large-scale basis, NEWLIGHT is converting air and greenhouse gas into high-performance thermoplastics that can match or exceed the performance of a wide range of oil-based plastics while out-competing on price. NEWLIGHT’s mission is to position itself as a world leader in thermoplastic production, supplanting oil-based thermoplastics with greenhouse gas-based thermoplastics on a commodity scale. The company was founded out of Princeton University and Northwestern University under the leadership of Mark Herrema and Kenton Kimmel.

The market for a cost-effective, high-performance, sustainable plastic within the 400 billion pound per year plastics market is vast and rapidly growing. Most plastics are currently derived from oil and other fossil fuels; however, with the sustained rise in oil prices over the past decade, the cost to produce commodity plastics has risen steadily, and demand for an alternative source of plastic is extensive. While most commodity plastics, such as ABS, polypropylene, and polystyrene, are currently priced from \$0.70 to \$1.30 per pound, **NEWLIGHT is able to produce high-performance plastics that can out-compete commodity plastics on price.**

In addition to out-competing on price, NEWLIGHT’S plastics also exhibit a range of unique features that significantly augment the product’s value:

- **Sustainable.** NEWLIGHT’S plastic resins, called Airflex™, are made by sequestering carbon and oxygen out of air and greenhouse gas, including greenhouse gas from sources such as wastewater treatment plants, landfills, and energy production facilities. That means no oil, no food crops, and no GMOs—just clean, abundant, sustainable inputs.

- **Biodegradable.** Airflex™ is a naturally biodegradable polyester, and can be compounded with both biodegradable and non-biodegradable formulations according to the durability needs of a given application. Airflex™ can be separated in traditional recycling systems, and can be reused through multiple re-processing cycles.

- **Regeneratively Recyclable™.** As a naturally biodegradable plastic made from air and greenhouse gas, Airflex™ can be manufactured into regeneratively recyclable™ products: products that start, finish, and recycle via biodegradation as greenhouse gas.

- **Carbon-Negative™.** By using greenhouse gas as a carbon input, Airflex™ resins can be produced as carbon-negative™ materials, quantifiably improving the environment by reducing the amount of carbon released into the air. NEWLIGHT’S Airflex™ manufacturing process can thus be used to produce *carbon-capturing™ materials* that reduce carbon emissions and enable both consumers and industrial manufacturers to combat climate change on a quantifiable basis.

- **High-Performance.** Airflex™ is available in a variety of functional grades, including replacements for various grades of: polypropylene, polyethylene, ABS, TPU, and other high-volume oil-based thermoplastics.

NEWLIGHT currently produces and sells Airflex™ resins out of the company’s advanced-generation (G2) production line in Southern California. Resins produced on the G2 line are packaged and distributed to a range of customers and product development partners, including

some of the largest plastics manufacturers in the world. Products being produced include furniture items for one of the largest classroom and office furniture manufacturers in the U.S. and food storage containers for a multi-billion dollar international consumer goods manufacturer. NEWLIGHT'S sales commenced in 2012, and in late-2012, NEWLIGHT received a letter of intent from a customer to purchase 12.5 million pounds of Airflex™ resins. NEWLIGHT'S Airflex™ resins are currently being sold to or developed with multiple Fortune 500 partners, including for the production of furniture, bottles, cap/enclosures, and food containers.

NEWLIGHT's technology has been successfully operating at large scale over a multi-year period, and is protected by an extensive portfolio of intellectual property, including eight issued or allowed patents. Recently, NEWLIGHT'S technology was analyzed and validated by the former Global Director of Industrial Biotechnology R&D for a Fortune 50 chemical company, who concluded in a due diligence analysis that NEWLIGHT'S technology platform is "one of the best in industrial biotech I have seen."

In total, NEWLIGHT'S value proposition is simple: match or exceed the performance of existing plastics, provide revolutionary sustainability, and reduce cost.



Picture: furniture components and film made using NEWLIGHT'S Airflex™ resins.