

2020 TIBBETTS AWARD WINNER

ASAT, Inc.



U.S. Small Business Administration



SBIR · STTR
America's Seed Fund
POWERED BY SBA

Nearly 3 billion people worldwide depend on burning biomass in rudimentary stoves or open fires and are exposed to smoke with high concentrations of toxic compounds. ASAT's Integrated Stove achieves near-zero emissions and can charge your cell phone in the process.

LOCATION

OR

Cottage Grove

PHASE III SUCCESS

\$1M+

FUNDING AGENCIES

EPA

Environmental Protection Agency

Impact & Achievement

Did you know that nearly 3 billion people in the world depend on the burning of biomass in rudimentary stoves or open fires? This process exposes individuals to smoke with high concentrations of fine particles composed of toxic compounds. To address this, Oregon-based ASAT, Inc. has developed the Integrated Stove, an innovative electrostatic precipitator, powered by an air-cooled thermoelectric generator, which guarantees close to zero emission biomass residential heating, resulting in protected health and sustainable energy use.

Small Business Innovation Research (SBIR) funding awarded through the U.S. Environmental Protection Agency (EPA) has allowed ASAT to complete the research and development of the ASAT Integrated Stove and three accessories, as well as to manufacture and sell the Integrated Stove and the Jet-Flame. The \$10 Jet-Flame directs high-velocity jets of air into the fire, resulting in dramatic increases in combustion efficiency. ASAT also invented an air-cooled 20-watt thermoelectric generator (TEG), which uses a radiator to create a large temperature differential without water cooling. SBIR funding also allowed ASAT to complete the research and development of an affordable electrostatic precipitator (ESP) installed in the chimney that reduces emissions of particulate matter by up to 90 percent.

ASAT's innovative ESP, powered by the new air-cooled TEG, guarantees close to zero emission biomass residential heating - resulting in protected health and sustainable energy use. SBIR funding has allowed ASAT to succeed in securing international sales, with its products now found in more than 30 countries. Global sales of the Integrated Stove and the Jet-Flame provide a new approach to much cleaner cooking/heating with biomass and reduced illness from respiratory diseases.

EPA SBIR funding was absolutely critical to ASAT accomplishing the research and development involved in creating a state-of-the-art hybrid product with stand-alone accessories. These funds moved ASAT into a position of worldwide influence, and attracted a partnership with the Gates-funded Global Good (IV/GG) organization, which continues to support further research and development and commercialization efforts - including shipping samples worldwide and launches of the product in Africa.

www.aprovecho.org