ETAGEN
186 Constitution Drive ▪ Menlo Park, CA 94025

April 15, 2015

The Honorable John Thune
Co-Chair, Business Income Tax Working Group
511 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Dean Heller
Co-Chair, Community Development & Infrastructure Working Group
324 Hart Senate Office Building
Washington, DC 20510

The Honorable Ben Cardin
Co-Chair, Business Income Tax Working Group
509 Hart Senate Office Building
Washington, DC 20510

The Honorable Michael Bennet
Co-Chair, Community Development & Infrastructure Working Group
458 Russell Senate Office Building
Washington, DC 20510

Dear Senators Thune, Heller, Cardin, and Bennet:

Thank you for the opportunity to submit these comments on behalf of EtaGen, Inc. We applaud you, as well as the Senate Finance Committee under the leadership of Chairman Hatch and Ranking Member Wyden, for your leadership on tax reform.

EtaGen Inc., a California company of which I am a founder, is supportive of comprehensive tax reform. With respect to the energy-specific provisions of the tax code, any exercise should strive to create a technology neutral framework—where technologies are rewarded based upon performance criteria rather than technology type or classification—that will drive innovation. While this aspiration will be subject to stakeholder engagement across the tax landscape—as well as unique political dynamics—in the event that a technology neutral rewrite of the energy tax code cannot be finalized, I urge you to level the playing field within existing energy tax incentives. In particular, the Committee should allow high-efficiency engines to be eligible to claim the investment tax credit (ITC) under Section 48.

Background on EtaGen

EtaGen, Inc. was founded in 2010 by three PhD researchers from Stanford with years of research experience in advanced power generation. Headquartered in Menlo Park, California, EtaGen is developing a technology platform to offer customers clean, reliable, and affordable onsite power generation using domestically produced natural gas or biogas. The company is backed by a syndicate of top-tier investors, including Bill Gates.

EtaGen's High-Efficiency Engine Technology

EtaGen's patented technology redesigns one of the world's most familiar energy platforms—the internal combustion engine—into a highly-efficient and environmentally beneficial solution tailored to America's 21st Century energy needs.

Conventional engines have several shortcomings. First, they are limited to short stroke lengths, which limits the efficiency these engines can achieve. They also require bearings for their many rotating parts, which lead to friction losses. Further, they require oil and spark plugs, which lead to high operations and maintenance (O&M) costs and poor emissions performance.

EtaGen's innovative linear free-piston engine represents a fundamental redesign of the conventional engine and corrects these shortcomings, offering the efficiency and emissions benefits of fuel cells but at a dramatically lower cost. First, its linear design allows for longer stroke lengths, leading to higher efficiencies. Second, EtaGen's engine includes no rotating parts, virtually eliminating friction losses during engine operations. Third, no spark plugs or oil are required, a feature that drastically lowers emissions and O&M costs. As a result, EtaGen's linear free-piston engine can achieve electrical efficiencies of greater than 45% (compared to the 33% average of today's deployed fleet).

EtaGen's technology offers other benefits on top of increased efficiency. For one, it uses domestic natural gas or biogas as a feedstock, enhancing our energy security. In addition, it allows for continuous distributed power generation, either in parallel with the grid or off-grid, which enhances our energy resiliency and reliability.

We are currently testing prototypes in our laboratory and are planning to conduct field trials in 2016 and pilot commercial shipments in 2017.

Tax Reform Should Provide Parity for Innovative New Technologies

On-site power generation through EtaGen's technology or other platforms offers clear advantages over power supply from the grid, including cost savings, emissions savings, and additional reliability and resiliency. However, the technology-specific nature of many energy tax provisions creates an uneven playing field, favoring incumbents over new technologies seeking to be deployed into the marketplace. For example, EtaGen's advanced high-efficiency engine provides equivalent or better efficiencies and emissions as fuel cells while also providing lower costs, higher reliability, and no performance degradation. Despite these benefits, EtaGen's technology is currently at a competitive disadvantage because fuel cells qualify for incentives such as the ITC under Section 48.

Congress should encourage fair competition by passing legislation to provide tax parity for high-efficiency engines like EtaGen's. This type of change can certainly occur as part of tax reform by creating a technology-neutral tax system that evaluates technologies based on efficiency, environmental performance, or other criteria. That said, we understand that tax reform is a long-term goal and Congress must carefully consider proposals affecting all taxpayers. In addition, we understand that crafting a technology-neutral energy tax system is a complex task that will require input from a variety of stakeholders. With that in mind, we urge Congress to provide tax parity immediately by adding technology-specific language to an existing incentive like Section 48. This can occur as part of tax extenders or another legislative vehicle.

EtaGen greatly appreciates the opportunity to provide these comments, and we look forward to working with the Committee as it continues to work towards a fairer, simpler tax system that encourages competition and drives innovation.

Sincerely,

Adam P. Simpson, PhD
Founder, EtaGen, Inc.
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