



September 18, 2019

RE: RFI EM-006-2020

Ms. Emily Cushman  
Program Manager  
168 Capitol Street, Suite 1  
Augusta, ME 04330-6856

Dear Ms. Cushman:

Enclosed please find our response to Efficiency Maine's Request for Information on its Beneficial Electrification Study (RFI EM-006-2020). EnSave is a diversified environmental consulting and engineering firm with over 28 years' experience in designing and implementing energy efficiency and renewable energy projects for utility, government, and NGO clients throughout North America. We are actively engaged in the area of beneficial electrification and currently implement several grant-funded technical assistance projects that involve evaluating beneficial electrification technologies in partnership with rural electric cooperatives. Additionally, we have presented on farm beneficial electrification opportunities and strategy at several events hosted by NRECA, Touchstone Energy, and ACEEE.

While we recognize that the focus of your beneficial electrification study will be on the transportation and heating sectors within Maine, we hope that our input is of value. Please feel free to contact me at any time if you have any questions regarding our input.

Sincerely,

A handwritten signature in black ink, appearing to read "Kyle Clark". The signature is fluid and cursive, with the first name "Kyle" and last name "Clark" clearly distinguishable.

Kyle Clark  
Vice President, Business Development  
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## **Response**

### ***Identify areas or populations in the State less likely to benefit directly from beneficial electrification without additional policy development or utility intervention.***

It is our opinion that rural farming communities and rural small businesses are less likely to benefit directly from beneficial electrification without additional policy development or utility intervention. This is in part due to the “hard-to-reach” nature of such businesses, and a general skepticism of new and emerging technologies within the agricultural community. To overcome these barriers and realize the achievable beneficial electrification potential within these communities, a well-planned marketing and outreach strategy will be needed, ideally including case studies, field demonstrations, and favorable financing schemes to address first cost barriers.

### ***Recommend opportunities for beneficial electrification.***

Specific end-use beneficial electrification opportunities within the agricultural sector include farm tractors, skid-steer loaders, forklifts, and other off-road mobile equipment. There are several commercially available (and soon to be commercially available) electric farm vehicles, including:

- Soletrac eUtility tractor
- Rigitrac SKE 50
- John Deere GridCON
- Fendt e100 Vario electric tractor
- Rigitrac SKE 50 electric tractor
- Escorts electric tractor
- Weidemann eHoftrac loader

In addition to mobile equipment, there are limited opportunities for beneficial electrification of space heating, irrigation pumping, and niche end-uses such as grain and wood drying (via dielectric heating).

For more information, please see the attached article titled, *Farm Beneficial Electrification Opportunities and Strategies for Rural Electric Cooperatives* that was developed by EnSave and funded by NRECA. It is also available online: <https://www.cooperative.com/programs-services/bts/Documents/TechSurveillance/Surveillance-Article-Farm-Beneficial-Electrification-October-2018.pdf>