DATE: Sept. 19, 2021
TO: Jonathan Stemmle
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RE: Secondary Research Revisions and Primary Research Plan

The purpose of this report is to concisely integrate research analysis on renewable energy farming and the farming community in order to develop a recommendation on behalf of the Missouri Farm Bureau for a messaging strategy to persuade farmers to convert some of their acreages to renewable energy. We will first revise our secondary research on renewable energy and our suggested target audience, and then we will determine our primary research plan to round out any potential gaps in essential campaign information.

As a result of the COVID-19 pandemic, the farming industry has been presented with significant financial hardship. Not only has consumer demand decreased for farming industry products, but there also has been a decline in available labor. This disrupts overall farming production. According to the U.S. Department of Agriculture (USDA), “global commodity production has outpaced demand in most years and prices have been falling.”

Although the pandemic furthered problems for the agricultural community, the industry has been struggling for years. Experts don’t believe farmers have “financial breathing room to afford [another] crisis” as the effects of the pandemic continue to burden the economy and the effects of climate change begin to impact the industry (Krishnamurthy, 2020).

As financial obstacles continue to pile up, experts have been forced to shift their focus from traditional farming practices and recommend something new — renewable energy farming. Our initial research showed the transition to and use of renewable energy sources like solar and wind power have the potential to be financially beneficial in the long run because the resources will never run out (UOCS). In fact, wind energy alone has the potential to “provide 80,000 new jobs and $1.2 billion in new income for farmers and rural landowners.”

Furthermore, our research highlighted renewable energy systems’ ability to benefit the majority of farms, regardless of the size or location. “The construction and operation of renewable energy systems can, under the right circumstances, reduce farmers’ energy costs and offer a secondary stream of income to traditional farm operations” (KCEP). The reduction of energy costs and a secondary stream of income from the newly established renewable energy acreage will alleviate some of this financial burden being seen so widely in farming communities across America.

According to the U.S. Department of Energy, the use of solar energy will cause a decrease in electric costs for the farming industry, provide an additional source of income, allow for nutrient and land recharge or degraded lands and give farmers the ability to maintain crop production during solar generation. In terms of income, the U.S. Department of Energy reports that tripling the United States' use of biomass energy could provide as much as $20 billion in new income for farmers and rural communities (UOCS). In terms of electric costs, over the course of the past

10 years, the United States' production capabilities to produce wind turbines have increased, leading to a decrease in the overall cost of generating power from a wind farm. In fact, the average construction cost for wind turbines dropped 16% in 2020 to 1,300 per kW. This significant decrease in production costs over the course of 10 years proves farmers' transition to renewable energy acreage would be financially smart in the current landscape.

Our research also highlighted that renewable energy requires "more manpower than traditional fossil fuels" because it requires additional manufacturing and installation work compared to fossil fuels. This in turn creates an economic ripple effect that benefits the local economy of these communities due to an increase in industry jobs. This increase in jobs helps the economy rebound because consumer concern decreases. "The fear stage is where people start to change their habits to a new life situation, forming new behaviors" (Crabbe). This fear caused by the pandemic has affected the economy on a grand scale, requiring stimulus packages to be sent out by the government. However, the increase in jobs due to renewable energy would help stimulate the economy.

Our secondary research additionally gave us key insights into our potential target audience for our messaging. We believe, based on this research, our target should be small, family farm owners. More specifically, we want to reach farmers who prioritize keeping their farms financially independent in the face of economic difficulties caused by the pandemic.

According to the USA Facts article "Who is the American Farmer?" more than 64% of farmers are male, and more than 62% of farmers are over the age of 55 (USA Facts, 2021). Noting that our target demographic tends to live more traditional family and community-focused lifestyles, it is important to focus on how renewable energy can benefit them and their community.

Moreover, around 775,000 farms in America focus on crop production rather than raising animals, showing us energy use on these community-based farms is crop-centered (USA Facts, 2021). "Using just 1% of the land as a wind farm, we sustain 99% of farmland and generate stable, additional income for local farmers" (WARC, 2017). Based on this information, we know the implementation of renewable energy will not take away from land used for crop production. With the pandemic affecting industries around the globe, a stable income for our nation's farmers would be a welcome sight.

From our initial research, we also learned about the media habits of our target audience. We found that farmers consume traditional media in higher quantities than other consumers (Nourish, 2021). Specifically, 73% of the farmers surveyed in the Nourish Food Marketing study said they use print agricultural publications weekly—viable media channels for our future campaign. Additionally, "75% of farmers use social media, most commonly YouTube, Facebook, and Twitter, in that order" (Nourish, 2021). For those who use digital media, their main focus is on "ag-related education/information." We can benefit from both traditional media in the aspect of viewership and digital media in the aspect of education.

Our research led us to believe our target market can fall into one of five subcategories: independent elites, enterprising business builders, classic practitioners, self-reliant traditionalists and leveraged lifestylers (Wyant, 2019). We believe our target falls under the classic practitioner subcategory — farmers loyal to traditional farming practices and unlikely to innovate their farms. By focusing our marketing efforts on the traditional practitioner segment, we can help to inform a market segment in need of additional revenue of ways to keep themselves financially independent in the changing field of agriculture.

In conducting secondary research, we found an array of useful information to understand renewable energy, the farming industry, and our target audience. However, we were left with unanswered questions. To remedy this, we will develop a primary research plan that provides us with further insights.

Our secondary research provided us with a diverse set of data and statistics to help us understand the obstacles of the agriculture industry and narrow down a target audience. However, as we performed our secondary research, we found that we were missing a sense of character. Our previous research shows an outsider's perspective, and it is crucial to understand the farmers' first-hand experiences to create a successful campaign. In other words, we need to know how farmers themselves feel about the hardships of the pandemic. We need to know the farmers' opinions on renewable energy. We need to know how the farmers feel about their financial situations. Most importantly, we need to understand the motives behind these thoughts. In order to get this information, we have created a primary research plan.

Data shows that the pandemic was a tipping point for the agriculture industry financially, however, is this how the farmers feel? Additionally, how does this economic shift impact farmer's willingness to invest in renewable energy on their land?

By conducting surveys and interviews we hope to get an authentic perspective on the current situation of the farming industry.

We will collect information on our target demographics using both convenience and snowball sampling methods. For our survey, we plan to sample farmers using a convenience sampling method. We will do this by distributing our survey to farmers on The Missouri Farm Bureau's mailing list. We selected this method as it allows us to easily collect data from an existing base of clients. We will find candidates for our interviews using a snowball sampling method. We will select a small number of farmers we feel to match our target demographic and ask that they recommend others for our interviewing process. This will allow us to get a sample of farmers with similar interests and perspectives as they will be recommended by their colleagues.

With further discussion, we drafted some survey and interview questions that may be helpful. Our surveys will focus on gathering quantitative data regarding the current attitudes and behaviors of farmers. The prospective survey will start with general questions regarding the farmer's current practices and financial situations. Further, the survey will dive into questions

regarding renewable energy. The following questions were designed to uncover authentic perspectives regarding the shift to renewable energy:

Read the following statements and rate your level of agreement or disagreement:

1. I value traditional farming practices (i.e. crop rotation, inter-cropping, and agroforestry).
    a. Strongly Disagree
    b. Disagree
    c. Neither Agree nor Disagree
    d. Agree
    e. Strongly Agree
2. I feel the COVID-19 pandemic has affected my business practices
    a. Strongly Disagree
    b. Disagree
    c. Neither Agree nor Disagree
    d. Agree
    e. Strongly Agree
3. Renewable Energy is something I would consider in the future
    a. Strongly Disagree
    b. Disagree
    c. Neither Agree nor Disagree
    d. Agree
    e. Strongly Agree

Furthermore, we generated some interview questions. Our interview questions are designed to uncover barriers that may be holding farmers back from making the shift to renewable energy. Understanding these barriers will allow us to cover all potential discord before putting out the campaign. The following are a few ofthe many drafted interview questions:

- What do you see when picturing the future of agriculture?
- What would encourage you to switch to renewable energy?
- What is your main reason for not switching to renewable energy?

Farmers converting their fallow land to renewable energy farms will provide an extra stream of revenue to an industry facing hardship. Moving forward, our next steps will be to use all of the information that we gathered from our primary research to help inform our campaign by refining our understanding of our consumer profile.

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