OUR ENERGY FUTURE:

STEVENS COUNTY

RURAL DIALOGUES

Rural communities play a key role in our energy, climate, and agricultural future. However, they are often overlooked when it comes to policy solutions and civic engagement. The Rural Dialogues, launched by the Institute for Agriculture and Trade Policy and the Jefferson Center in 2013, seek to change that.

The Rural Dialogues develop community-specific, citizen-driven policy recommendations at the local level to ensure rural voices are heard at the statehouse and beyond. The events focus on the topics of local energy, climate change, extreme weather events, and community resiliency. Our approach is based on the notion that unleashing the diversity of a community is the best way to solve tough problems.

On **December 6, 2017**, the Institute for Agriculture and Trade Policy and the Jefferson Center hosted Our Energy Future: Stevens County, where community members learned about the basics of the energy system, discussed energy goals, and brainstormed ways to achieve their goals.

Then, on **February 28, 2018**, community members met again to turn their energy priorities and ideas into action. Experts highlighted key features of each of their energy goals, and attendees outlined the benefits, challenges to be overcome, and action steps of each goal. Finally, participants voted on the areas they'd like the community to address first.

The following report details the Stevens County community ideas and recommendations from both discussions. As the community moves forward and makes changes to the local energy system, this input from residents will act as a guide.

The Jefferson Center and the Institute for Agriculture and Trade Policy, along with local partners and leaders, will work to identify resources and other forms of assistance to move the following community energy recommendations forward.

The Rural Dialogues help overcome the misperception that all rural communities feel the same way about action on energy policy. Instead, rural Minnesota communities have the opportunity to tell a different story—one in which rural residents are powerful leaders in an energy future representing their needs and priorities.

The project is a collaboration between the Institute for Agriculture and Trade Policy and the Jefferson Center. The effort is sponsored by the McKnight Foundation, the Bush Foundation, and the Carolyn Foundation.

Jefferson Center

INSTITUTE FOR AGRICULTURE AND TRADE POLICY

Our Energy Future: Stevens County

At the West Central Research and Outreach Center in Morris, Minnesota, on December 6, 2017, about 50 community members met to attend Our Energy Future: Stevens County. The goal of the 3 hour event was to help community members learn about the basics of the energy system, discuss energy goals, and brainstorm ways to achieve their goals. Topics and local speakers included:

- Energy 101: Mike Reese, Director of Renewable Energy at the West Central Research and Outreach Center
- Local energy from a utility perspective: Brian Draxten, Director of Resource Planning at Otter Tail Power
- City of Morris climate-smart progress and partnership with Saerbeck, Germany: Blaine Hill, Morris City Manager

After the presentations, participants broke up into small groups to discuss the future of community energy.

Here's what we heard:

What interests you or excites you about the future of our energy system?

- Possibility of generating most of our local power load with local resources
- Technological innovation is an opportunity for growth
- Rural communities making progress, leading the way
- Environmental safety
- Local production/resiliency
- Local ownership
- Seeing the already-existing motivation & excitement for our energy future
- We are building the momentum to move to more renewable energy sources
- A reduced reliance on carbon-emission producing energy sources means cleaner air
- There is enthusiasm for change
- There are local leaders who are working on change
- All residents (farm, rural, and town) can make improvements
- It's exciting to me that we're having this conversation
- I'm excited about the possibility of ending our dependence on fossil fuels
- The City is working on a sustainable future
- Community is interested in identifying the best path forward
- How many different ideas there are in order to achieve a common goal – very uplifting
- Lots of potential for renewable energies: thermal storage and thermal renewables; solar for residential users; wind; biomass; possibility for coordination

What concerns do you have about the way our energy system might change?

Loss of local decision-making abilities

- Big businesses will try to own and control the system and it won't meet our local needs
- Low income/small communities lacking (or unequal access to) authority
- Local people in Stevens County may not benefit from energy transition
- Concern about private ownership of power generation/transmission (similar to net neutrality)
- Utilities exercising preferences for large, centralized power generation
- The energy system will be the same model – owned by the utility

Transition to renewables

- Not moving quickly enough to reduce carbon emissions by level necessary
- Energy availability may become less reliable
- Will federal financial (tax) incentives continue to be available for transition to renewables?
- Possible emphasis on biomass as a renewable source of energy, which might make it compete directly with food production and food security
- Limiting focus to one or a few solutions without considering the holistic effects they might have on our society and environment
- Either won't build or will lose local jobs as a result of adopting renewables
- Initial cost – how can we make it affordable in the long run for everyone? If it isn't affordable through a power company, there should be the opportunity for private ownership
- Possible imbalance in resources
- In an effort to reduce carbon emissions, we might start relying on nuclear energy
- We will stop the transition at some point because the economies will tip (natural gas prices spike)
- It might be 'economy' vs. 'environment'
- Biased information might be presented as change happens
- Minnesota requires the Integrated Resource Plan to consider externalities – the Dakotas prohibit that
- Use of rare resources becoming contentious

Concerns (continued)

Technology improvements

- More centralized energy systems might make system more vulnerable to hacking, “Big Brother” / surveillance issues
- Life cycle of materials in new tech

Electric vehicles

- Concern about the accuracy of the predictions of electric vehicle energy use
- Minnesota winter and need for all wheel drive might make it more difficult to transition to electric vehicles
- A big increase in electric demand from vehicles could be met by an increase in fossil fuel energy generation

Grid/storage

- Energy security and storage
- Less compatibility between systems
- Transporting energy farther distances may leave areas more vulnerable to breaks in transport lines
- Lack of understanding about the system
- Ability of infrastructure to effectively utilize renewably-generated energy
- Total electrification of our energy will be a huge challenge

Cost

- Possible price increases
- Fair rates for everyone – there may be more regional variability in access and cost
- We would buy or transport oil from Canadian tar sands to save money – that’s about the dirtiest energy on the planet!
- There may be animosity between groups over cost/availability (rural vs. city scenarios could be very different)

Lifestyle

- It’s a challenge to get people to look at energy differently and change their habits to adapt to a new reality – of how we use energy and how we get energy. Everyone in the community needs to be educated on the costs of antiquated systems and the need for community involvement on this issue
- Not enough people believe climate change is real, and those who do feel powerless
- We don’t pay attention to that which we replace (we generate waste)!
- We don’t pay attention to scarce resources

What should the Stevens County energy system should look like in 10 years?

Locally-focused

- Locally owned/controlled
- Local folks benefit from the resources they provide
- Co-op/consumer-based/democratized solar
- Strengthens local economy
- Local autonomy but good relations with larger structure
- Local impacts/tradeoffs understood
- Local generation
- Over 50% locally-owned energy generating systems
- Looking to the residents of local communities as a resource

Efficient & electrified transportation

- Electric vehicles (cars & trucks)
- Charging stations around community (for example, at the grocery store)
- Driverless vehicles in perpetual motion, moving people between towns (public transportation)
- Bike lanes everywhere
- Shared cars/carpool system
- A network of electric vehicles for shared use, which would be more accessible than individually-owned electric vehicles
- $50 license fee for all SUVs owned within Stevens County limits
- $100 credit for energy-efficient vehicles driven by Stevens County residents
- Emphasis on walking
- Bring back the Morris -> Twin Cities train

Energy from renewables

- 100% renewable energy for the county
- Sources: wind power; several wind farms; develop a 10 turbine wind farm nearby
- Solar power, community solar garden
- Solar garden on top of landfill with landfill gas-to-energy plant alongside
- Build a solar farm on edge of Morris/Stevens County
- Solar panels on roofs of businesses, homes
- Biomass at UM-Morris
- Diversity in sourcing energy makes the system more reliable
- Integration possibilities for agriculture and industry

10 year goals (continued)

Improve the grid/storage

- UM-Morris leading the way for energy (battery) storage system
- New power lines
- Energy back up/redundancy
- Integrated, islandable microgrid
- Capacity for growth
- More than one power source (flexible)
- Smart grid
- Partnership between the utility companies and the city/county to produce and maintain an affordable, low-pollution energy solution that benefits all environmentally and economically
- District heating: district heating for as much of Morris as possible is a good idea, system that extends beyond UMM

Increase efficiency

- People know about and take advantage of energy audits
- Switch to LEDs
- Increased efficiency in library
- Super-insulated homes and businesses
- Much more conservation
- Efficient appliances
- Utilizing intelligent efficiency technologies and methods
- Decreased business/municipal light use at night that is dark sky compliant

Forward-looking policies

- PACE for residential buildings
- Utilize new technology in the long-term to reduce costs

Commitment to renewable practices

- We have building codes that mandate energy efficient building, lighting, and heating/cooling
- Balanced energy policy to achieve goal of carbon reduction

Increase in personal understanding of energy consumption

- Culture and behavior must shift to increase forward momentum of better energy policy
- People are mindful of their own consumption, and where the energy they use comes from
- Energy literacy is taught
- Education should begin in grade school
- Cost: inexpensive, or priced in relation to the true costs of energy generation. Increased GDP from ‘tech transfer’on

What's one thing you'd want your neighbor to know about this event?

- The cheapest kWh is the one you do not use
- We have potential for renewable sources of power generation here in Stevens County
- We're farther along than people may think
- Wind is the cheapest energy that we can get!
- Owning our energy future is important
- UMM gets 60% of its electricity from 2 turbines
- We have lots of wind and solar – let's use it!
- The idea of energy democracy is strong in our community
- Green energy is affordable, and becoming more affordable each year
- The conversation has started and progress is being made by collaboration between agriculture, rural folks, and industry
- Small size can be an advantage – we're small enough where becoming energy self-sufficient is possible
- Rural communities embrace of renewable energy would support local economy, resilience
- There is excitement and leadership locally to make the necessary (and big) changes
- Utilities do not anticipate an increasing electric load for the next 10-15 years (energy use is leveling off at OtterTail)
- The difference between Germany/Stevens County isn't in landscape/resources but in how energy is produced/used; in Germany, more biking and walking, less energy use
- I already knew a fair amount about this topic, but now I have better insight into OtterTail's perspective
- Changes happening at OtterTail that create a mix of power generation
- Everyone sees the world around them differently – people genuinely want to make a difference but their solutions differ
- Our local government is working toward a sustainable future

Our Energy Future: Ideas to Action

At the Stevens County: Our Energy Future Event in December 2017, community members focused on a few main themes: renewable energy, energy efficiency and behavior change, batteries and energy storage technology, district heating, and local energy ownership. But the question remained: what would these energy system goals look like in reality in Stevens County?

To explore this question, we hosted "Our Energy Future: Ideas to Action" on February 28, 2018 at the Old No. 1 Bar & Grill in Morris, Minnesota. Community members heard about the following topics from local experts:

- Energy efficiency: Alexis Troschinetz, Clean Energy Resource Teams
- District heating: Bryan Herrmann, University of Minnesota-Morris spoke about
- Microgrids and local energy ownership: Arne Kildegard , University of Minnesota-Morris
- Energy storage: Joel Tallaksen, West Central Research and Outreach Center
- Renewable energy trends: Stacy Miller, Minnesota Department of Commerce

After the presentations, they discussed the potential benefits, challenges, and action steps they could take to bring their energy goals to life. Participants voted on the topics they'd like the community to address first, which are ranked in order of priority below:

Energy Efficiency & Behavior Change (21 VOTES)

Benefits:

- Economic
  - Keeping money local
  - Defer capital investments
  - Reduce cost to consumer
- Environmental
  - Reducing energy use reduces fossil fuel use and greenhouse gases
  - Being good stewards of our environment
  - Sustainability
  - Would make room for electrifying more loads to reduce carbon emissions overall
- Energy System
  - Will be great for shaving peak demand (3-8pm)
  - Help to not tax grid during outages
  - EV batteries could serve as small-scale storage

Challenges:

- Education
  - We need to educate, convince, and get buy-in possibly through incentives.
  - Every individual, as well as large business, needs to make a change in attitude and action.
  - Need to make efficiency "cool"
- Economic
  - Assisting/reaching low-income households for replacing expensive equipment/ appliances
  - Incentivizing landlords to save energy or change how leases are written so that landlord feels some of the energy burden

Energy Efficiency & Behavior Change (continued)

Action steps:

- Stakeholders to involve: government officials, civic groups, school groups, everyone.
- Education
  - Outreach to homeowners offering energy audits
  - Encourage farmers to use good energy practices
  - Encourage businesses to only light their facilities when in use.
  - Include good energy behavior in the school curriculum at all levels.
  - Invoke energy efficiency issues in political campaigns and discussion to protect programs from cuts.
  - House parties on energy efficiency actions you've taken in your own home and encourage people to take them, too.
- Programs
  - Subsidized energy efficient practices as part of a community strategy, especially for low-income residents who can't afford expensive improvements.
  - Leverage Stevens County Economic Improvement Commission and Morris Chamber of Commerce to talk about PACE (to address small businesses).
  - Request Commercial Direct Install Program from OTP and community volunteers to go out ahead of auditors.
  - DEED campaign to get more even distribution of contractors.
  - Group jobs for contractors to travel into town for (contractors seem to be limiting factor).

District heating (21 VOTES)

Benefits:

- Can reduce greenhouse gas emissions
- Efficient
  - Efficiency (smart thermostats)
- Small community – close proximity
- Save money
- Reliability – consistency for buildings

Challenges:

- Education
  - Cultural shift
  - Education/outreach
- Economic
  - Upfront capital
  - Cost-sharing strategy
  - Charge for boiler inputs
  - How do you split costs?
  - If expanding to homes, what's the cost of overhead?
- Political
  - Politics – cost savings
- System Management
  - Who monitors systems?
  - How do you bring others into the system?

Action steps:

- Efficiency upgrades
- Feasibility study
  - Cost projection
  - How long should projections look?
  - Reliability on system – may worry about cold
  - Demonstrate trickle-down effect of money in local economy
- Education/outreach – talk to parties (land owners, businesses)
  - Stakeholders to be involved: school board, hospital board, city, nearby homes, University (regents)
  - Determine if there's interest – if one or two partners aren't interested, how does the district work? Could you do one without the other partners?
  - Could city participate?
  - Enter discussion mode (from now through 2019)
  - Education – ideological change
  - New properties added to develop on existing properties
- Get local contractors involved
- Commitment – German sister city relationship
- Obtain funding
- Elective heating – storage

Local energy ownership & microgrids (19 VOTES)

Benefits:

- Economic
  - Local wealth building
  - Reinvestment if money is saved or made through energy production
  - Increased local economic activity
  - Reduces need for transmission and energy lost/expenses
- Resilience
  - More community resilience / microgrid provides more stability in the face of climate change
- Community
  - More awareness in communities about energy production
  - To generate local knowledge about energy in Stevens Co.
  - More local buy-in and involvement
  - Reducing fossil fuel use (no one builds a coal microgrid)

Challenges:

- Access to capital
- Would need to prove advantage for people who find existing system sufficient
- Policy
  - Regulatory barriers
  - Changing utility business models
  - Maximizing tax benefits
  - Rural Electric Associations (REAs) have lack of flexibility and are more conservative
  - Utility pressure to not change
  - Creating incentives through county
- Community Involvement
  - Community buy-in
  - Need people
  - Overcoming differences in age/experience on the topic

Action Steps:

- Stakeholders to be involved: local government; utilities; businesses; community members; solar energy installers
- Education/Community Involvement
  - Increase public interest
  - Educate community about benefits
  - Encourage local government to make progress in GreenStep City programs
  - Community conversations about local control
  - Discussions at co-ops
  - Local ownership supports community involvement in energy topics
- Policy
  - Leverage utilities for creation of microgrids
  - Utilities to sell renewable energy packages
  - Tie local energy production to the electric car market
  - Funding model that wouldn't require too much up-front Stakeholders to be involved: local government; utilities; businesses; community members; solar energy installers

Renewable Energy (9 VOTES)

Benefits:

- Economic
  - Supports local jobs
  - Money stays in community
  - Cost-effective in long-term
  - Lowers utility bills (Ottertail is cheaper)
  - Jobs
  - Wind is cheapest source of energy
- Environmental
  - Reduces emissions
  - Clean
- Builds local interest – people are attracted to renewables when they can see it
- Stevens is best agricultural county in state
- Helps support grid and reduce pressure on it
- Limited long-term fossil fuel energy reserves
- Renewables including biomass:
  - Manure, corn husks can be used
  - Biochar from biomass production can be integrated into soil

Challenges:

- Reliance on natural gas to reduce emissions leads to fracking
- Cash flow, capital costs: costs for individual installations and community-level
- Education
- Policy
- Space along roadways
- Aesthetic – some people consider it an eyesore
- Solar/wind first choice -> Need energy storage

Action steps:

- Stakeholders: local/state government, consumers, media, investors, utilities
- Policy
  - State policy
  - Public Utility Commission to empower Morris to get renewable energy/solar power and retain renewable energy credits
- Implementation
  - Create community solar gardens; Otter Tail should commit to community's desire
  - Negotiate with Ottertail to increase renewable generation
- Education
  - Get media coverage/advertise (traditional news channels, radio, social media)
  - Incorporated into K-12 education
  - Promote to other communities and neighbor-to-neighbor to demonstrate value of benefits
  - Advocate for renewables by leading by example
  - Build intellectual power to advocate for renewables
- Economic
  - Bulk buy -> economy of scale (community solar installation)
  - Identify funding
  - Tax incentives
  - Banks
  - Zero-percent or low-cost loan
  - Utility compensation
- Stevens County is larger than Morris (wider focus)

Batteries & storage technology (5 VOTES)

Benefits:

- Reliability/resilience
- Economics
- Increased renewables
    - Reduces pollution, addresses climate change
    - Reduces carbon footprint
- Increased local microgrid use

Challenges:

- Economics of installations

Action steps:

- Organize end users (identify goals – electric vehicles/storing solar)
- Talk with regulators
- Talk with utilities
- Streamline permitting

INTERESTED IN YOUR OWN ENERGY DIALOGUE?

The Jefferson Center and the Institute for Agriculture and Trade Policy are in the process of identifying communities across for future Rural Dialogues. If you are interested in hosting a Dialogue in your community, or would like to receive additional information, please contact:

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Hosting a Dialogue requires significant engagement with community members months prior to the event in order to identify issues of principal concern, engage local and regional experts, work with community institutions to develop information sources, and determine community receptivity among policymakers and the general public to incorporate Dialogue findings into community planning efforts.

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The Jefferson Center is a nonpartisan organization committed to strengthening democracy by advancing informed, citizen-led solutions to challenging public issues through deliberation and community action. We're collaborating with governments, nonprofits, and others to unleash the power of citizens and solve today's toughest challenges. We focus on building powerful coalitions, creating meaningful opportunities for education and public deliberation, and empowering citizen-led action.

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The Institute for Agriculture and Trade Policy is a Minnesota-based nonprofit working locally and globally at the intersection of policy and practice to ensure fair and sustainable food, farm and trade systems and to foster vibrant, prosperous rural communities. We support rural communities through research, market development, and policy advocacy to address local challenges, including issues associated with extreme weather and a changing climate.