Wind Energy Development for rural communities of color.

ENERGY DEMOCRACY
USING

Wind ENERGY Development

Upepo Energy Group

Paul Reeves

Agenda

- **Introduction**

  UPEPO

  What is Energy Democracy?

  Nicodemos

Opportunity

- **Black Farmers may not have fully realized the promise of forty acres and a mule, however, today many have a new opportunity with the cultivation of renewable energy as a cash crop. To insure the survival of the small black farmers in the United States, this opportunity must be seized.**

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About UPEPO

Upepo a private, for profit corporation providing professional consultation to private individuals, companies, municipalities, institutions any entity seeking to capitalize on the emerging promise of renewable energy. Upepo is led by CEO Paul Reeves, a veteran of 18 years of Wind Energy experience.

Upepo Energy Group, is the first African American developer of renewable energy in the Country. The CEO, Paul Reeves, is recognized by the Federal Department of Energy and the Mass. Renewable Energy Trust as a multitalented person with the multifaceted background and the ability to devise market penetration and ownership of renewable energy generator strategies for low income/communities of color. He has participated in the development of the largest on shore Wind farm in Massachusetts.

He has served as an liaison to Communities of color for the Dept. of Energy's Wind Powering America Program. He combines skills in media, political, community organizing, fund raising for wind projects, training of community organizers and public relations to assist low income farmers and urban communities of color in devising novel and effective approaches to renewable energy utilization and ownership.

Paul Reeves
Principal Upepo Energy Group

405 818 6014
upepo11@aol.com

Upepo Energy Group

About UPEPO

- Mr. Reeves has extensive experience in all facets of wind-power development and community renewable education from both an policy perspective and an wind developer for communities of color.

- He is the renewable energy Wind specialist for black farmer organizations,towns and small farmer co-ops and is consulting with small disadvantaged farmers and urban residents to improve electric service and develop renewable distributed generation at point of use.

- Upepo Energy Group believes that it is important that low income/ rural communities of color and Native Americans develop business /ownership models that will assist in the development of a competitive advantage in alternative energy production in public and private diversity procurements. Wind energy production are a community investment that will bring jobs to blighted rural and urban communities of color. Wind Energy will allow rural residents to become pro-active about their health and environment by showing an awareness of the relationship between poor air quality and conventional generation of electricity. Wind energy can give rural residents control of the volatile electrical pricing by utility companies thru community ownership models that is focused on controlling capricious energy costs

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What is Energy Democracy

Energy Democracy is an policy framework with the goal of changing neglected and isolated communities, often poor into energy producers

Let small communities add clean energy to the grid

Enhance economic and political ties across the region

Supply their on Energy needs

Take advantage of an transformative opportunity to play an meaningful role in America's changing energy economy

Greater political interdependence between communities of color and their neighbors.

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State, local and regional governments

CAN:

Create zoning ordinances and legislation enabling the use of Energy Improvement Districts.

Provide incentives to communities that encourage an participatory planning process for equitable and reliable community energy generation

Facilitate state level feed in tariff programs, with an clear pathway for community scale projects.

Develop state policies that would encourage underserved communities, citizen involvement, non-profit organizations and co-ops in small scale energy generation projects.

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The Need for Energy Democracy

34 million American households of color household electricity purchases exceeds that of all classes of users in California.

Communities of color have 41 billion in electricity buying power.

Projected growth in communities of color is projected to increase to 80 million by 2050.

Households of color spend more than 30% more on energy than white households do.

If all households of color were connected to community owned producers the profits would reach 3.6 billion which could be used to address under funded infrastructure, educational problems, support for green entrepreneurs and necessary social programs.

ENERGY DEMOCRACY

Energy Democracy provides new roles for communities to preserve and increase social equity, environmental quality, energy independence and wealth

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Facts

Kilo Watt Hour – 1 KWH is the energy required to light one 50 watt bulb for 20 hours
Average US Household uses 10,000 KWH of electricity each year
Ten 700 KW wind turbine units make a 7 MW wind farm
A MW of wind energy generates electricity for 240-300 Households
10 KWH = 1 MWH (Mega Watt Hour)
Wind Turbine Output depends on size of rotor, wind speed.
Small difference in wind speed makes a large difference in Output.
Doubling wind speed increases output by a factor of eight times.
A 12 MPH wind generates eight times the output of a 6 MPH wind.
Wind turbines are very reliable, with proper preventive maintenance; they are available 98% of time.
An annual average wind speed greater than 9 mph is required for small wind electric turbines. Utility-scale wind power plants require minimum average wind speeds of 13 mph.
A wind plant is "fueled" by the wind, which blows steadily at times and not at all at other times. Although modern utility-scale wind turbines typically operate 65% to 80% of the time, they often run at less than full capacity. Therefore, a capacity factor of 25% to 40% is common, although they may achieve higher capacity factors during windy weeks or months

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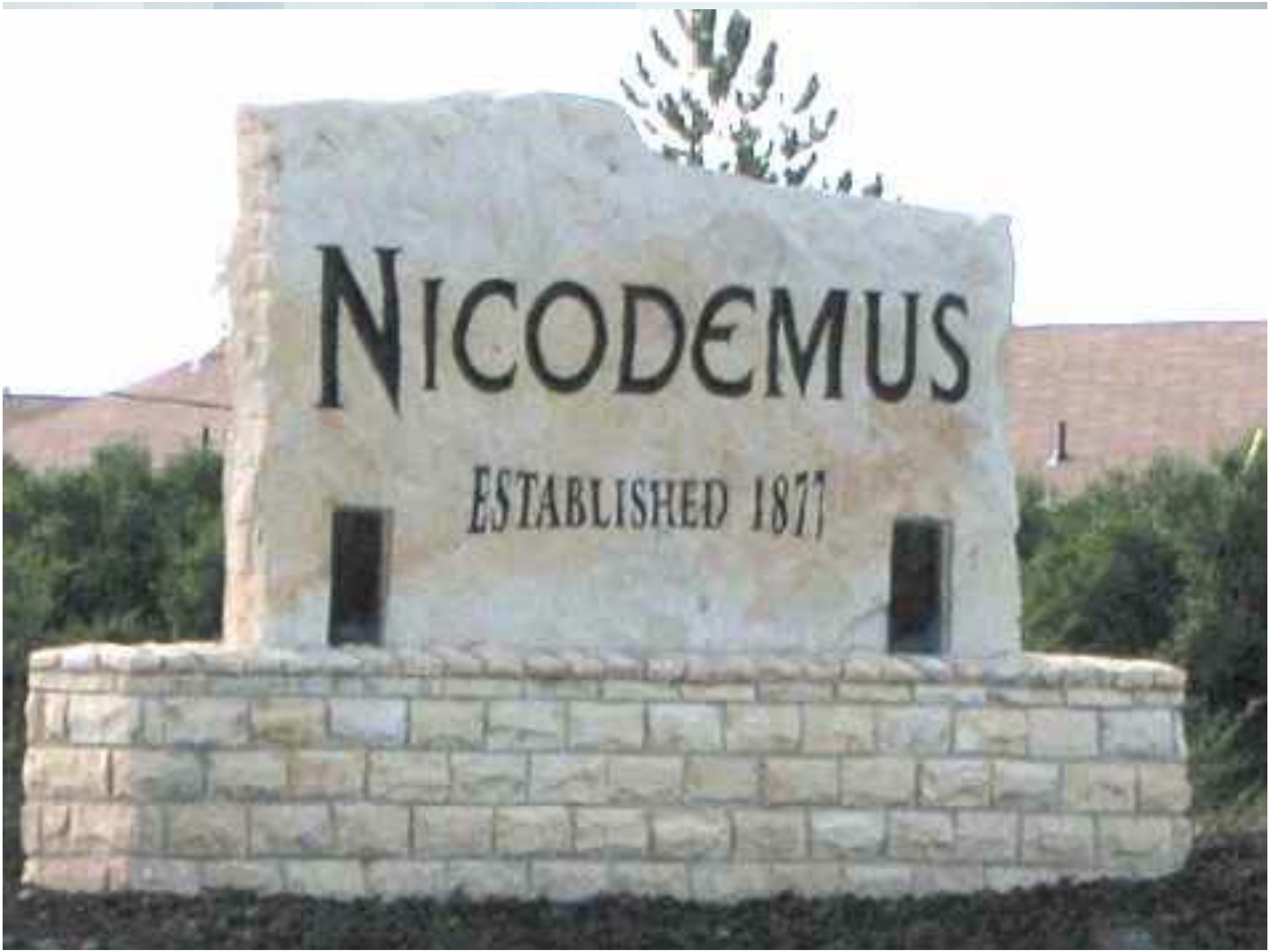
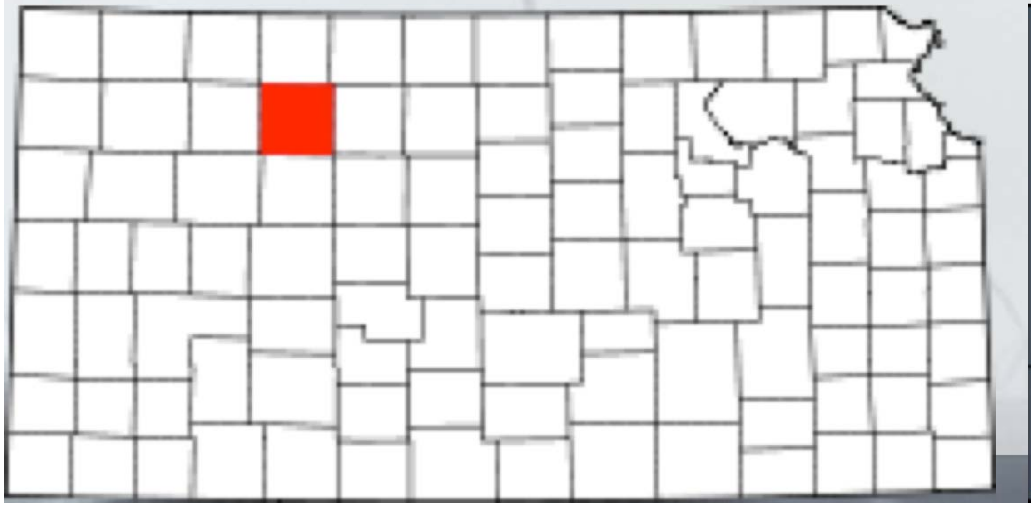

NICODEMUS
ESTABLISHED 1877

Nicodemus, Kansas was established in July, 1877 by Negro "ecodusters" from Kentucky. They lacked sufficient tools, seed or money, but managed to survive the first winter. Some survived by selling buffalo bones, others by working for the Kansas Pacific railroad at Ellis, 30 miles away. Nicodemus was named after the first black slave to purchase his freedom in the United States.



nicodemos

- **PROPOSAL FOR**
- **NICODEMOS WIND PROJECT**

• I. OVERVIEW

- **The Nicodemos Wind Power Project (the Project) is a wind energy project being developed by Nicodemos Black Farmers and Upepo Energy Group. The Project is a 25 MW wind energy facility located on three thousand acres of land owned by black farmers in Graham County, Kansas.. The project is expected to produce approximately 72,000,000 MWH of wind energy annually starting in December 2012 Both the electrical output and wind energy certificates from the project will be sold separately under a twenty year purchase power agreement to a large credit worthy generation entity currently under discussion. A preliminarily wind assessment has been done indicating 15 mph wind speeds at the selected site for the project. Wind Development Rights to the land have been secured from the land owners. Transmission lines are within 1 mile of the selected site and we anticipate no problems with the interconnection from the transmission lines owner. Financial Studies are available that show the income from the three revenue centers for the site.**
- **The total project cost is expected to be $ 42 million.**

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RISKS

- Sufficient, Remote Land
- Significant Wind
- Receptive Titleholder & Community
- Reasonable Proximity to Transmission Lines
- Transmission Line Capacity
- Few Environmental Concerns

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Ownership & Revenue Distribution Model

- **Payments for Generated Electricity (5.5% per kwh or $55 per mwh)**
- **Payments for Sales of Renewable Energy Credits ($.03 per kwh or $30 per mwh)**
- **Production Tax Credits ($.021per kwh or 21.00mwh)**

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ACTION ITEMS

GET PUBLIC FUNDING

TRAINING ON BECOMING OWNERS AND MANAGERS OF SMALL WIND FACILITIES

- **SOLE SOURCE POWER PURCHASE AGREEMENTS BETWEEN USDA AND GSA.**
- **RENEWABLE ENERGY RESOURCE ACESSMENT FOR THEIR FARMS**

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