

Homegrown Renewable Energy

The Benefits of Local Ownership

John Farrell, ILSR

Presentation for a conference, *Increasing
Energy Diversity and Independence:
Growing Wind Power Generation in
Presque Isle, Maine, October 21, 2008*

Outline

- Maine wind potential
- Economic impact
- Project benefits
- The need for new rules

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Windy Maine

Electricity
Consumption



12 billion kWh

Source: EIA, 2006

Potential
Wind Power Production



80 meters
Class 3 or better
No offshore

x 6.5 =

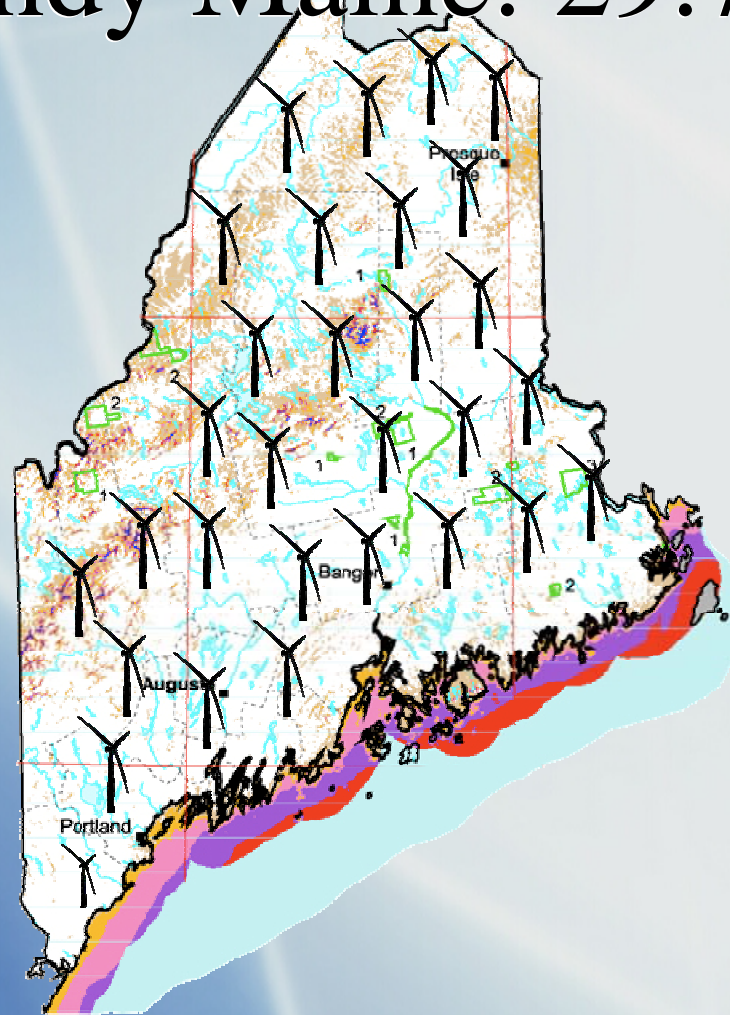
78 billion kWh

Source: ILSR, forthcoming

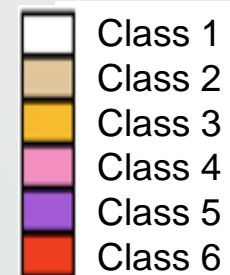
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Windy Maine: 29.7 GW



Wind Power Class @ 50 m



 = 1 GW

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Windy Maine: \$60 billion

- 30,000 MW
- \$2 million per MW
- \$60 billion

- How to maximize the benefit?



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Economics 101: Washington

- Jobs
 - Absentee 1.2/MW
 - **Local 1.5/MW**
- Economic Impact
 - Absentee \$139,000/MW
 - **Local \$161,000/MW**

*Source:
Grover, M. "A Guidebook for
Estimating the Local Economic
Benefits of Small Wind Power Projects
for Rural Counties in Washington
State." (ECONorthwest, 1/14/05).*

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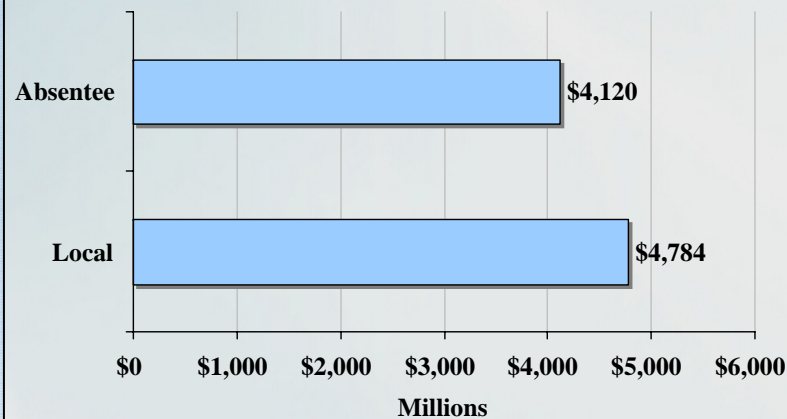
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Economics 101: Maine

Local Ownership Advantage

+ \$600 million
Economic
Impact

+9,000
Jobs



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Economics 201: Montana

- Jobs
 - Absentee 0.36/MW
 - **Local** **0.75/MW**

- Economic Impact
 - Absentee \$21,000/MW
 - **Local** **\$70,000/MW**

Source:
Costanti, M. "Quantifying the Economic Development Impacts of Wind Power in Six Rural Montana Counties Using NREL's JEDI Model." (NREL, 2004).

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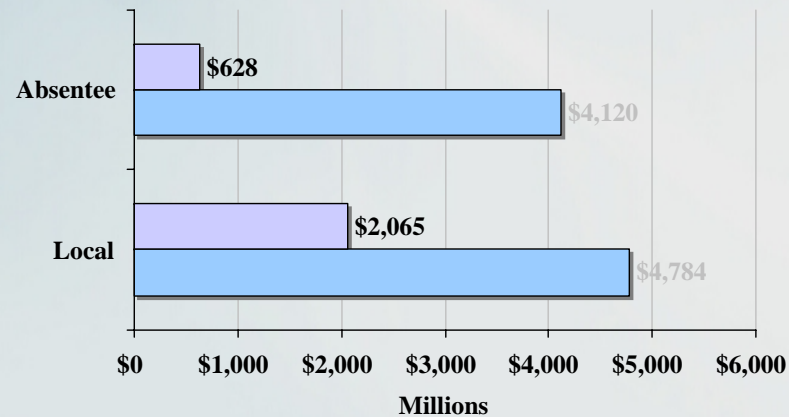
Economics 201: Maine

Local Ownership

Advantage

+ \$1.4 billion
Economic
Impact

+11,500
Jobs



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Economics 301: Oregon

- Jobs
 - Absentee 0.24/MW
 - **Local 0.5/MW**
- Economic Impact
 - Absentee \$24,000/MW
 - **Local \$123,000/MW**

Source:

Torgerson, Melissa, et al. "Umatilla County's Economic Structure and the Economic Impacts of Wind Energy Development: An Input-Output Analysis." (Oregon State Extension Service, undated).

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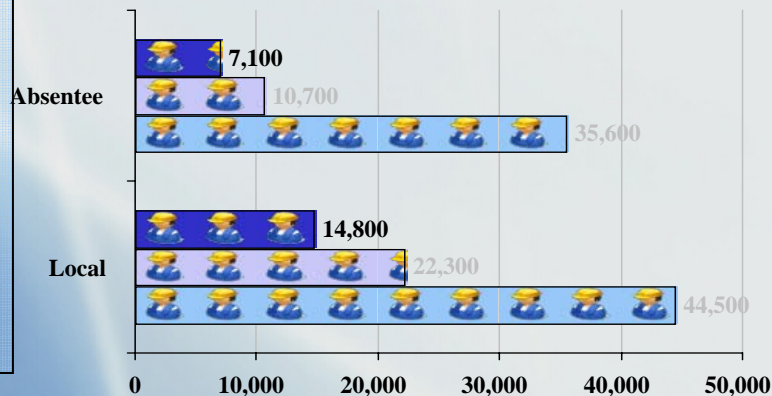
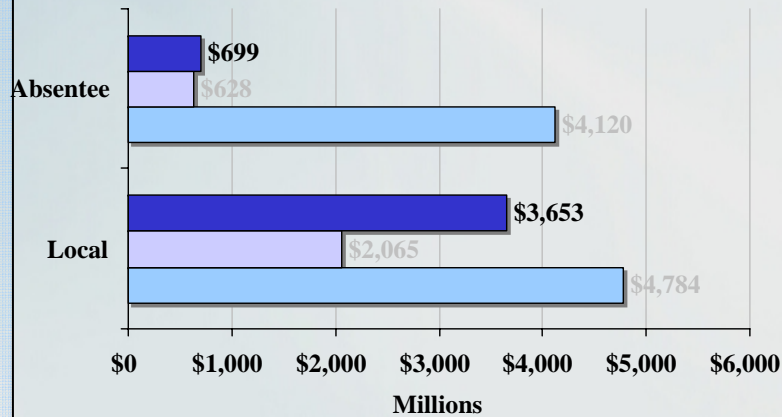
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Economics 301: Maine

Local Ownership Advantage

+ \$3 billion
Economic
Impact

+7,500
Jobs



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Economics 401: Multi-state

- Jobs

- Absentee 0.45/MW

- **Local 1.02/MW**

- Economic Impact

- Absentee \$24,000/MW

- **Local \$171,000/MW**

Source:

Galluzzo, Teresa Welsh. "Small Packages, Big Benefits: Economic Advantages of Local Wind Projects." (Iowa Policy Project, updated July 2005).

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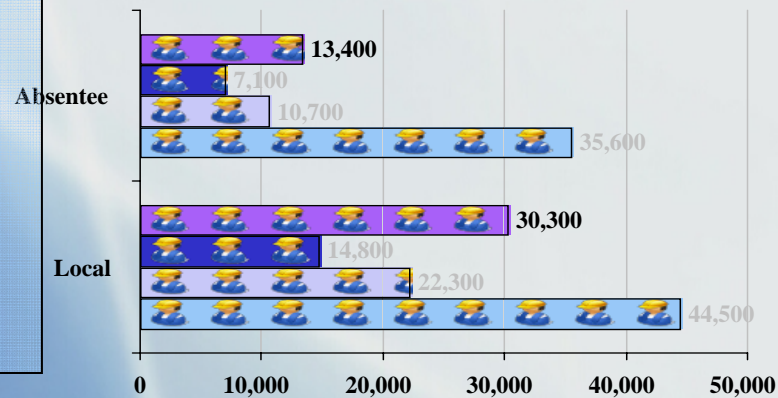
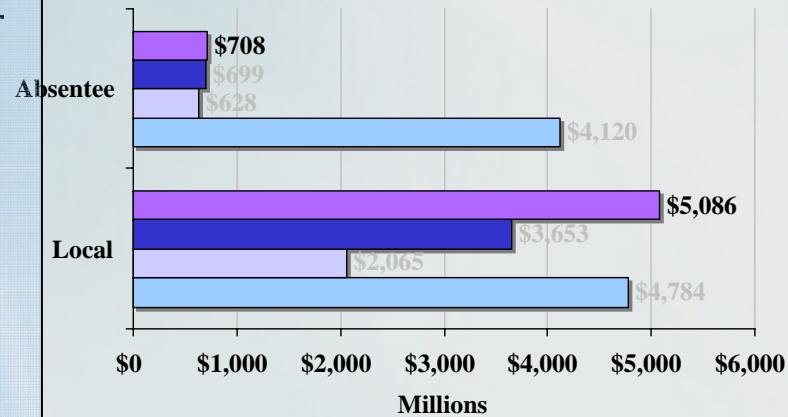
Economics 401: Maine

Local Ownership

Advantage

+ \$4.3 billion
Economic
Impact

+17,000
Jobs



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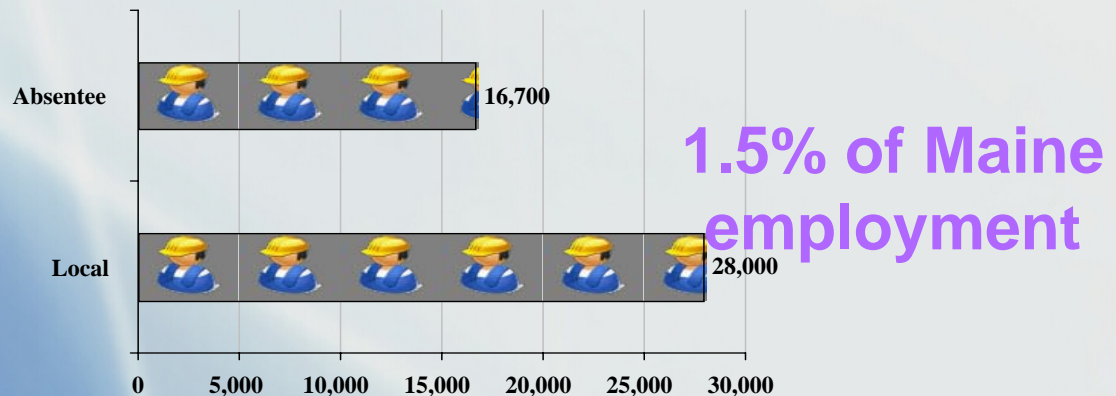
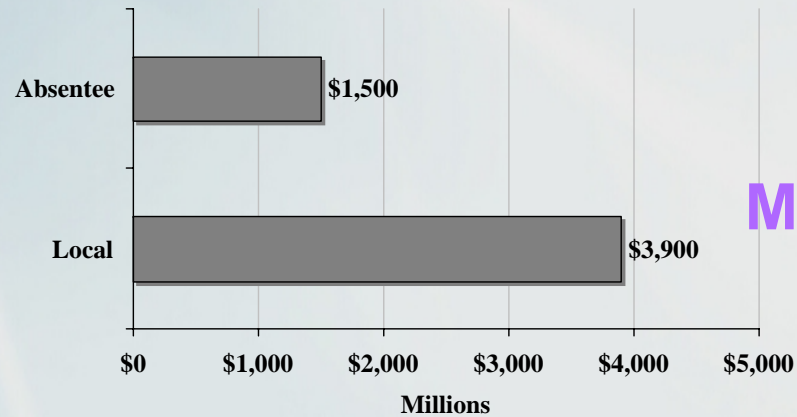
Results: 30 GW of Wind

Local Ownership

Advantage

+ \$2.4 billion
Economic
Impact

+11,300
Jobs

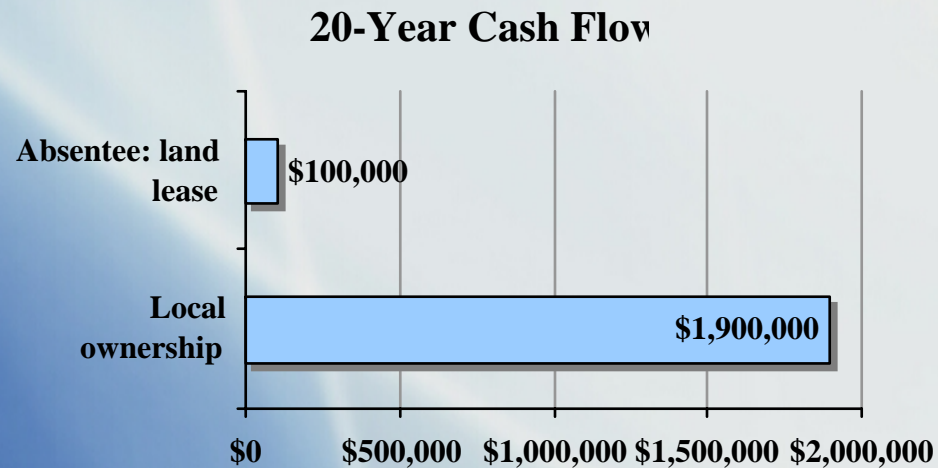


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Project Benefits

- One 2-MW turbine
- 20-year contract



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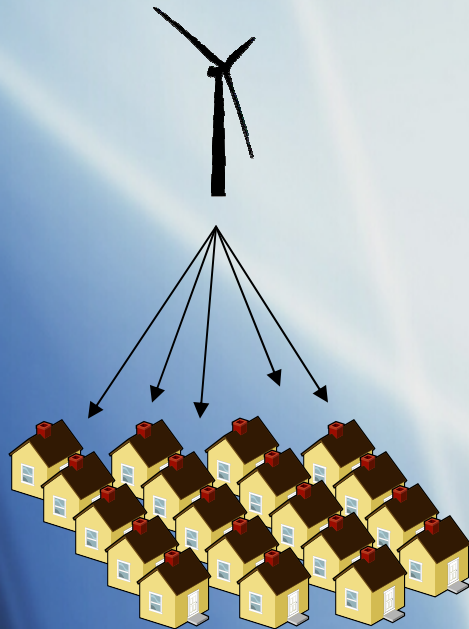
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Project Benefits

Local ownership:

1 turbine

\$100,000 to 19 households



Absentee ownership:

1 turbine

\$100,000 to 1 household

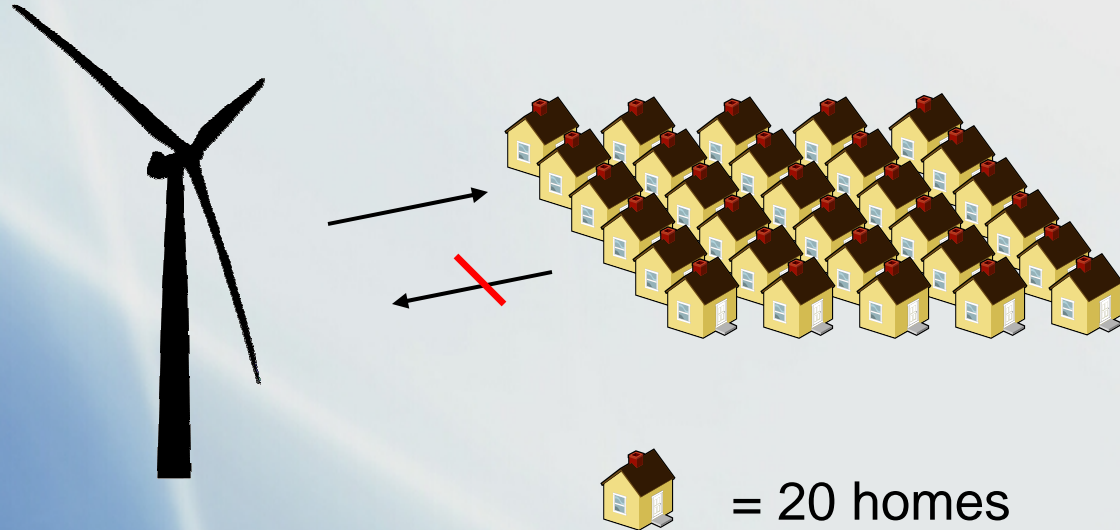


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Challenges

- One turbine powers 600 households
- But 600 households can't collectively own a turbine



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Challenges

- Capital
 - Most households don't have finance operations
- Incentives
 - Federal PTC not accessible
- Collective investment rules

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New Rules

- Reform the PTC
 - Allow all income
 - Make refundable

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New Rules

- Berkeley Finance Model
 - Municipal bonds
 - Aggregate purchasing
 - Property tax assessment

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New Rules

- Renewable Energy Payments
 - 20-year, fixed
 - No tax liability or taxpayer subsidy
 - No expiration
- Can be done at the state level to increase energy security and economic impact.

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Summary

- Maine has 30 GW of wind potential
- Locally owned
 - +\$2.4 billion in economic impact (5% of GDP)
 - +11,000 jobs (1.5% of state employment)
- New rules needed

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Thank you!

- Learn more:
 - Research on wind incentives, local ownership, and economies of scale
 - www.newrules.org
- Contact me:
 - 612-379-3815 x210
 - jfarrell@ilsr.org

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