Disclaimer: The views expressed are those of Paul Gipe and are not necessarily those of the sponsor.

Disclosure: Paul Gipe has worked with Aerovironment, ANZSES, APROMA, ASES, AusWEA, AWEA, BWEA, BWE, CanWEA, CAW, CEERT, DGW, DSF, EECA, ES&T, GEO, GPI Atlantic, IREQ, KWEA, MADE, Microsoft, ManSEA, MSU, NRCan, NRG Systems, NASA, NREL, NZWEA, ORWWG, OSEA, PG&E, SeaWest, SEI, TREC, USDOE, WAWWG, WE Energies, the Folkecenter, the Izaak Walton League, the Minnesota Project, the Sierra Club, and Zond Systems, and written for magazines in the USA, Canada, France, Denmark, and Germany.
Advanced Renewable Tariffs
New Policy Option for North America

Paul Gipe, wind-works.org
North Americans Have Been Dabbling Around the Edges of Renewable Energy Policy

Little Recognition of the Crisis Facing the Continent

Paul Gipe, wind-works.org
Complacency is Not a Policy

Inaction is Not an Option

Paul Gipe, wind-works.org

Skibsted Fjord, Denmark
North American RE Market Growth

- Exciting, Yes
- Significant, Yes
- Not Nearly Enough by Any Standard

Paul Gipe, wind-works.org
Buffalo Ridge, Minnesota
Scale Needed: Electricity Only

- USA ~4,000 TWh/yr
- w/ 50% Cut ~2,000 TWh/yr
- @ 50% ~1,000 TWh/yr
- Avg Yield ~2 TWh/1000 MW
- = 500,000 MW of Wind
- Today: ~17,000 MW

Paul Gipe, wind-works.org
Scale Needed: Passenger Vehicles

- 5,000 B km/yr
- 1/3 kWh/km for EV
- ~1,500 TWh/yr for EVs
- @ 50% EVs
- @ 2 TWh/1,000 MW
- ~400,000 MW

Paul Gipe, wind-works.org
Scale Needed: USA Only

• 25%-50% Electricity Supply
• 50% Passenger Vehicle EV
• ~1,000,000 MW
• ~100 X Today!
Can It Be Done Here?

- 300,000 Heavy Trucks/yr
- ~1/2 MW/Truck
- ~150,000 MW/yr Equivalent
- Yes, It Can Be Done
- But Not At Current Pace

Paul Gipe, wind-works.org
The US is Capable of Huge National Undertakings

- TVA, BPA, WPA
- Civil Rights
- Anti-Smoking
- War

Paul Gipe, wind-works.org
Swords into Wind Turbines

- Direct Cost of Iraq War ~$600 B
- Direct Purchase Cost
  ~15% Penetration, or
- Tariff Payment Cost
  ~20% Penetration!

http://www.wind-works.org/articles/costofiraqwarandwind.html

Paul Gipe, wind-works.org
Aggressive Targets Require Aggressive Measures

German Renewable Energy Targets

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
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</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>12.5%</td>
<td>27%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Paul Gipe, wind-works.org
Public Acceptance Critical

• Acceptance Necessary
  For Continued Political Support

• As Renewables Grow
  Entrenched Players Threatened

• Organized Opposition Grows
  Coal & Nuclear Industry
  Far Right

Paul Gipe, wind-works.org
Building Acceptance

• Must Share Opportunity
• Public Must Participate
• For Renewables To Reach Their Potential
Advanced Renewable Tariffs

• Deliver More Capacity--
  --More Quickly
  --More Equitably

• By Enabling Participation
  --Everyone

Paul Gipe, wind-works.org
Advanced Renewable Tariffs
A Question of Equity

• Feed Laws are Fair
• Nearly All Can Play

Farmers, Ranchers, First Nations, & Co-ops

Paul Gipe, wind-works.org

Buffalo Ridge, MN
Renewable Tariffs in North America . . Unthinkable?

- Yes--Just 4 years ago
- Today? No
- Now Possible

Paul Gipe, wind-works.org

WindShare, Toronto
The Mood Has Changed

- Ontario Moved First
- Now Growing Trend
  in both USA & Canada

Paul Gipe, wind-works.org
Montfort, Wisconsin
Advanced Renewable Tariffs
North American Endorsements

- David Suzuki Foundation
- Pembina Institute
- Liberal Party of Ontario
- NDP of Canada
- Greenpeace (USA & Canada)
- Bill McKibben, Denis Hayes, Anne Ehrlich . . . and many more
Ontario’s Standard Offer Program

The Most Progressive Renewable Energy Policy in North America in Two Decades

Paul Gipe, wind-works.org

Goderich, Ontario
Why?

• All Renewables
  Most Anyway

• Open To All Players
  In Theory Anyway

• Differentiated Tariffs
  Two (Solar & Everything Else)
  Highest Tariffs in North America

• Simplified Contracts
Grassroots Movement Has Begun

- Explosion of Interest
- Groups Active Across Canada
- Local Groups Now Active Across US
  Most Within the Past 3 Months!
- Public Out in Front
  Demands Aggressive Action
- Tipping Point Reached?

Paul Gipe, wind-works.org
Challenges in North America

- **Piecemeal Approach (CA)**
  Too Slow for Scale Needed
- **Existing Policy Momentum**
  RPS for Wind, Subsidies for Solar
- **Ignorance**
  Germany Uses RPS, Right?
- **Ideological**
  Market-Non Market Debate
- **Cheap Energy Contract**

Paul Gipe, wind-works.org
How To Get There

• Need New Champions
• Need EnNGOs On Board
• Need Labor Support
• Need Political Champions
  Governor’s or Premier’s Office
  Political Party Leaders

Paul Gipe, wind-works.org
Renewable Tariffs Are In Play

- British Columbia
- Michigan HB 5218
- Illinois
- Minnesota & Rhode Island
- California--Feed-in Fever
- US House & US Senate
Myths to Dispel

- Renewables are Free
- Renewables are Cheap
- Renewables Can’t Be Added Quickly
- Renewables Can’t Make a Difference
- Net Metering Works
If We Use a Market Model, Then

- You Get What You Pay For
- If You Want It You Must Pay For It
- Difference Between Cost & Price
  Margin Determines Rate of Growth
- High or “Premium” Prices Deliver
  More Generation More Quickly and More Jobs

Paul Gipe, wind-works.org
Goderich, Ontario
## Political Price-Political Quantity

### Market Mechanisms

<table>
<thead>
<tr>
<th></th>
<th>Price</th>
<th>Quantity</th>
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<tbody>
<tr>
<td><strong>Feed Law</strong></td>
<td>Political</td>
<td>Market</td>
</tr>
<tr>
<td><strong>Quota/RPS/Tendering</strong></td>
<td>Market</td>
<td>Political</td>
</tr>
</tbody>
</table>

Both are Market Mechanisms

Paul Gipe, wind-works.org
Barriers to Renewable Tariffs

- **Philosophical:** Cost vs Value
- **Sticker Shock**
  - Imbedded Costs & Heritage Resources
  - NG: Future Pricing
  - Nuclear Estimates & Reality
  - Wind: “Too Cheap to Meter”
- **Unfamiliarity**
- **US Tax Subsidies (PTC)**
- **Hard to Write a Press Release!**

Paul Gipe, wind-works.org
State & Provincial Action Required

- Can’t Wait for Federal Action
  Limited Federal Role

- Can’t Rely on Federal Subsidies
  Ottawa Deadlocked
  Washington Deadlocked (for now?)

- Policies Must Be Independent
  Without Federal Subsidies First
    By Statute
  With Federal Subsidies Later
    By PUC Rulemaking

Paul Gipe, wind-works.org
Strategy--Hybrids

• Washington State
  Tariffs for Domestic Products Only?

• Distributed Generation Only?
  Voltage Caps?

• Project Size Caps?
  20 MW in California?

Paul Gipe, wind-works.org  Bowling Green, Ohio
Strategy--Operating in Parallel

• Run Alongside Existing Programs
  With RPS & Solar Subsidies
• Don’t Disrupt Existing Markets
  We Need All Renewables As Quick As Possible
• Build Track Record
• Renewable Tariffs
  for Meeting RPS Target

Paul Gipe, wind-works.org
Move From
Nation of Consumers
to
Nation of Producers

Paul Gipe, wind-works.org
Lackawanna, New York
From Consumer Culture to Culture of Conservation

--Ontario Premier Dalton McGuinty

Paul Gipe, wind-works.org

Montfort, Wisconsin
We Need More Wind . . .
... And More Solar

Paul Gipe, wind-works.org

Hinesburg, Vermont
No Time for Half-Measures

No Time to Lose

Paul Gipe, wind-works.org
Renewables:
When You Look Closely . . .
. . . Worth Every Cent

Paul Gipe, wind-works.org
Renewable Tariffs--New Policy Option for North America

www.wind-works.org

Manawatu Gorge, New Zealand