



**ENVIRONMENTAL
ENTREPRENEURS**

Blown Away by Long Term Contracts

Massachusetts Wind Working Group

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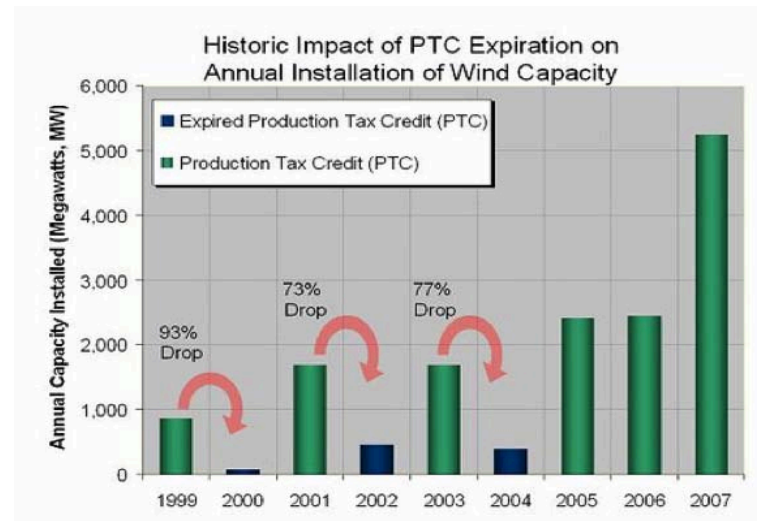
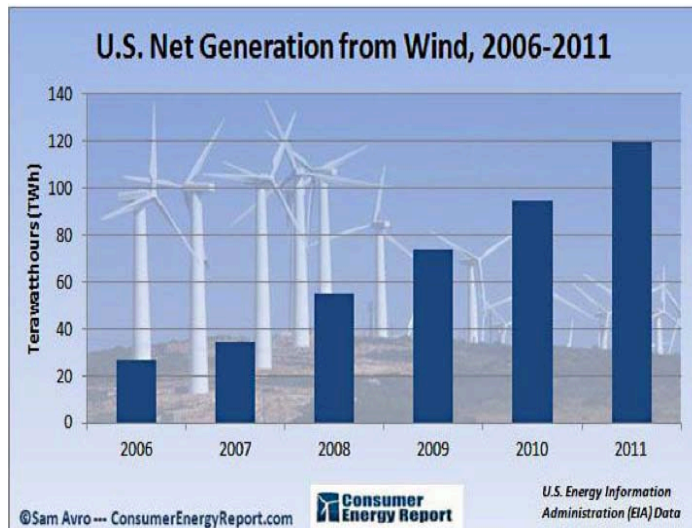
Environmental Entrepreneurs (E2)



- Nationwide network of business and professional leaders
- Volunteer group that advocates on behalf of good environmental policy that is also good for the economy
 - *“The business voice for the environment”*
 - Work at state and national level
 - Partner with NRDC
- 850+ members who live and/or work in 40+ states (~80 in MA)
 - Have collectively started over 1200 businesses
 - Created over 500,000 jobs
 - Have over \$90 billion under management



Challenges & Opportunities



■ Opportunities:

- Huge market growth projections: \$96B in 2011 → \$161B in 2015*
- Total installed wind capacity in North America projected to double in 6 years**
- Prices dropping; near grid parity in some locations

■ Challenges:

- PTC due to expire at end of 2012
- Other incentives phasing out
- State policies in flux
- Difficult economic times for financing

*Source: Bloomberg Finance

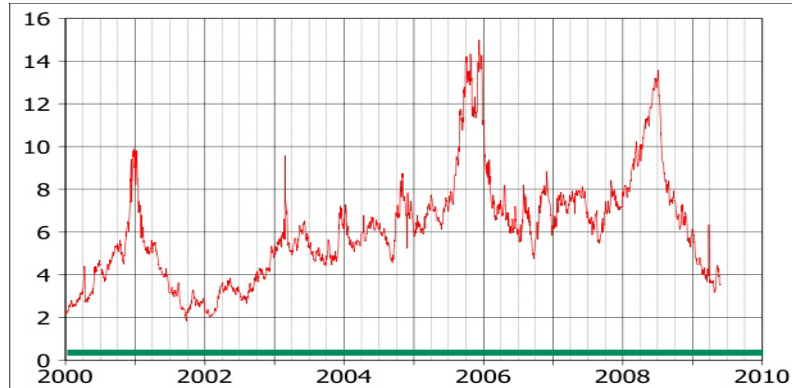
**Source: Pike Research

Long Term Contract Basics



- Renewable energy contract between a supplier and a purchaser
 - Distribution company, municipal electric company, towns, large users
- At least 10 years in duration but could be 20 or 25 years
- May be for energy, RECs, or both
- Credit worthy “off taker” is critical
- Essential to secure financing

Long Term Contracts Well Suited to Wind



— Fuel Price of Wind
— Fuel Price of Natural Gas

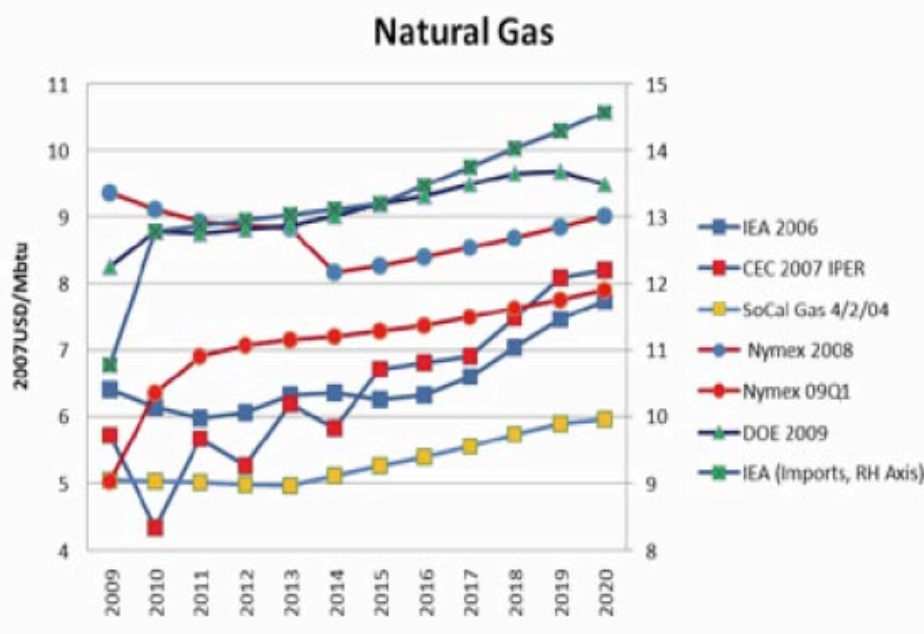
- Wind energy has a predictable cost model (unlike fossil fuels)
 - High up front costs
 - Zero fuel cost
 - Generally low operations & maintenance costs
- Long term contracts fit the model
 - Ability to commit to fixed price over a long period
 - Guarantees return on investment over a long period of time
 - Lowers cost of borrowing for capital investments
 - Longer durations typically yield lower prices



LT Contracts Benefits to Ratepayers

"It's tough to make predictions -- especially about the future."
--Yogi Berra

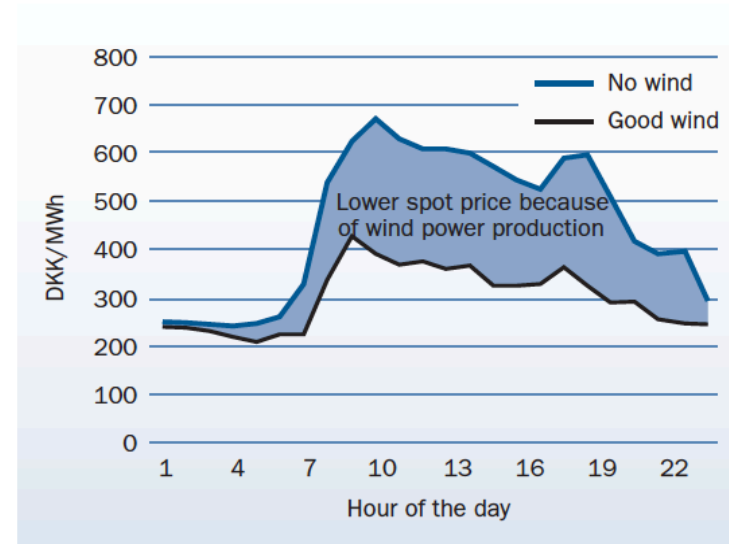
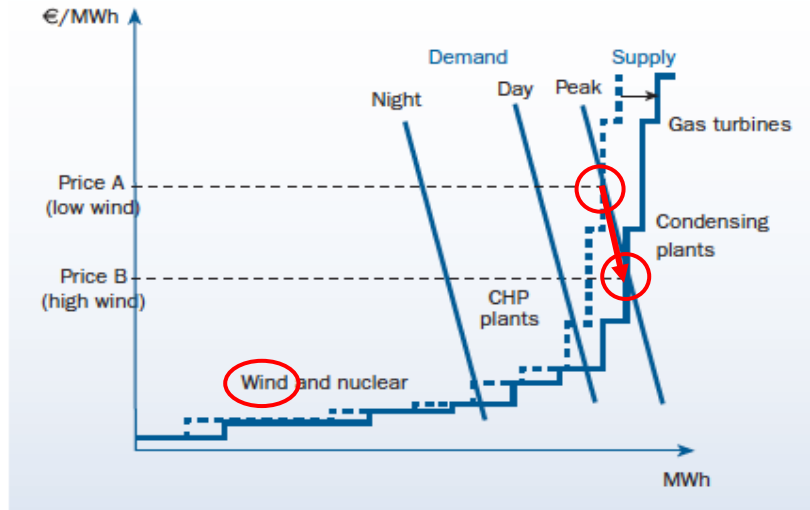
Figure 2. Various forecasted natural gas prices



- Lowers risk of unpredictable energy prices
 - Provides power at consistent rates over the long term
- Lowers electricity rates by reducing need for higher cost resources
- Moderates cost of RPS compliance
 - Long-term contract prices generally lower than ACP
 - Lower cost of financing allows lower rates
- Other macro-economic benefits
 - ☞ Jobs; sector development; cleaner air; lower public health costs
- Helps MA meet ambitious GHG emission targets

Q: When is Suppression a Good Thing?

Answer: When wind energy creates electricity price suppression



- Wind power has low marginal cost (zero fuel costs) and therefore enters near the bottom of the bid stack
- When supply of wind power increases, power supply curve shifts to the right
- Impact is magnified at periods of peak demand when prices are highest
- Cape Wind expected to reduce wholesale cost of power by ~\$286 million/year

Hurrah for Green Communities Act (GCA)!



- GCA “Section 83”
 - Established 5-year renewable energy long-term contracts program
 - Requires MA distribution companies to meet at least 3% of their load via 10-15 year renewable energy contracts
- Long term contract must be “Cost Effective”
 - Provides enhanced electricity reliability within the Commonwealth
 - Contributes to moderating system peak load requirements
 - Be cost effective to electric ratepayers over the term of the contract
 - Where feasible, creates additional employment
- Wildly successful
 - Program fully subscribed (2 Cape Wind contracts; at least 3 contracts with land-based wind facilities; and one small hydro contract)



Why Cost Effective Criteria Matters



- Lowest cost does not mean best value
 - Renewable energy is not a commodity
 - If cost were only criteria MA projects would not compete well
 - Unlikely to get diverse portfolio if cost were only factor
- “Cost effective” considers benefits in addition to cost
 - Reliability, transmission and distribution benefits
 - Flexibility of broad portfolio of renewables
 - Impact on energy security, price stabilization and other long-term impacts
 - Benefits to local economy
- RPS goals (in addition to renewable energy) include
 - Providing market signals for new clean technologies to reach competitive, economies of scale
 - Encouraging growth of the clean energy sector in Massachusetts and New England



S2214: Energy Bill Passed by MA Senate



Lots of good news for clean energy

- Preserves the framework that has made Massachusetts #1 in the nation for energy efficiency
- Expands net metering
 - From 1% to 3% of utility's peak load in general
 - From 2% to 3% of peak load for municipalities or governmental entities
- Opens net metering to anaerobic digestion
- Resolves property tax issues for solar projects
- Mandates several useful studies
 - Thermal REC program; Clean Energy Standard; Centralized procurement



S2214: Long Term Contract Provisions



■ Really good!

- Rejected proposal to include large scale (Canadian) hydro in RPS
- Requires distribution companies to purchase additional 4% of load (for total of 7%) from renewable energy long term contracts
- Reserves 10% of long-term contracts for new, small, emerging or diverse renewable energy distributed generation facilities



■ Good but could be better

- Adjusts term of long-term contracts from 10-15 years to 10-20 years

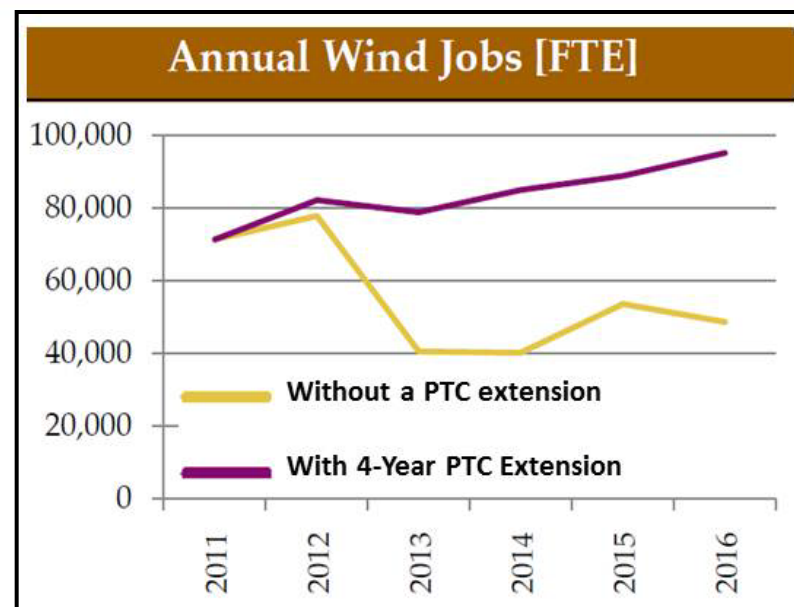
■ Not so good

- Reduces flexibility of contracting methods



Policy Makes a Big Difference!

- Get active on the policy front
 - Speak out as a group or individual
- Re-authorize the PTC
 - Real jobs at stake
 - Contact Senators and Reps
- Re-authorize 1603 tax grant program
 - Allows renewable energy producers to claim a one-time cash payment instead of the usual tax credit
- Enact the Massachusetts Energy Bill (“An Act relative to competitively priced electricity in the Commonwealth”)
 - Biggest danger: no bill
 - Join the broad-based GCA coalition working to pass the bill
 - Contact your Representative and ask for support of the energy bill in the House
 - Priorities include long term contracting and net metering expansions, which will be critical to wind development





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Questions?

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