



Agricultural Efficiency:

Making the Sale

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Sometimes energy efficiency is
enough to justify implementation of
the recommended measures.....

And sometimes, it's not.....

Real Life Examples

Trust in calculations

Dawson Public Power District
– Lexington, Nebraska

- ◆ Irrigators seeking to reduce costs of operation
- ◆ Easy-to-use comparison needed
- ◆ 2003 - 11,816 hp added
- ◆ Excel-based tool developed that profiled all options



Trust in new technology

Brown Sheep Company –
Mitchell, Nebraska

- ◆ 2002 - Direct fired kiln
- ◆ \$96,198 annual propane costs
- ◆ 2003 - Microwave dryer installed
- ◆ \$26,230 and all-electric
- ◆ Simple payback - <2 yrs.



Tradition

Darvin & Son Farms –
Aurora, Nebraska

- ◆ 2000 – Direct fired dryer
- ◆ \$22,100 natural gas
- ◆ 2001 High-volume, high velocity fans installed
- ◆ \$4,300 electric fan costs



Pending Regulation

Ochsner Farms –
Sutton, Nebraska

- ◆ 2004 – Concerns about possible watering restrictions
- ◆ Applied 24 ac/in to corn using gravity (furrow) irrigation
- ◆ 2005 – Similar yields with 10.5 ac/in. using underground drip



Reduce repair costs & downtime

Northeast Nebraska Extruders
Elgin, Nebraska

- ◆ 1997 - Most equipment 20+ years old
- ◆ Frequent breakdowns (5+ per week)
- ◆ Owner did not pursue recommendations



Reduce labor

Pat Sukup's Farm –
Wisner, Nebraska

- ◆ 1999 – Implemented precision agriculture practices (Deere & Company Green Star™) on 4,000+ acre farming operation and reduced labor by one full-time employee



Environmental considerations

Husky Hogs, LLC -
Sutton, Nebraska

- ◆ 2001 – Permitted for 90,000 head hog confinement
- ◆ H₂S concerns of neighbors
- ◆ Development not pursued



Escalating fuel costs

2002 Farm Bill –
Section 9006

- ◆ ## projects awarded to irrigation projects in Nebraska for converting from fossil fueled pumping to all-electric that Technical Solutions assisted with.



What my neighbor is doing

Joel Nuss – farmer
Henderson, Nebraska

- ◆ 2004 – Converted 85 acres from gravity to center pivot
- ◆ Neighbor did similar conversion in 2003
- ◆ Reduced irrigation energy by 40%



Minimal usage

Cargill, Inc. –
Albion, Nebraska

- ◆ Grain handling facility – several 75 hp load out augers
- ◆ Less than 50 hours use per year
- ◆ Reduction in size would slow loading; possible penalties



Owner solvency

Hillside Dehy -
Craig, Nebraska

- ◆ 1998 – Demand Management system would have saved 120 kW demand for \$3,400 capital costs. Owner had to sell business one year later,



Sticker Shock

Dr. Jacobsen –
Broken Bow, Nebraska

- ◆ 2005 - \$23,000 for a three-phase line extension.
- ◆ \$18,000 for a 75-hp Written-Pole™ motor



Owner awareness

UNL Research Farm –
Mead, Nebraska

- ◆ 2002 - Indoor Prawn farming pilot
- ◆ Testing reduced water temperature to reduce costs
- ◆ Attention had not been given to improving the building envelope



Questions?

