

A man wearing a white t-shirt with a red star and the word 'FAMOUS' on the back, and a white cap, is kneeling in a field. He is working with a green hydroponic system that is being pulled by a blue tractor. The system has two large yellow cylindrical tanks. The background shows a clear blue sky and some green plants in the foreground.

# Off-Grid Farming: Challenges and Opportunities

Raymond Luhrman,  
Fox Creek Farm





FCF 2005





FCF 2006







**nationalgrid**





**nyserda ?**  
Energy. Innovation. Solutions.



**NO!**

# Energy Conservation

- Do we really need (you fill in)
- And if so:
- How do we reduce the use?









FCF 2012



FOX  
CREEK  
FARM



FCF 2012

















**nyserda** ?  
Energy. Innovation. Solutions.





**NO!**









SAT. 9-12









*THE BAD NEWS: CHALLENGES*



# Challenges (1)

- Building systems takes time: no “plug and play”.
- Off grid systems are expensive, and there is no monthly bill (lump sum)
- Be ready to be your own line-man, powerplant manager and maintenance crew, “energy demand decider”
- Be out on your own (most of the time) (even when lightning strikes)

# Challenges (2)

- Farming with energy limitations
- New farm enterprises & energy demands
- Employees & energy conservation
- Constant maintenance need
- *Generator backup / battery management*
- How to market your “Off Grid” advantage?

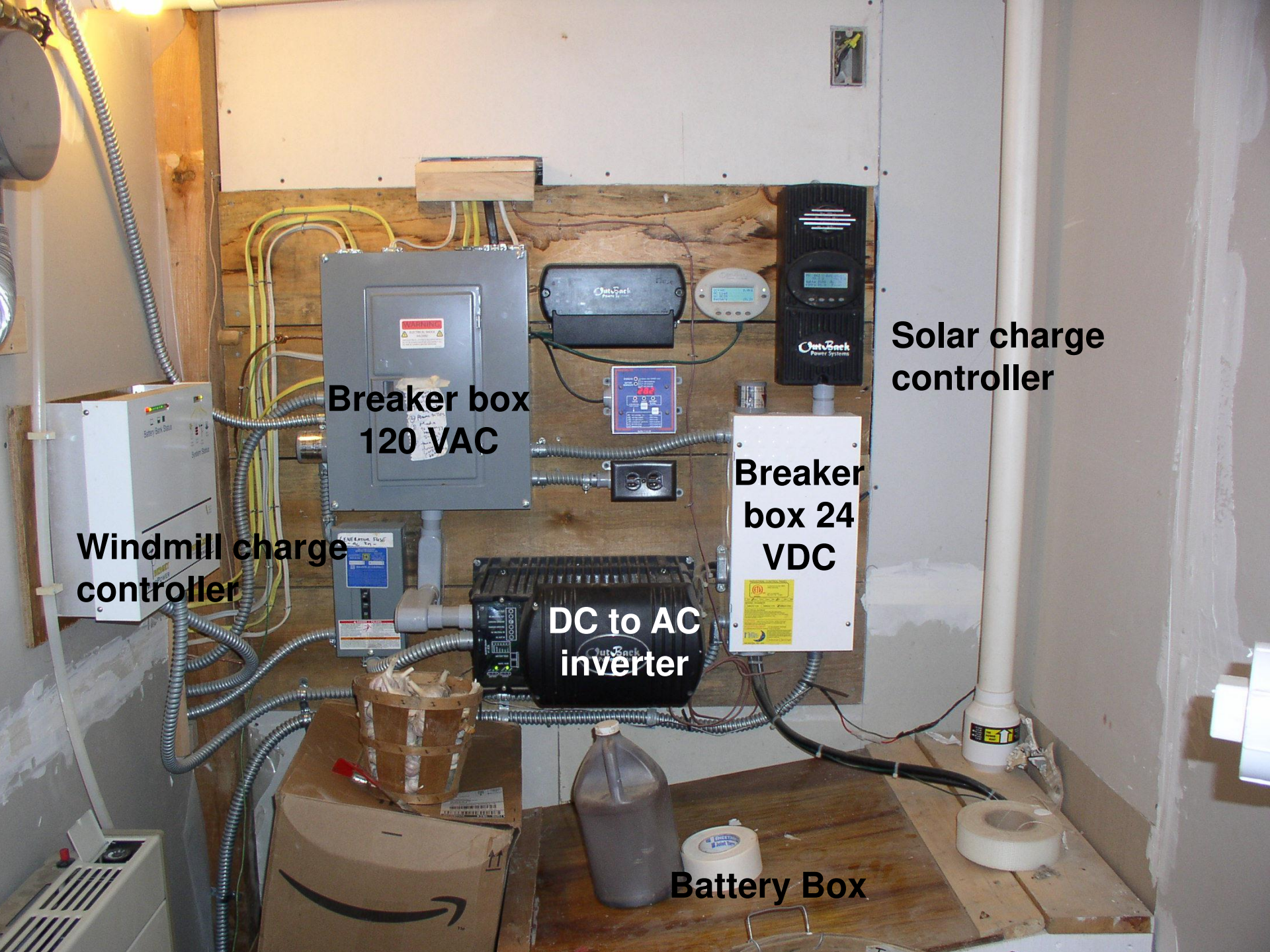












**Windmill charge controller**

**Breaker box 120 VAC**

**DC to AC inverter**

**Breaker box 24 VDC**

**Solar charge controller**

**Battery Box**



# *THE GOOD NEWS: OPPORTUNITIES*





# Opportunities

- Access non-electrified farm parcels for horticulture
- Catch the sun!
- Solar panels are getting cheaper and cheaper
- Independence of electric grid, coal, nuclear – and no power outs (usually)
- Demonstrate: off-grid farming is do-able
- Capture growing awareness renewable energy  
CSA membership

# More information:

- For pictures and outline of this presentation, visit our website:

**[www.foxcreekfarmcsa.com](http://www.foxcreekfarmcsa.com)**





A vertical hydroponic grower is mounted on a tractor. The grower consists of several levels of green metal frames. Each level holds a black tray filled with soil and numerous green leafy plants, likely lettuce or similar greens. The plants are growing densely together. The tractor is yellow and has a large black tire visible on the right side. The background shows a clear blue sky and some greenery in the distance. The text "QUESTIONS & ANSWERS" is overlaid in the center of the image in a large, bold, black serif font with a white outline.

# QUESTIONS & ANSWERS

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