

A person wearing a black long-sleeved shirt and black pants is kneeling on the ground in a greenhouse. They are tending to a young cannabis plant in a pot. The plant has several green, serrated leaves and a thin stem. The soil is dark brown and appears to be in a raised bed or tray. The background shows the structure of the greenhouse with metal frames and translucent panels.

Importance of sustainable production practices in the cannabis industry

State of Oregon
Cannabis Environmental Best Practices
Committee
June 8, 2016

*Image: Panacea Valley
Gardens*



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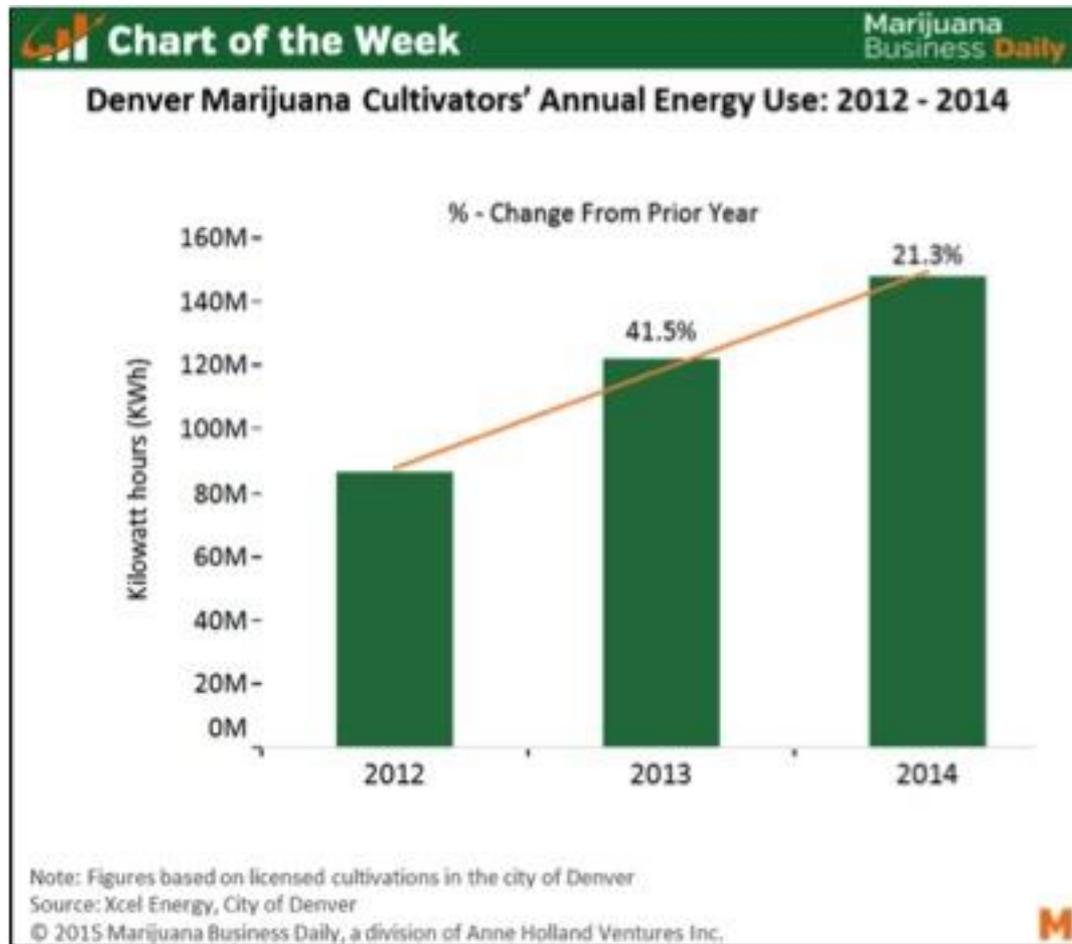
The challenge: Energy

- 1% of US electricity load, \$5 billion in US electricity costs
- 2% of Colorado load, 45% of Colorado load growth
- 3% of California load
- Growing cannabis generates 3000x its weight in CO2
- Significant operating expense for an indoor grower

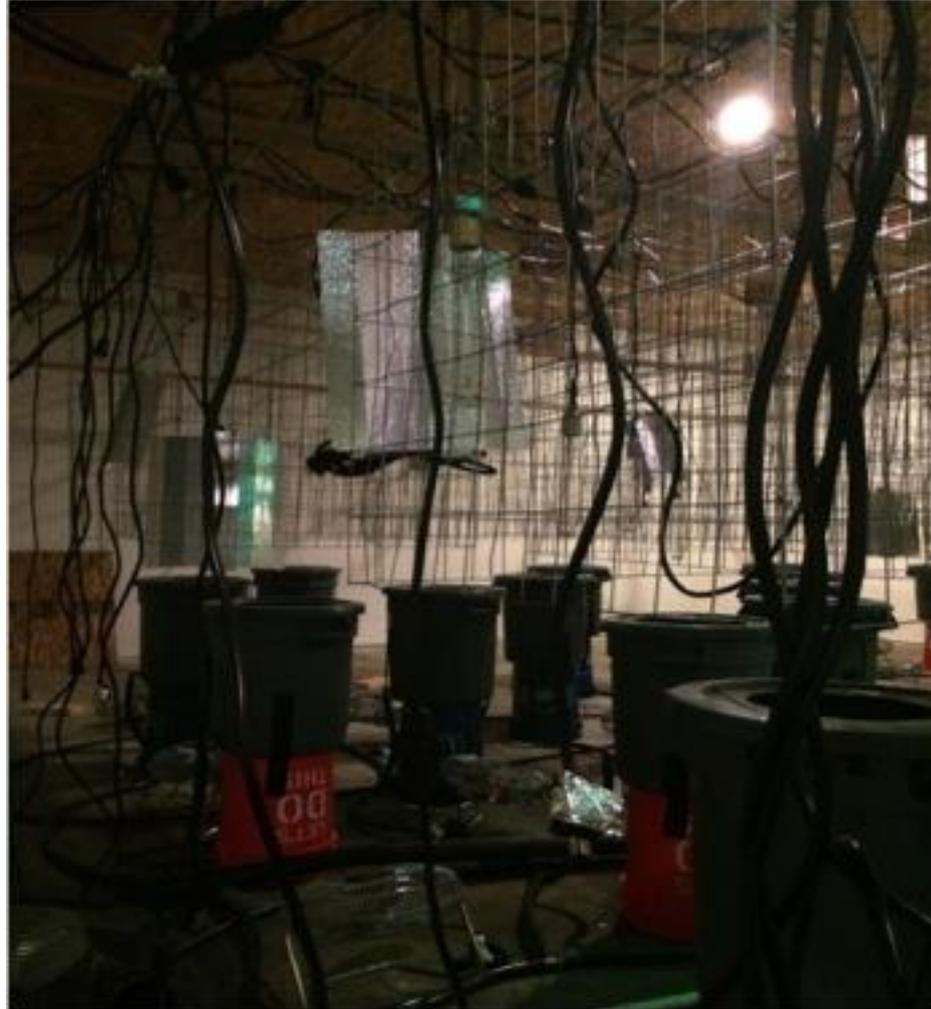
Source: Evan Mills



The challenge: Energy

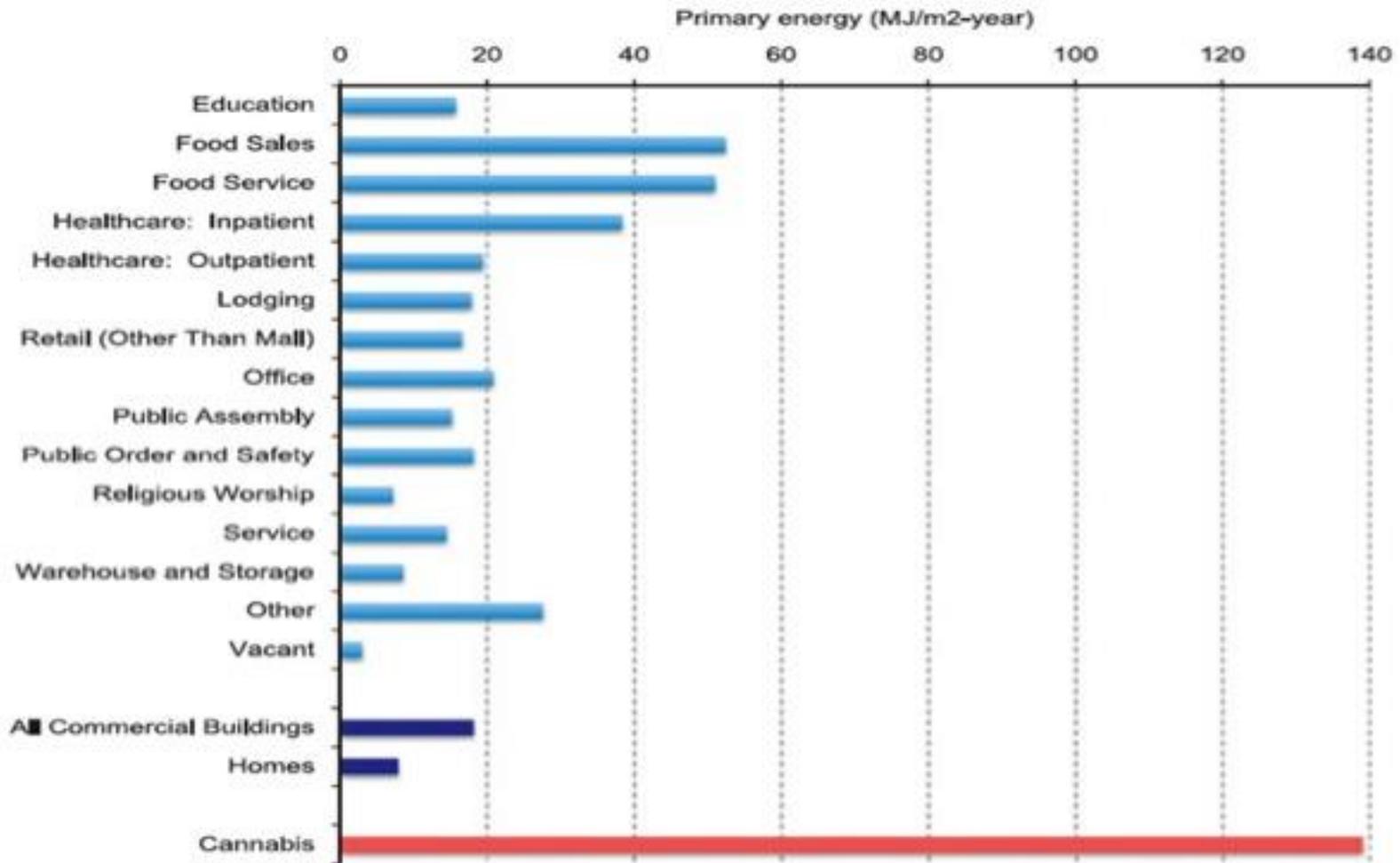


The challenge: Energy



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The challenge: Carbon



Source: Evan Mills



The challenge: Water

- 5-6 gallons of water per day for the average outdoor-grown plant in California (double grapes)
- Appears to be less in indoor grow situations, though undetermined
- Illegal water diversions causing rivers to dry

Sources: USA Today, Scientific American



Responses by other jurisdictions

- Colorado:
 - Issuing RFP for energy and water baseline study
 - Boulder voluntary carbon tax
 - Privately funded water monitoring
- Washington
 - Utilities offering incentives
- California
 - Budgeted \$3 million for pilot program to work with growers to develop a regulatory system through technical assistance
 - Developed a tiered regulatory approach (small/large/remedial)



Creating a market-based certification standard to drive energy and water conservation in the cannabis industry



*Image: Panacea Valley
Gardens*



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RII Board of Directors

- Margi Hoffmann – energy policy, economic development
- John Morris – utility program design, smart load development
- Derek Smith – scaling public/private programs
- Elizabeth Whalen – LEED, global certification systems
- Alex Tinker – legal, energy, cannabis



Market-driven efforts get results

- Our collective experience in early-stage, energy- and carbon-intensive segments of the economy
- Best outcomes achieved when key market actors band together to shape their own destiny
- Market-driven is most efficient and effective



Our mission

The Resource Innovation Institute provides certification standards, technology reviews and a platform for best practices on resource conservation in the cannabis industry.

- Initial focus: Energy management in indoor grow operations
- Next focus: Water
- Organized as non-profit to serve the public good and the growing cannabis industry with objectivity



How we intend to add value

- Creating venues for exchanging best practices and innovation
- Conducting baseline market studies
- Developing a reliable certification system that signifies environmental responsibility
- Developing member services, education and outreach
- Helping shape and influence a productive regulatory system



Certification standard timeline

