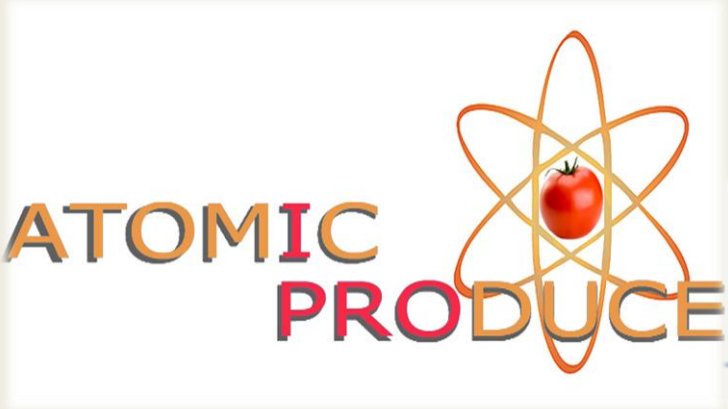
# IPRO 342: Atomic Produce

From Our Plant to Yours

ILLINOIS INSTITUTE OF TECHNOLOGY




Exelon

**Problem Statement**

- Project Goals
- Team Organization
- Progress
- Encountered Challenges
- Anticipated Challenges
- Questions/ Requests

- Evaluate the feasibility of using waste heat from a nuclear power plant for greenhouses
- Investigate the technological feasibility of greenhouses using waste heat
- Decide on greenhouse design and marketing plan
- Propose a design for Exelon's Braidwood site

Problem Statement

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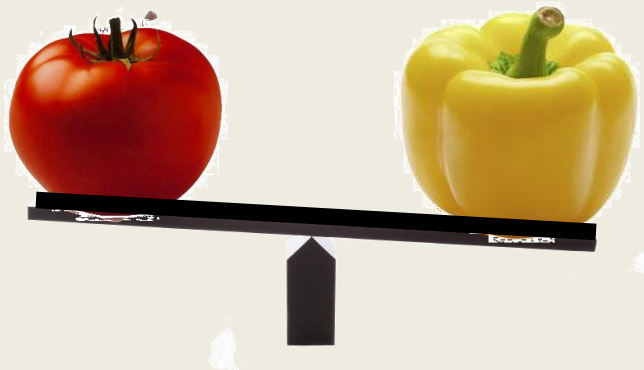
Questions/ Requests

- Research similar projects and their effectiveness
- Select and model a heating system
- Select an appropriate low-cost greenhouse structure
- Determine crops to be grown in high volume



- Develop and present a prototype to Senior Level Management at Exelon Nuclear

Problem Statement

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Questions/ Requests

Sponsor

**Exelon Nuclear**

Faculty Advisor

**Blake Davis**

| Greenhouse Design | Safety and Crops | Mechanical Systems | Research Updates |
|---|---|---|---|
| **Zachary Harbour** | **Isabella Z** | **Gustavo Zarazua** | **Tejash Patel** |
| •Krzystof Bartus<br>•Brooke Jeffcoat<br>•Kyungmin Nam<br>•Christopher Pope | •Marisol Aguirre<br>•Andrew Fonk | •Matthew Alvarez<br>•Joshua Hasbrouck<br>•Madeline Jensen<br>•Emily Kunkel | •Nancy Lima<br>•Fatima Chippo<br>•Samir Qaisar |

Problem Statement

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- Hoop-house style greenhouse with steel supports and a Tufflite IV
- Converted previous research into current terms
- Floating barge heating system (permission pending)
- Caged fish farming (permission pending)

Problem Statement

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Anticipated Challenges

Questions/ Requests

- No general project guidance given by Exelon
- Finding locations for multitude of greenhouses
- Utilizing inexpensive heating methods
- Crop selection
- Previous research

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**Anticipated Challenges**

Questions/ Requests

- Internal struggles
- Coordination between our IPRO and Exelon
- Ability to have barges with greenhouses for profit in both public and private locations
- Resources needed for the greenhouses
- Determining a plan that is enticing for Exelon to pursue as a pilot project

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Questions/Requests

- IPRO 336 (vertical farming)
- IPRO 331 (global warming)
- IPRO 356

QUESTIONS?