Sustainable Agriculture Processing

Optimizing Resource Use and Management Using AVEVA™ PI System™

Amber Venteicher, Jamilly de Oliveira Brito, Kim Price, and Rachel Robertson
Amber Venteicher
Digital Foundation & Solution Architect
- Cargill
- Amber_Venteicher@cargill.com

Jamilly de Oliveira Brito
Digital Solution Architect
- Cargill
- Jamilly_deOliveiraBrito@cargill.com
Cargill at a Glance

We exist to nourish the world in a safe, responsible and sustainable way.

155,000 employees

Working in 70 countries

We provide insights to our partners

We transform raw materials into finished goods

We move products around the world

• Sustainable Agriculture is how we help people and the planet thrive.

• Climate:
  • Reducing emissions in our extended supply chain by 30% by 2030 and absolute operational emissions by 10% by 2025.

• Land & Water:
  • Eliminating deforestation in our supply chains and achieving sustainable water management in all priority watersheds by 2030.

• People:
  • Promoting and respecting human rights as outlined by the United Nations Declaration on Human Rights and improving the livelihoods of 10 million farmers by 2030 through training and better access to markets.
Kim Price

Manufacturing Analytics Engineer

- Cargill
- Kim_Price@cargill.com

Rachel Robertson

Resource Efficiency Lead

- Cargill
- Rachel_Robertson@cargill.com
Who wants to help the world *thrive*?
FIVE “easy” steps to empower Energy Model creation

1. Define Model Scope
2. Develop Model equation
3. Add Model to Data Contextualization, Modelling and/or Analysis tool(s) for your historian
4. Develop Troubleshooting Guide
5. “Go Live” aka “Start USING It”
What does it look like?

Process Change

Production Change
Why?

Understand Energy Performance
- Changing Production
- Changing Products
- Changing Weather

Empower Our Teams
- Technicians Interactions are 24/7
- Model Almost Always Achievable
- Troubleshooting Guides to Support

Deliver Value
- Timely Process Corrections
- Minimizing Poor Performance
How?

• Start with a single department / area.
  • Start with a single pi tag, if you need to
How?

• Use the processes you already use.
• What tools do you already use for statistical modeling?
• How do you currently track opportunities?
• Who needs to be influenced?
• Where does this data need to go?
How?

• Standardize everything you can, after you need to
  • Once a clear process emerged, more formal training started
  • Once it was screwed up enough times, we made a template (then four!)
  • Took feedback, made a better template (four-in-one!)
  • Then the training was formalized and made freely available to other businesses
Using templates made it so that anyone could implement the process of deploying an Energy Model- reducing the Cost of Curiosity

-Kim Price
What do we want to model?

- High-cost processing area
- High intensity processing area
- Intensity: cost/unit production
- Variability in the:
  - Process
  - Costs
  - Intensity
Energy Models have shown:

- Equipment Failures
- Equipment Leaks
- Mechanical Failures
- Incorrect Installations
- VFDs Wired Backwards
- Equipment not shutdown
- Motors Idled instead of shutdown
- Duplicate Asset with steam online
Steps to Empower

1. **Define Model Scope**
   - Determine “box”

2. **Develop Model equation**
   - Identify Model Variables

3. **Add Model to Template**
   - Create the dedicated data historian record keeper(s)

4. **Develop Troubleshooting Guide**
   - Things people in operations can manipulate
   - Written for those with minimal experience
   - Clearly state when parameter is within range

5. **“Go Live”**
   - Train team
   - Monitor and improve performance
   - Keep Challenging Yourself and Your Team

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7 Tips for using an Energy Model

**Timing**
- Don’t roll it out before it’s ready

**Prework**
- Do your homework to understand how each person might feel about the change

**Communication**
- Talk to people as people
  - Vary methods
  - Tell the story
  - Elevator speech

**Troubleshooting**
- Show up for troubleshooting
  - Don’t blame the model

**Feedback**
- Ask for feedback and honor the feedback loop.
  - It’s not your tool, can’t function only for you

**Repeat**
- There’s often a gap between what leaders think is frequent communication and how employees actually perceive it.

**Champion**
- Walk the talk.
  - Don’t blame the model
We want to help the world *thrive*.
Questions?
Please wait for the microphone.
State your name and company.

Please remember to...
Navigate to this session in the mobile app to complete the survey.

Thank you!
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