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# Pacific Coast Producers

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- Produces tomatoes products including diced, paste, and sauces.
- Seasonal facility which operates nonstop between July and October.
- Received multiple grants for various energy and GHG reducing projects.



Flumes conveying tomatoes at Pacific Coast Producers in Woodland.  
*Photo credit: Pacific Coast Producers*



# Grant Funded Projects

- FPIP - Thor MVR Evaporator
- FPIP – Boiler
- SGIP – Back Pressure Steam Turbine



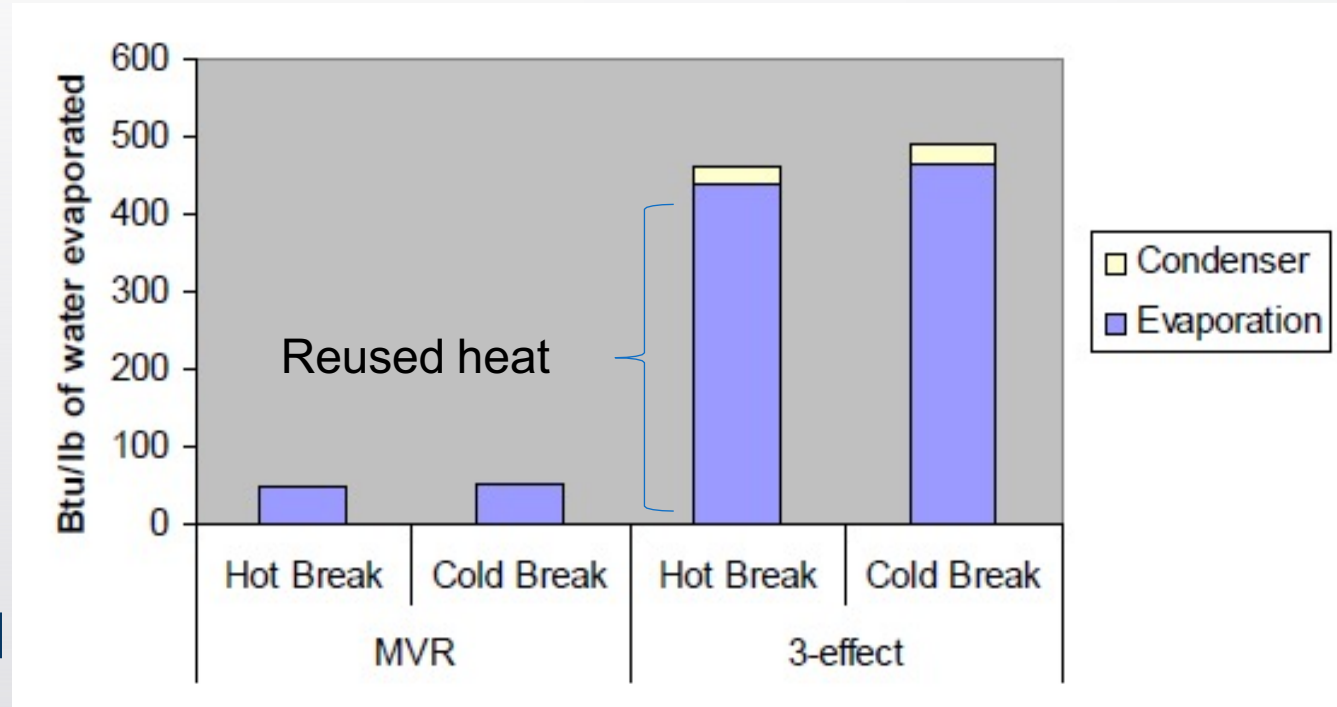


# Thor Evaporators

- 80,000 lbs/hr of water lift
- 85% reduction in steam usage

# Thor Mechanical Vapor Recompression

- Converting tomato juice to tomato paste requires evaporating >80% of the water content
- Mechanical vapor recompression (MVR) is a specialized evaporation process which takes otherwise wasted steam and recompresses it into usable steam
- Significantly reduces natural gas and water consumption, with a minor increase in electric consumption



Energy comparison of mechanical vapor recompression to conventional triple-effect evaporation

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# Benefits

- Annual energy and emission benefits:
  - 189,000 kWh per year
  - 3.6 million therms per year
  - >19,000 MT CO<sub>2</sub>e per year
- Equivalent to:
  - 2,300 homes annual energy use
  - 4,200 passenger vehicles driven
- High technology transfer potential – any facility with large evaporation or distillation systems (e.g., tomato processing, dairy processing, spirits, biofuels)



2,315 homes



4,200 passenger vehicles



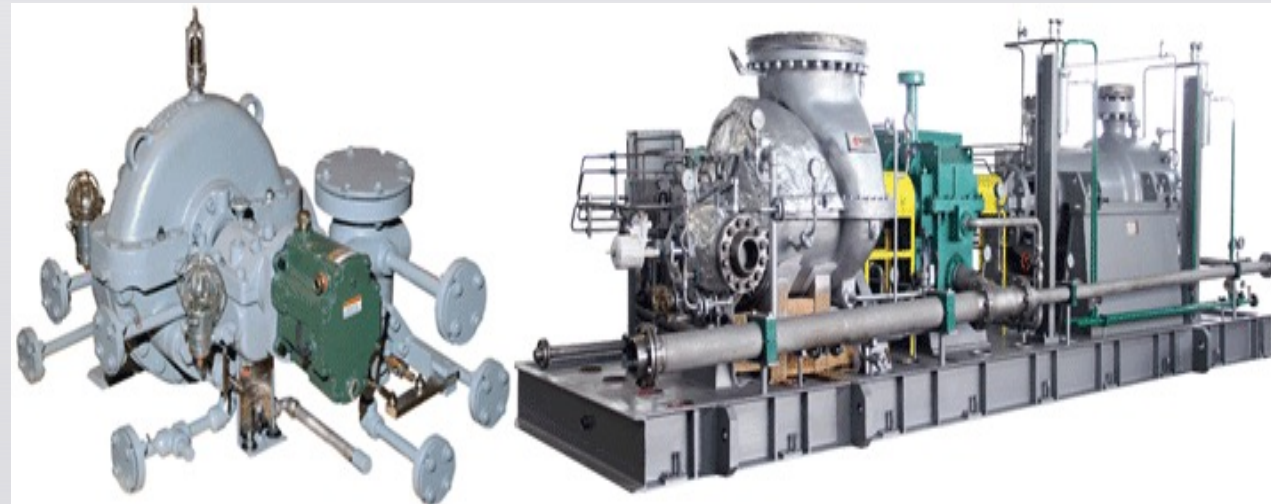
# Boiler Project

- 30% gain in efficiency.
- Close coupled with a steam generator (2.5 mW).
- Average NOx emissions are now 2 ppm.
- 50% reduction in CO emissions.
- Facility has transitioned from five boilers to 3. (2) primary and one backup.



# Steam Turbine

- 2.5 mW Generator
- Close Coupled with new Boiler
- All steam discharged from the turbine as exhaust is reused at least one more time at other locations in the plant.





Thank You!