

MoSEP Stakeholder Meeting

Southeast Region September 21, 2021

Combined Heat & Power: A Key Part of Missouri's Energy Future

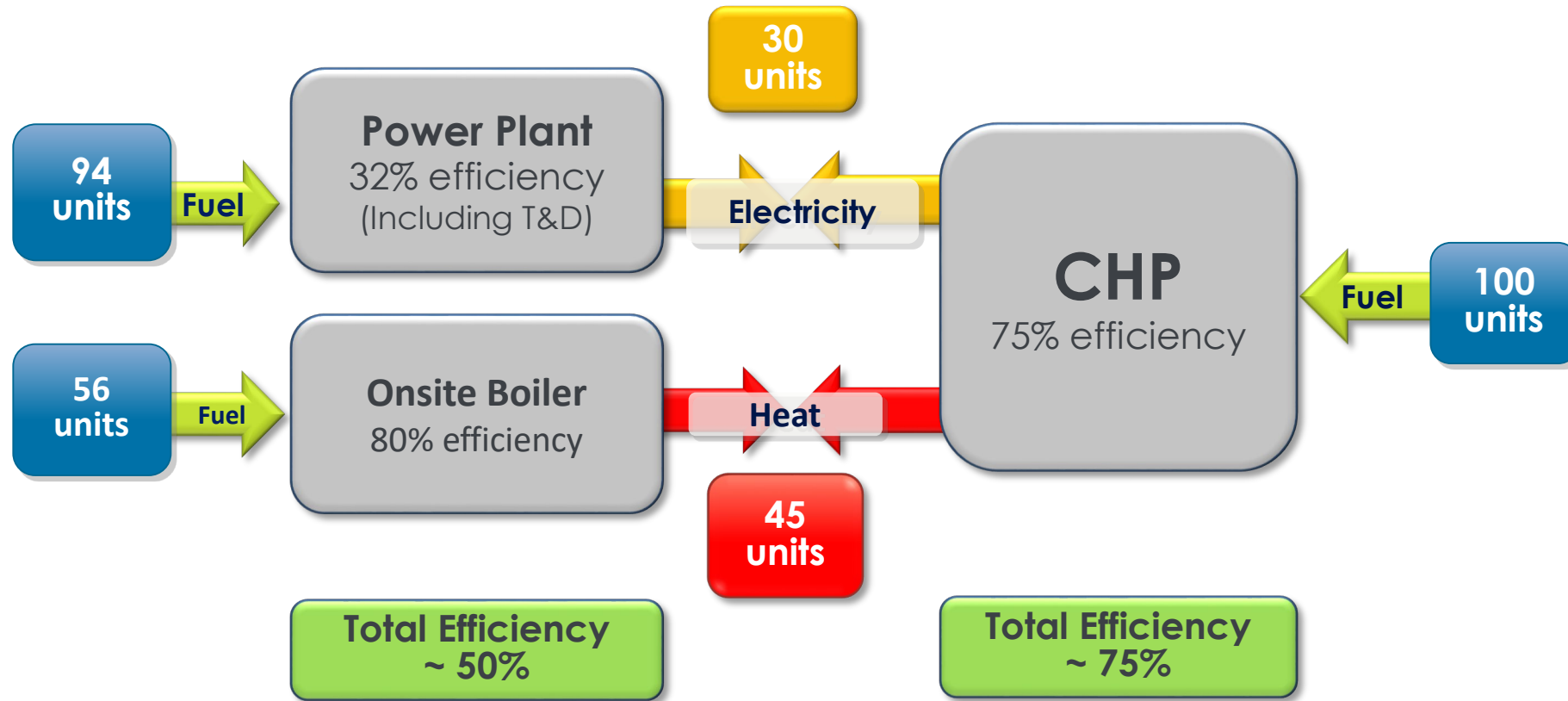
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CHP directly supports the Core Values of MoSEP planning process

1. Assure secure, **reliable and resilient** energy infrastructure and supplies.
2. Enhance Missouri's **competitive** position in business retention, expansion and attraction through affordable rates and **renewable** energy options.
- 3. Develop **diverse** in-state energy resources.**
4. Create opportunities for energy-related **technological innovation** and workforce development.
5. Ensure affordability and **equity** in access to energy resources, services and programs.
6. Promote the **efficient and environmentally sound** use of energy.

[Summary and Action Report](#)

What is Combined Heat & Power (CHP)



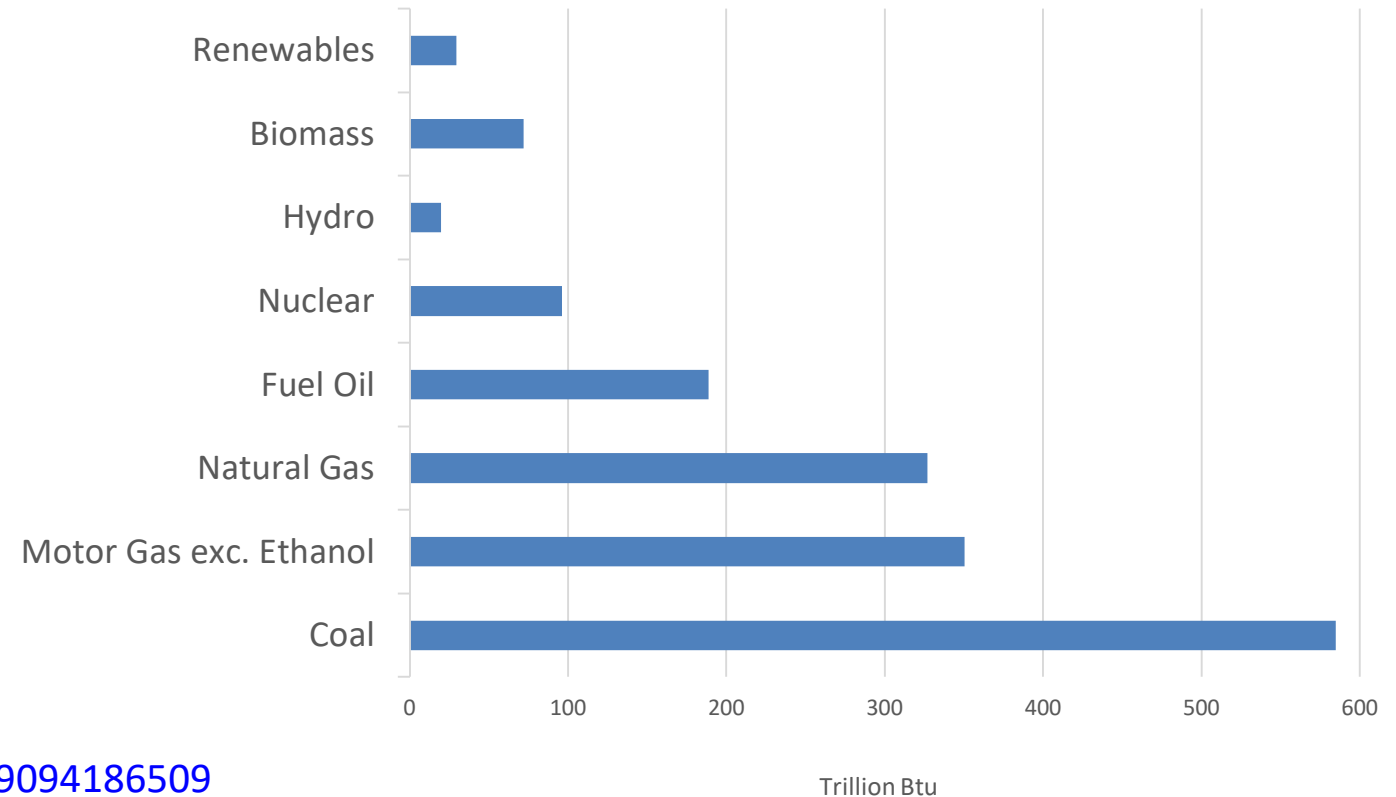
On site/in state, NG/Biogas, renew-enabler, resilient communities

Missouri State Energy Profile

<https://www.eia.gov/state/print.php?sid=MO>

- 70% coal-fired electric generation
- Opportunity for diverse, in-state resources includes CHP
 - On site/in state
 - NG, Biogas and RNG
 - Integrated with solar and batteries
 - Heart of Distributed Energy Resource
 - WWTF, Ag, critical public infrastructure, all sectors
 - Resilient communities

Missouri Energy Consumption Estimates, 2019



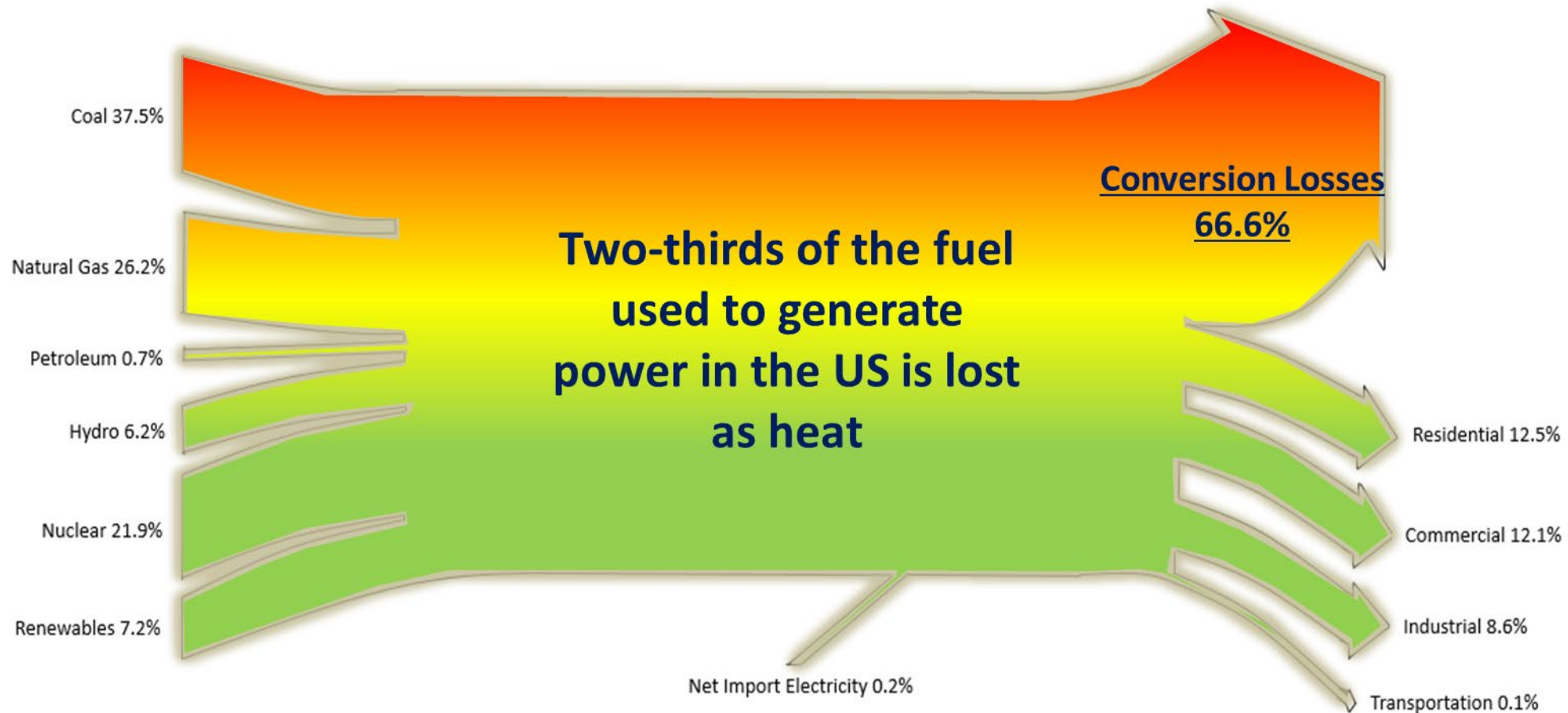
<https://register.gotowebinar.com/recording/8964655169094186509>

Source: EIA, State Energy Data System

What Are the Benefits of CHP?

- CHP is 25 – 35% overall more energy efficient than separate generation of electricity and heating/cooling
- NG-fueled CHP reduces pollutant emissions by 50% compared to coal-fueled electric generation
- CHP technology is highly reliable (85-99% available)
- **CHP provides resiliency as a DER and can serve as the heart of microgrid**
- **CHP enables renewable energy growth by serving as baseload**
- CHP technology is fueled by biogas NOW

Why is Combined Heat and Power Important?

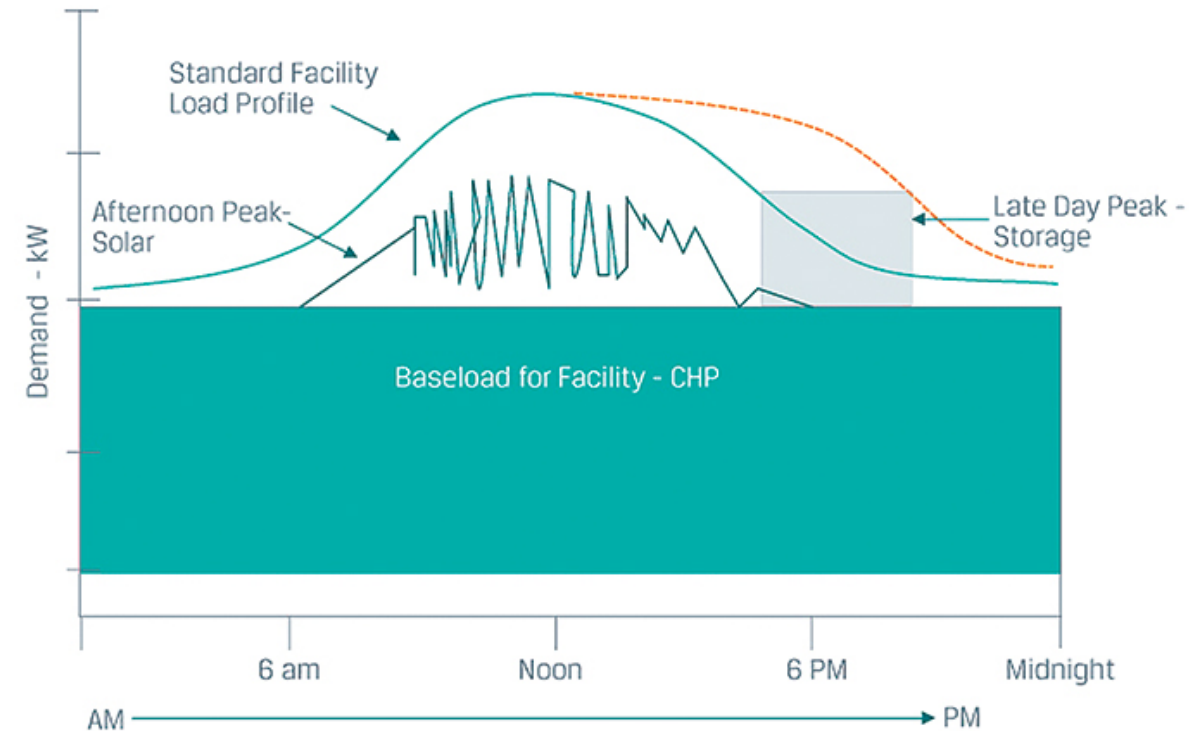


CHP is Renew-enabler Hybrid DER Systems

Hybrid systems combine characteristics of individual technologies

- CHP – provides baseload energy
- Solar, Wind – variable renewable generation can now be “firmed”
- Storage – adding flexibility

CHP is a key part of the move toward a more diverse, in-state resource.



CHP directly supports the Core Values of MoSEP planning process

3. Develop **diverse** in-state energy resources.



Thank you