

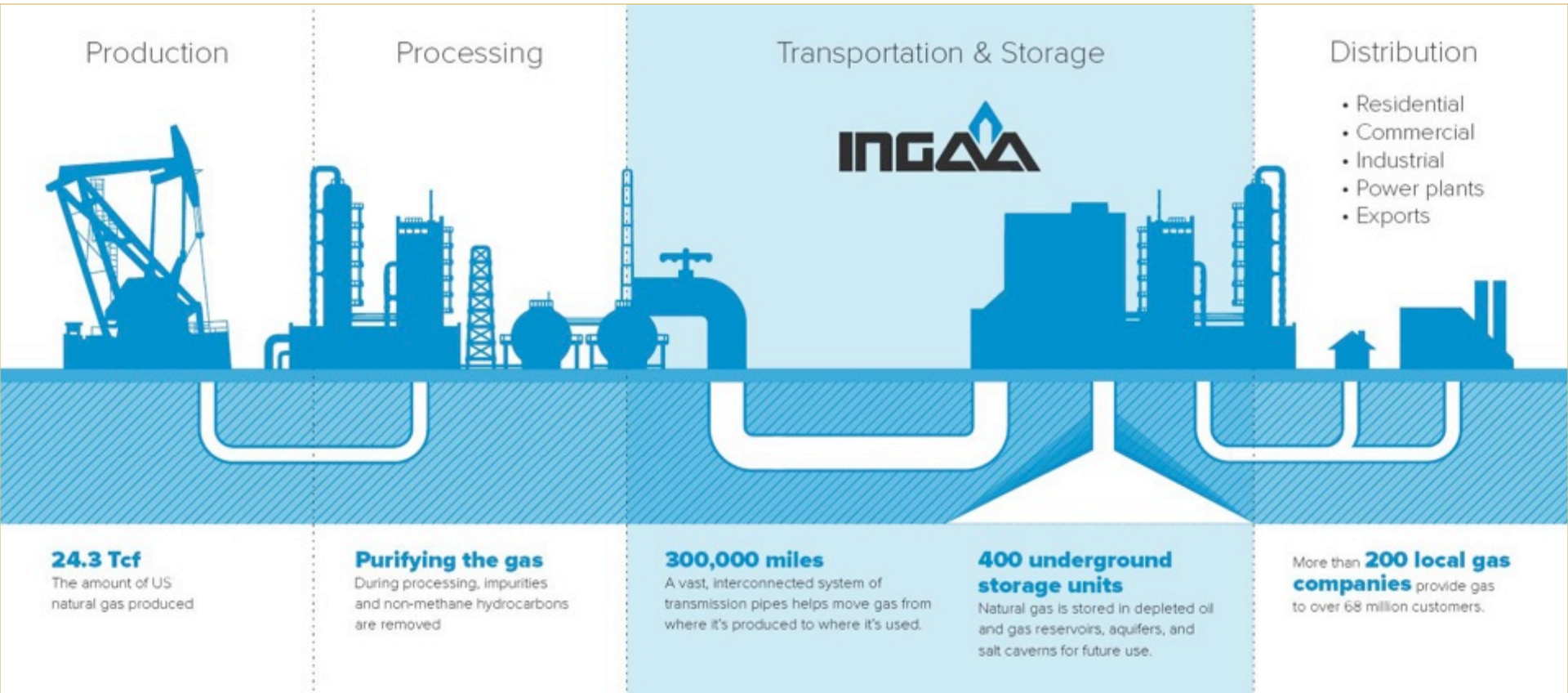
What's INGAA?



- The **Interstate Natural Gas Association of America** is a trade organization that advocates regulatory and legislative positions of importance to the interstate natural gas transmission pipeline industry in North America.



Where Does INGAA Fit Into The Natural Gas Supply Chain?

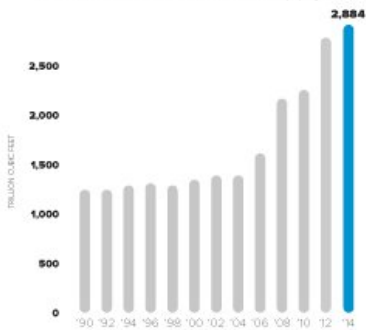


What Is Natural Gas Used For?



of the energy used in the U.S. came from natural gas.

U.S. Natural Gas Future Supply¹



In addition to fueling your furnace, stove and clothes dryer, natural gas is used to produce...



Clothing



Glass



Steel



Paper



Electricity

Products that use raw natural gas...



Paints



Plastics



Film



Medicines



Fertilizer

Top natural gas consumers...



Electric power sector



Industrial sector



Residential sector



Commercial sector



\$840/year²

Average household savings thanks to abundant, affordable natural gas.

\$68,850

Average wage for a pipeline worker.³

Estimated 374,000

U.S. jobs (direct, indirect and induced) related to increased pipeline construction through 2035.⁴

Guiding Principles of Pipeline Safety



- **Our goal is zero incidents** - a perfect record of safety and reliability for the national pipeline system. *We will work every day toward this goal.*
- **We are committed to safety culture** as a critical dimension to continuously improve our industry's performance.
- **We will be relentless in our pursuit of improving** by learning from the past and anticipating the future.
- **We are committed to applying integrity management principles on a system-wide basis.**
- **We will engage our stakeholders** - from the local community to the national level - so they understand and can participate in reducing risk.

What Does Industry Want?

- Deliver natural gas
 - Safely
 - Cleanly
 - Reliably
 - Affordably
- Understanding future energy markets is critical to achieving these goals

Changing Electric Capacity Profile

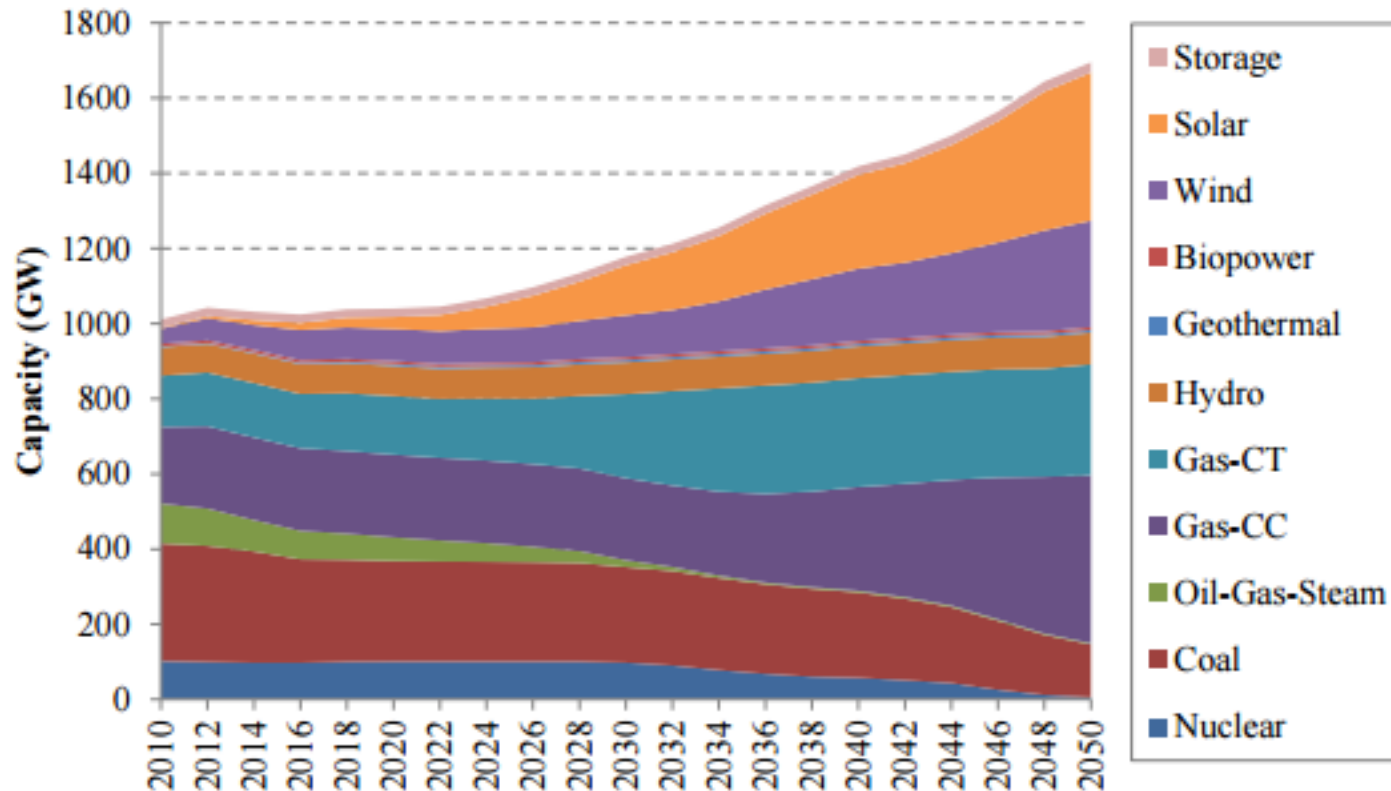


Figure 1. Installed capacity by technology type in the Central Scenario.
Gas-CT is gas-fired combustion turbine and Gas-CC is gas-fired combined cycle.

Potential for Larger Swings in Natural Gas Usage

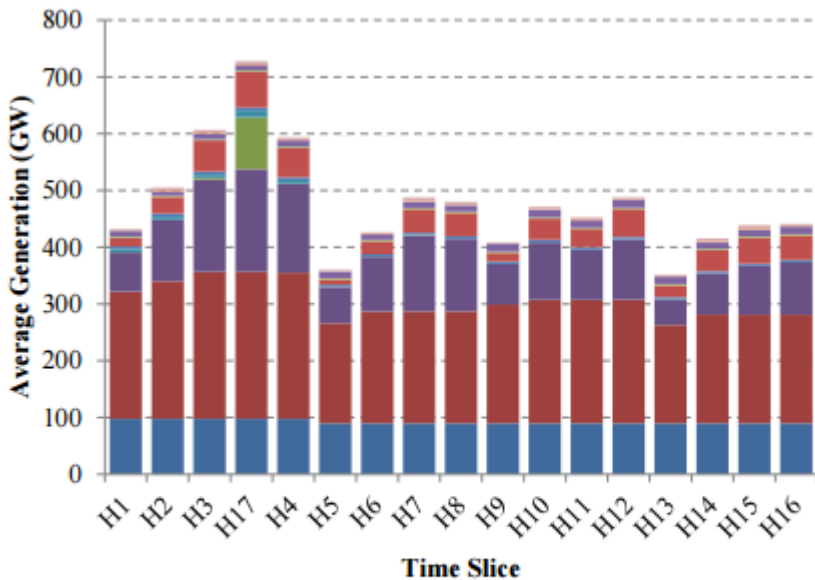


Figure 19. Generation by time-slice in 2010 in the Central Scenario

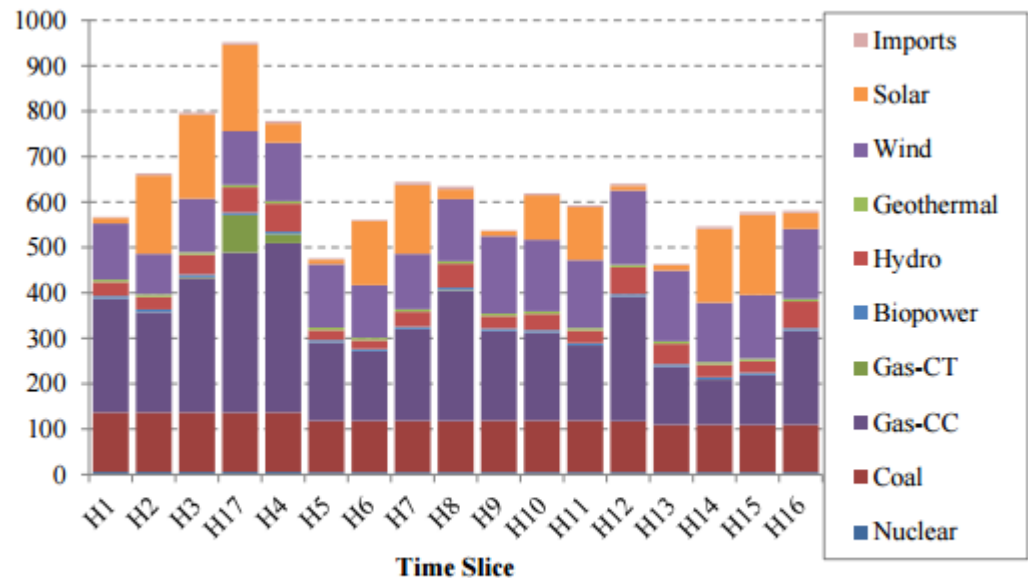


Figure 20. Generation by time-slice in 2050 in the Central Scenario

Pipeline Safety Considerations for the Future



- Pipeline Assessments
 - More Pipelines → More Assessments
 - Expansion of IM Programs → More Assessments
 - Changing Usage → Shorter Assessment Windows
 - Changing Usage → Lower Tolerance for Deliverability Reductions
- Underground Gas Storage
 - Expansion of IM Programs → More Assessments
 - Expansion of IM Programs → Injection/Withdrawal Impacts
 - Changing Usage → Shorter Assessment Windows
 - Changing Usage → Lower Tolerance for Deliverability Reductions

What Should Our Industry Do?

What Does Industry Want? To deliver natural gas safely, cleanly, reliably and affordably.

- Support development and implementation of modern inline/downhole inspection technologies
 - Technologies can reduce deliverability impacts while improving pipeline safety
 - Examples: ILI using EMAT, advanced downhole logging
- Industry dollars should chase these goals
- Regulations should embrace these goals
 - Pipeline MAOP reconfirmation
 - Underground gas storage integrity management
- A perfect record of safety and reliability – zero incidents – is more important than ever

Guiding Principles of Pipeline Safety



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Appendix Slides



Changing Generation Profile

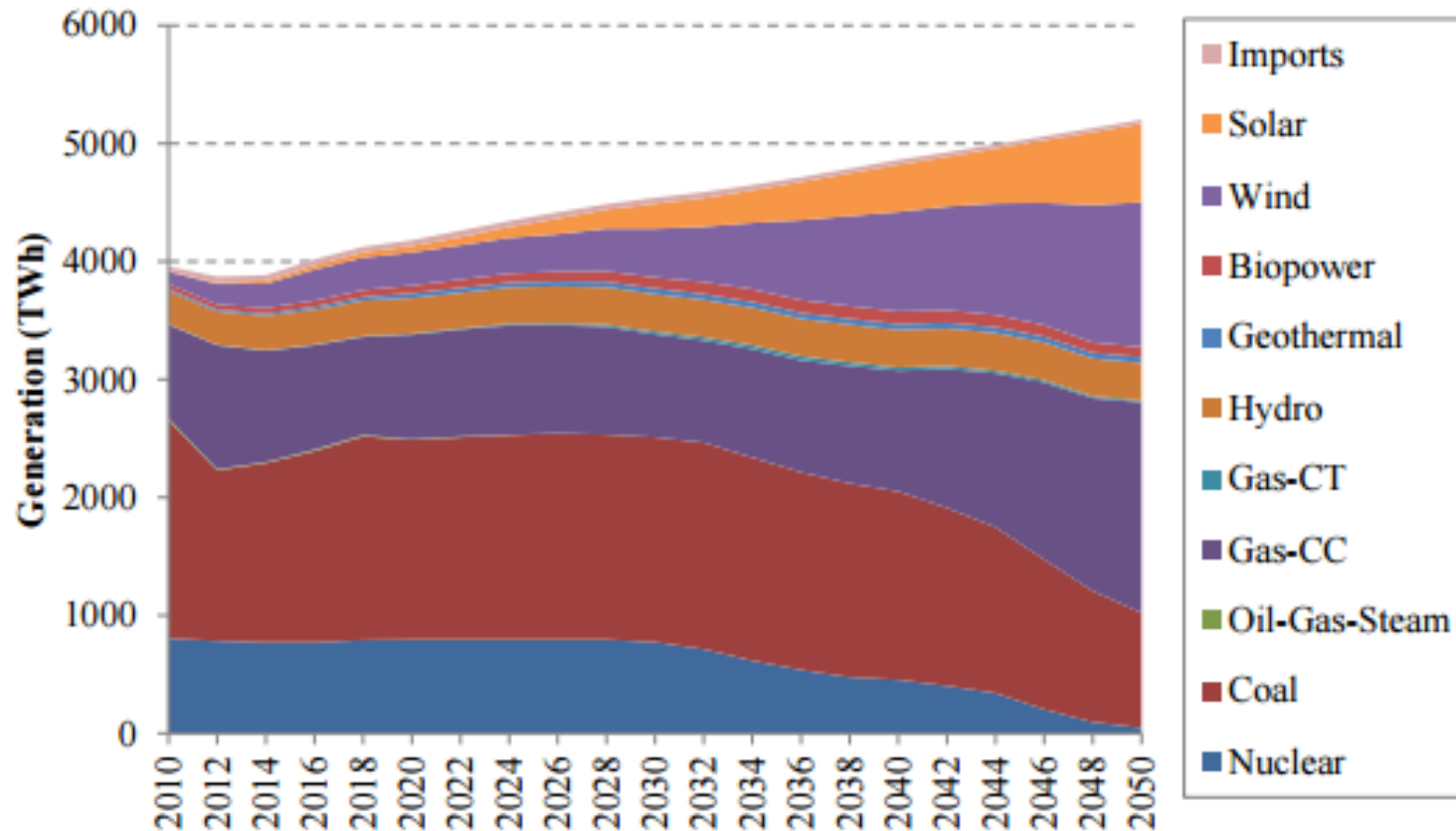


Figure 2. Generation by technology type in the Central Scenario.
Gas-CT is gas-fired combustion turbine and Gas-CC is gas-fired combined cycle.