

U.S. & WORLD NUCLEAR ENERGY

Southern States Energy Board

Joint Meeting of the Radioactive Materials Transportation Committees

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OUTLINE

- WORLD NUCLEAR POWER
- FUKUSHIMA
- U.S. STATUS
- QUESTIONS



ONE URANIUM FUEL PELLET WEIGHS ~ 7 GRAMS
AND GENERATES AS MUCH ENERGY AS ...



One Ton of Coal



17,000 Cubic Feet



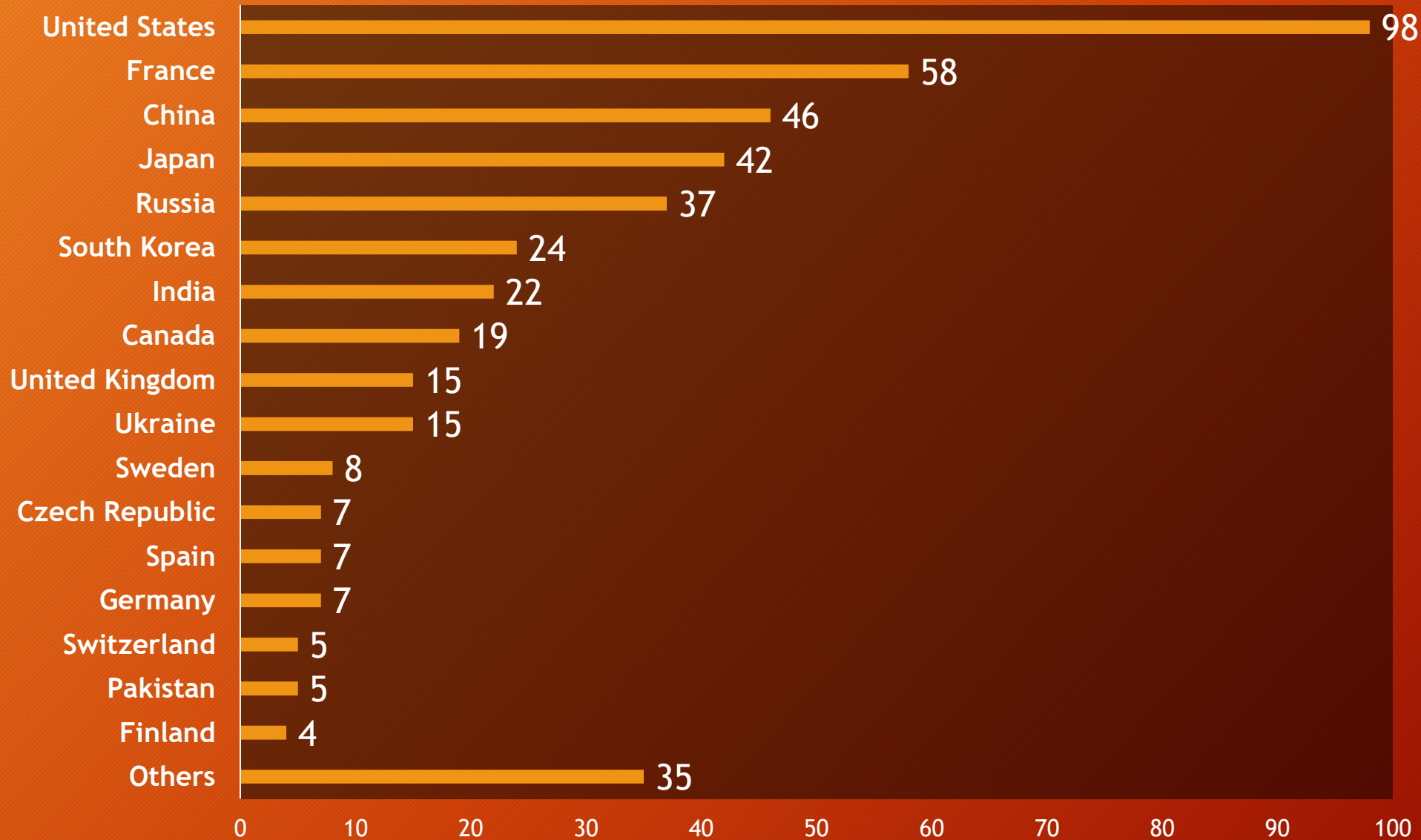
149 Gallons of Oil



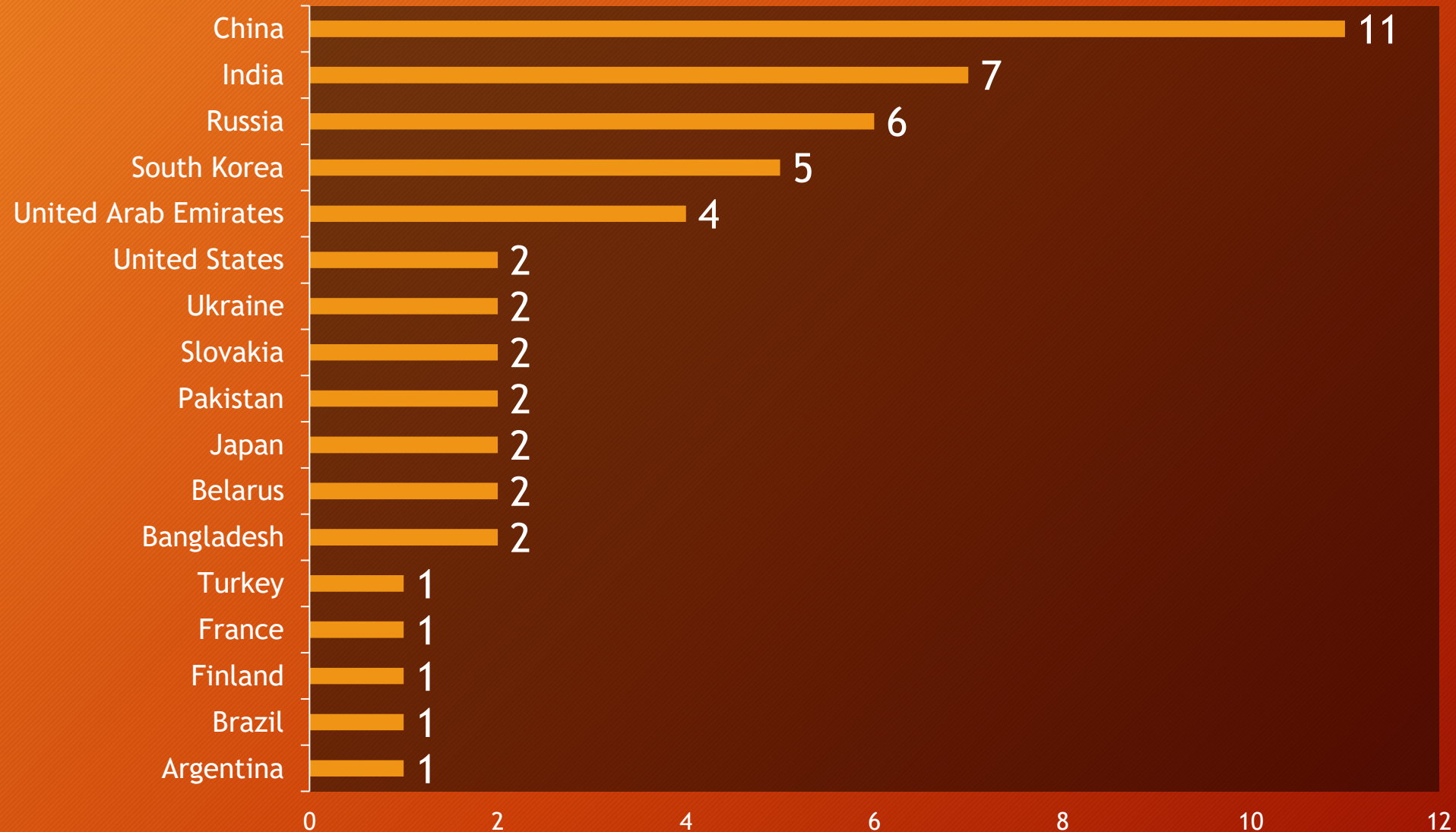
WORLD NUCLEAR POWER

- Electricity Diversity
- Sustainable Energy
- Economic Considerations
- Electricity Demand

WORLD TOTAL: 454 REACTOR UNITS



54 NUCLEAR REACTORS UNDER CONSTRUCTION



EVENT INITIATION



- 9.0 magnitude earthquake
- March 11, 2012
- Centered offshore

- ◉ Designed for 8.2 magnitude earthquake
- ◉ 9.0 quake is 8 time greater

SERIOUS SECONDARY EFFECTS

- Tsunami
- Aftershocks
- Major fire at a chemical plant



TSUNAMI DESTRUCTION



TSUNAMI DESTRUCTION



FUKUSHIMA



FUKUSHIMA BEFORE



UNITS 1 - 4 AFTER











LIKELY OUTCOMES

- Station Blackout
- Spent Fuel Storage
- Multiple Units (not just a single unit)
- New Plants

United States

China

United Arab Emirates

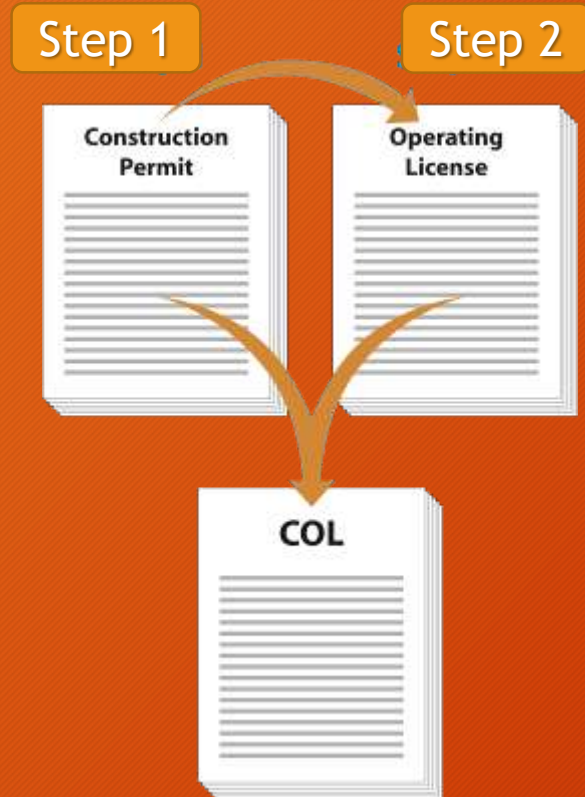
Germany/Italy

India

Russia



WHAT IS DIFFERENT TODAY?



South Texas Nuclear Power Plant

1. Improved Licensing Process

2. Brownfield Sites

OTHER IMPROVEMENTS

Early Site Permit



Ground Site

Design Certification



AP1000

QUESTIONS?

