



CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING

ADVANCES IN NUCLEAR POWER TECHNOLOGY STUDY Abbreviations, Acronyms, Facts & Figures

ACRONYMS:

CASE:	Connecticut Academy of Science and Engineering
CCGT:	Combined Cycle Gas Turbine
CEAB:	Connecticut Energy Advisory Board
CERC:	Connecticut Economic Resource Center
DECD:	Department of Economic & Community Development

EIA:	Energy Information Administration
IRP:	Integrated Resource Plan
ISO:	Independent System Operator
kWh:	kilowatt-hour
LCOE:	Levelized Cost of Electricity
NRC:	Nuclear Regulatory Commission

FACTS AND FIGURES

Types of Reactors
– Light Water Reactors (operating) Generation II
o Boiling Water Reactors
o Pressurized Water Reactors
– Generation III and III+ Reactors (being built)
o Active Safety Systems
o Passive Safety Systems
– Small Modular Reactors (under development)
– Generation IV Reactors (potentially ready >2030)
State of Nuclear Power
– 443 nuclear reactors operating worldwide in 29 countries (<i>~16% of electricity generated</i>) <i>Note: stats are prior to Fukushima accident</i>
– 104 nuclear reactors operating in U.S. in 31 states (19.6% of electricity generated)
– 64 new nuclear reactors under construction in 15 countries
– 5 new nuclear reactors under construction in U.S.
– Watts Bar 2 (TVA)
– Vogtle 3&4 (Southern Nuclear)
– V.C. Summer 2&3 (SCANA)
– U.S. lifetime extensions (20 years)
– 66 approved by US NRC
– 16 filed for approval
– 20 more expected to file
Sources of Emission Free Electricity in the U.S.
– 68.9 % Nuclear
– 21.6 % Hydro
– 9.5 % Solar, Wind & Geothermal 9.5

(See other side for additional information)

**ECONOMIC IMPACT OF ADDING A NUCLEAR AND CCGT PLANT AT MILLSTONE OR CONNECTICUT YANKEE
(FROM ATTACHMENT 1: THE ECONOMIC IMPACT OF NUCLEAR POWER GENERATION IN CONNECTICUT –
TABLE 10, PAGE 162)**

Economic Variable	Annual Average Change from Baseline (2009-2050)			
	Add Nuclear Plant at Millstone or CT Yankee		Add CCGT Plant at Millstone or CT Yankee	
Total New Employment (Persons)	2,420		1,333	
New Construction (Jobs)	957		254	
	Ann. Avg. Change	NPV	Ann. Avg. Change	NPV
New Gross Domestic Product (mil nominal \$)	\$516.6	\$7,594.8	\$471.1	\$5,768.4
New Output (mil nominal \$)	\$845	\$12,576.3	\$773.6	\$9,581.7
New Personal Income (mil nominal \$)	\$363.6	\$6,154.1	\$247.6	\$3,291.8
Net New State Revenue (mil nominal \$)	\$27.4	\$586	\$18.6	\$306.2