



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

**RIC 2010:
Increasing Interest in Small Modular
Reactors**

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*SENIOR MANAGER, GENERATION AND FUELS
ENERGY AND ENVIRONMENTAL POLICY
NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION*

March 11, 2010



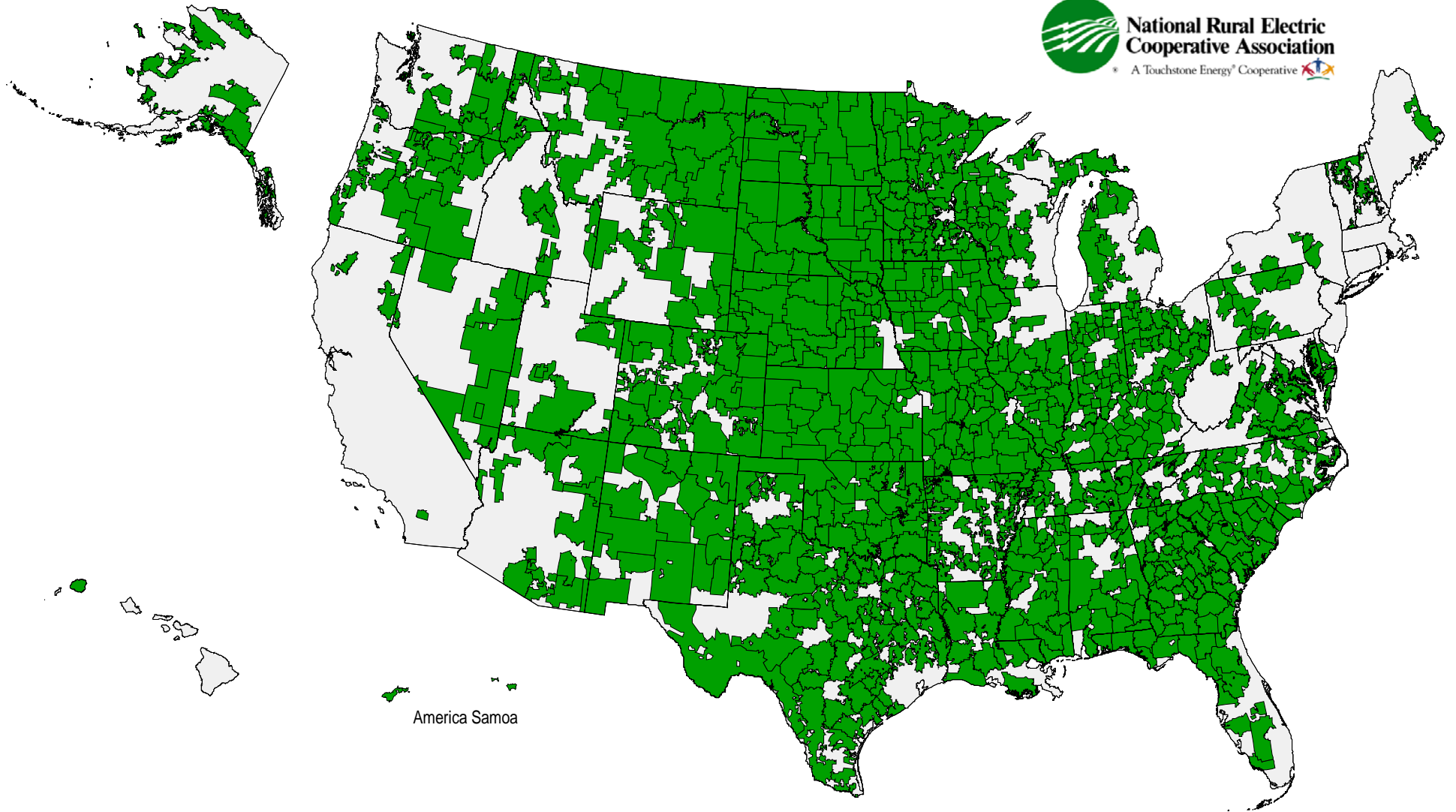
ROLE OF RURAL ELECTRIC COOPERATIVES IN NUCLEAR ENERGY

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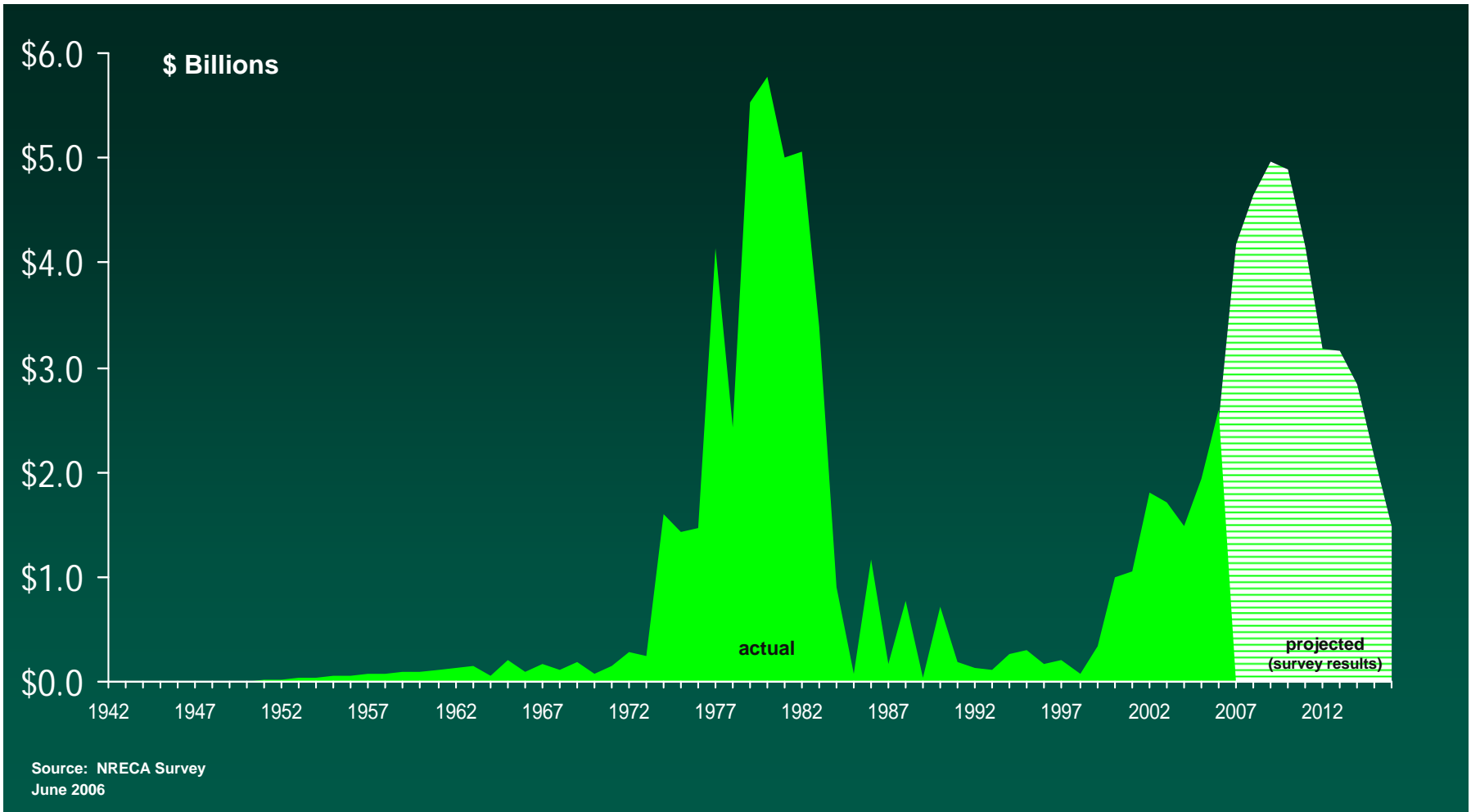
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- ◆ RURAL ELECTRIFICATION ACT OF 1937 PASSED TO PROVIDE ELECTRICITY TO FARMS AND RURAL AREAS
- ◆ ONLY 10% OF THE RURAL AREAS HAD ELECTRICITY IN 1937
- ◆ TODAY, RURAL AREAS ARE ESSENTIALLY ELECTRIFIED
- ◆ RURAL ELECTRIC COOPERATIVES ARE MEMBER-OWNED, NON-PROFIT ORGANIZATIONS, CONTROLLED BY THE MEMBERSHIP THROUGH ELECTED BOARDS OF DIRECTORS
- ◆ THERE ARE 865 RURAL ELECTRIC DISTRIBUTION COOPERATIVES SERVING ELECTRICITY TO 42 MILLION CONSUMERS
- ◆ THERE ARE 65 COOPERATIVES THAT PRODUCE AND TRANSMIT ELECTRICITY (G&TS) TO THE DISTRIBUTION COOPERATIVES
- ◆ THE G&TS PRODUCE ABOUT HALF OF THE ELECTRICITY NEEDED BY ITS MEMBERS; ABOUT 5% OF THE NATION'S ELECTRICITY, THE OTHER HALF COMING FROM PURCHASES

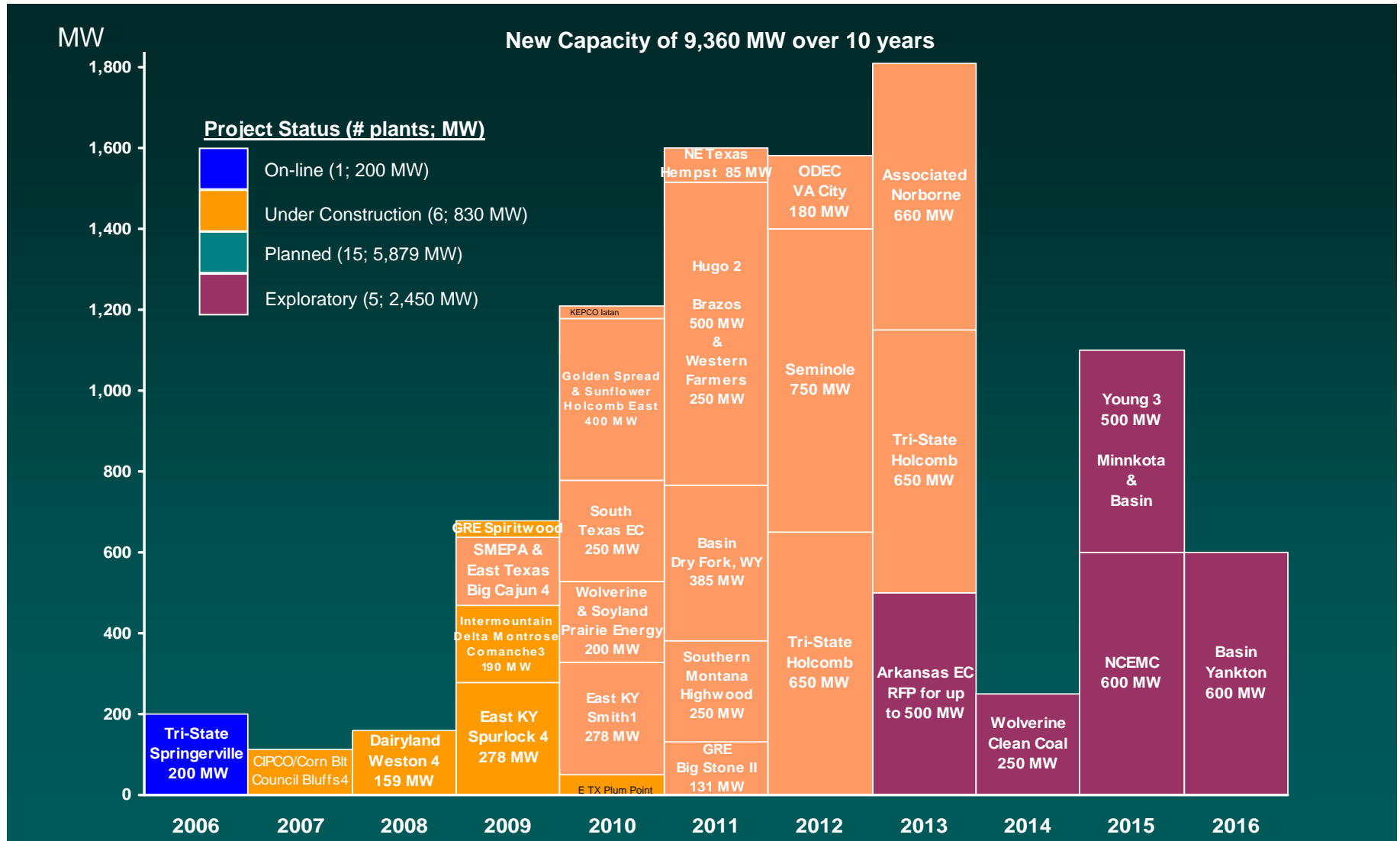


America Samoa

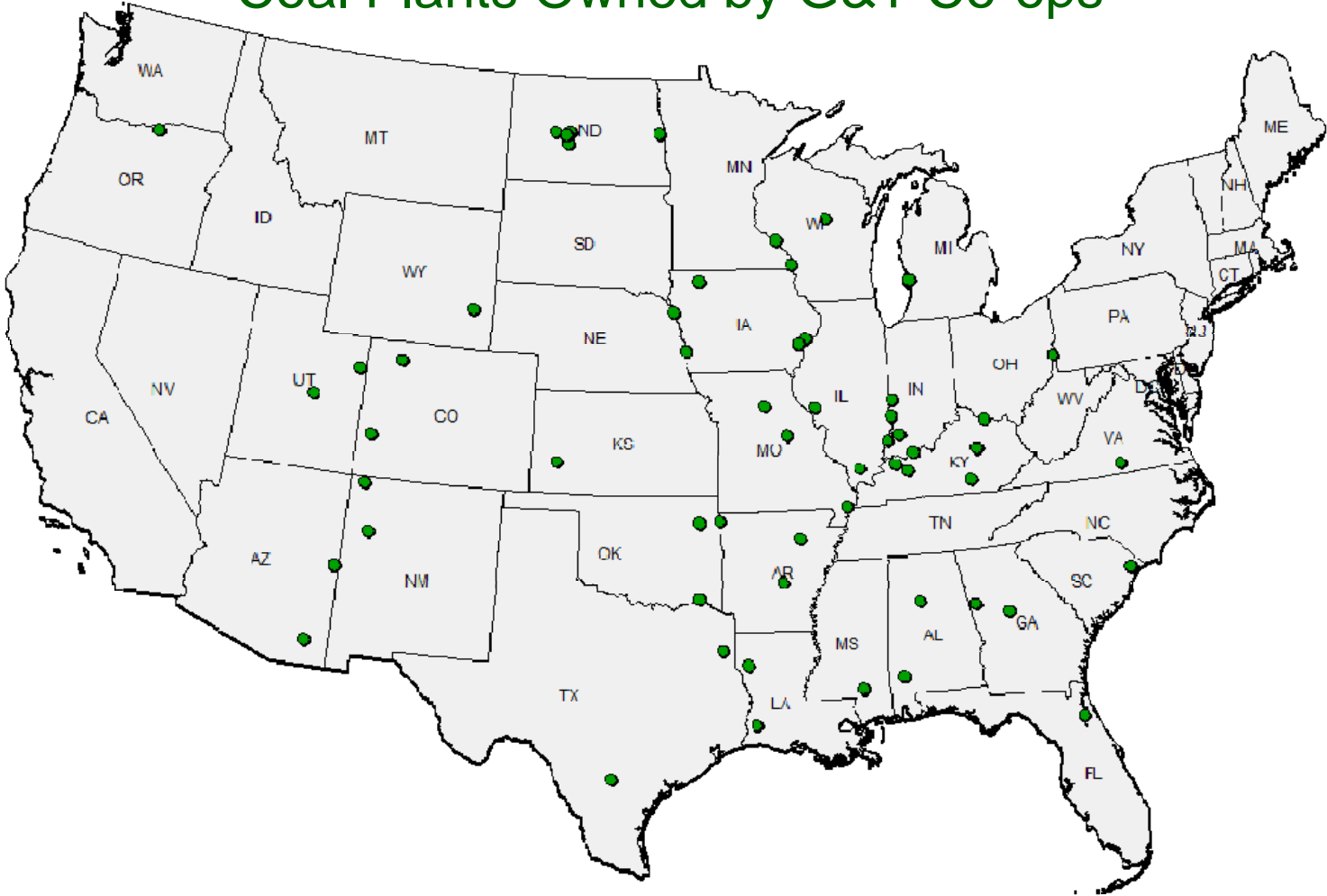
Annual RUS G&T Loans



27 Co-op Coal Projects



Coal Plants Owned by G&T Co-ops

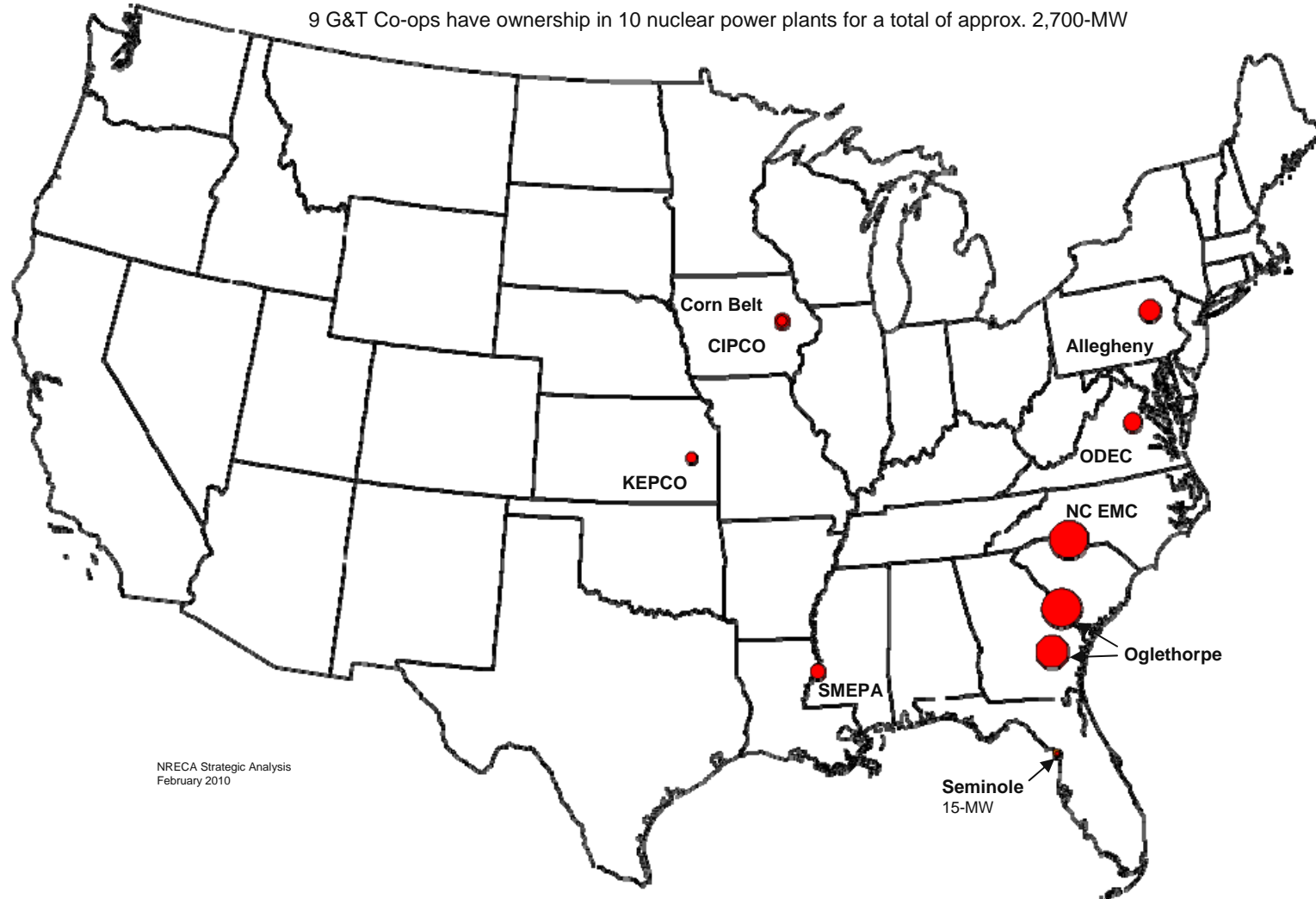


Nuclear Background

- ◆ **EARLY 1960S**, TWO COOPERATIVES, UNITED POWER ASSOCIATION IN MINNESOTA AND DAIRYLAND POWER COOPERATIVE PARTICIPATED IN THE AEC DEMONSTRATION PROGRAM, INSTALLING 2 ALLIS CHALMERS BOILING WATER REACTORS (22 AND 50 MW RESPECTIVELY) ON THEIR SITES
- ◆ **1969** – REA GAVE LOANS TO 2 COOPERATIVES (CORN BELT POWER AND CENTRAL IOWA POWER COOPERATIVE – 10% AND 20% OWNERSHIP) INTO THE DUANE ARNOLD NUCLEAR PLANT (550 MW)
- ◆ **1970 TO 1978** – COOPERATIVES RECEIVED LOANS OR WERE IN PROCESS OF PARTICIPATING IN 26 DIFFERENT NUCLEAR UNITS. THREE MILE ISLAND AND THE HIGH COST OF NUCLEAR PLANTS RESULTED IN SOME UNITS NOT BEING BUILT, AND THE COOPERATIVES DROPPING OUT OF OTHERS
- ◆ **TODAY**, COOPERATIVES OWN 2860 MW IN 10 OPERATING NUCLEAR UNITS.

Co-op Ownership in Nuclear Power Plants

9 G&T Co-ops have ownership in 10 nuclear power plants for a total of approx. 2,700-MW



NRECA Strategic Analysis
February 2010

Nuclear Renaissance

- ◆ MANY COOPERATIVES HAVE EXPRESSED A DESIRE TO PARTICIPATE IN THE PROPOSED NEW ROUND OF NUCLEAR POWER PLANTS
- ◆ OGLETHORPE POWER CORPORATION (GEORGIA) RECENTLY RECEIVED THE FIRST DOE GUARANTEE LOAN TO PARTICIPATE IN A 30% OWNERSHIP OF VOGTLE UNITS 3 AND 4 SCHEDULED FOR OPERATION IN 2016/7
- ◆ OLD DOMINION ELECTRIC COOPERATIVE (VIRGINIA) IS PARTICIPATING IN THE NORTH ANNA UNIT 3 ADDITION.
- ◆ SOUTH CAROLINA E&G, SANTEE COOPER IS PLANNING AN ADDITION. MOST OF SANTEE COOPER POWER WILL GO TO COOPERATIVES
- ◆ OTHER COOPERATIVES HAVE HAD DISCUSSIONS FOR OWNERSHIP OR ENERGY PURCHASE FROM SUCH PROPOSED REACTORS AS SUSQUEHANNA 3, GRAND GULF 2, RIVERBEND 2, SOUTH TEXAS PROJECT, AND PROGRESS ENERGY'S UNITS,
- ◆ FURTHERMORE, A NUMBER OF OTHER COOPERATIVES HAVE EXPRESSED AN INTEREST IN UNITS SHOULD THE LOCAL INVESTOR OWNED COMPANY GO FORWARD.

SMALL MODULAR REACTORS

- ◆ NRECA RECEIVES MONTHLY CALLS FROM VENDORS OF THE SMALL MODULAR UNITS
- ◆ SEVERAL VENDORS HAVE SPOKEN TO THE G&T MANAGERS ASSOCIATION ON THIS SUBJECT AND NUSCALE WILL BE THE SPEAKER AT THE NEXT MANAGER'S MEETING
- ◆ THE RESOURCE PLANNERS FOR THE G&TS (THOSE WHO PLAN NEW UNITS, NEW TRANSMISSION, ETC) WILL BE MEETING THIS FALL, AND THIS WILL BE ON THE AGENDA. (I HOPE TO HAVE PAUL GENOA AS THE SPEAKER).
- ◆ RURAL ELECTRIC COOPERATIVES HAVE AN APPEAL TO THE MANUFACTURERS OF SMALLER UNITS AS THE COOPERATIVE'S SIZE MAKES 100 TO 200 MW ADDITIONS THE PROPER SIZE FOR SATISFYING THEIR INCREASED DEMAND. CO2 REGULATIONS COULD CAUSE SOME OF THE OLDER COAL FIRED UNITS TO BE SHUT DOWN. A SMALLER REACTOR PLACED ON AN EXISTING SITE WITH TRANSMISSION, BUILDINGS AND SITE FACILITIES OFFERS AN EXCELLENT OPPORTUNITY.
- ◆ A QUICK SURVEY OF THE MEMBERSHIP SHOWS THAT MANY ARE INTERESTED IN LEARNING MORE ABOUT THESE UNITS AS A POSSIBLE FUTURE SOURCE OF POWER