

Shaping our Energy Future: The New State Energy Plan

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NC State Energy Office

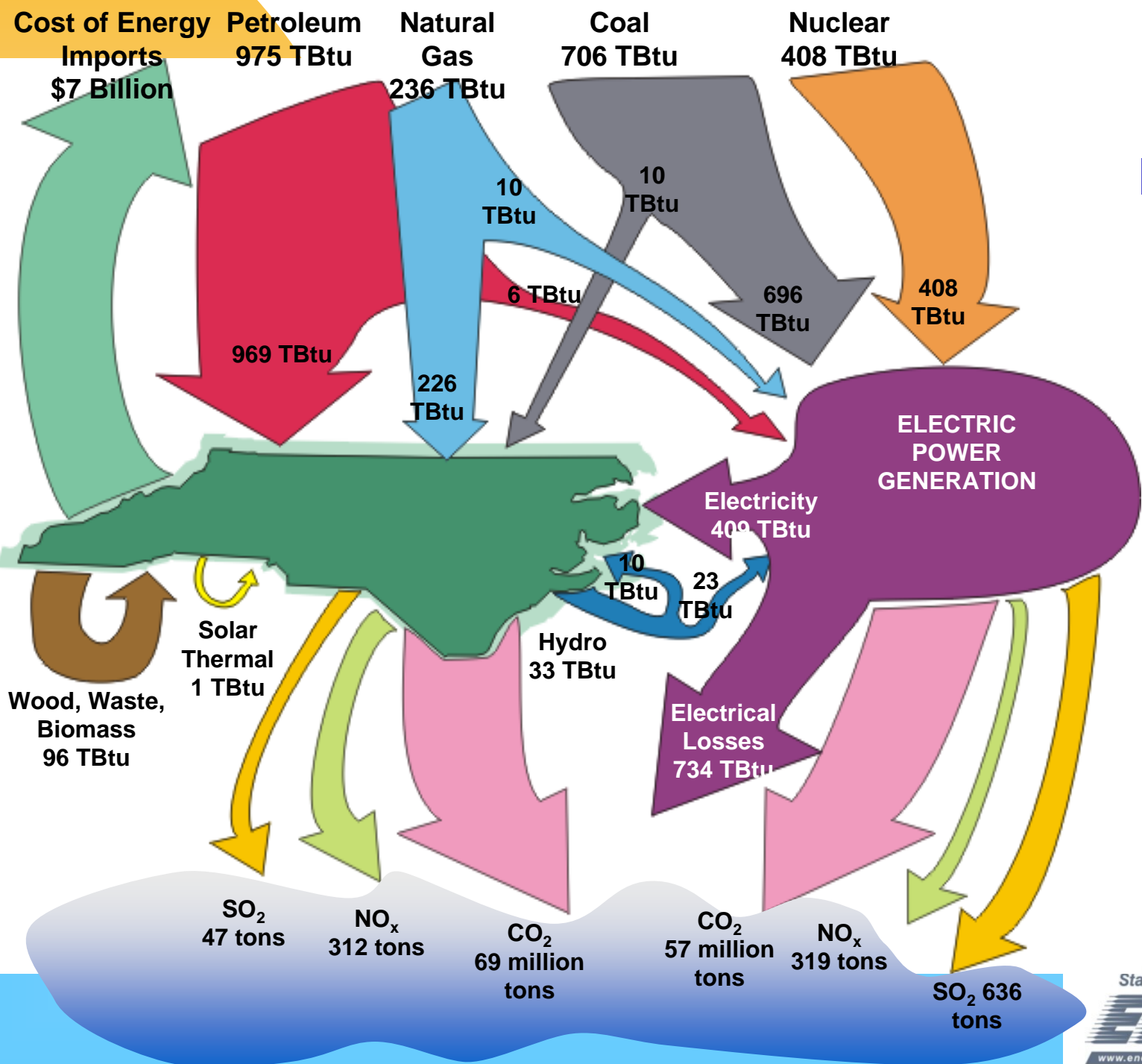
State Energy Office

- /// Created During Arab Oil Embargo: 1973
- /// Department of Administration
- /// Ideal Location: State Construction, Motor Fleet, Property, P&C Divisions
- /// Lead Agency for Energy Programs and Services in North Carolina

State Energy Office

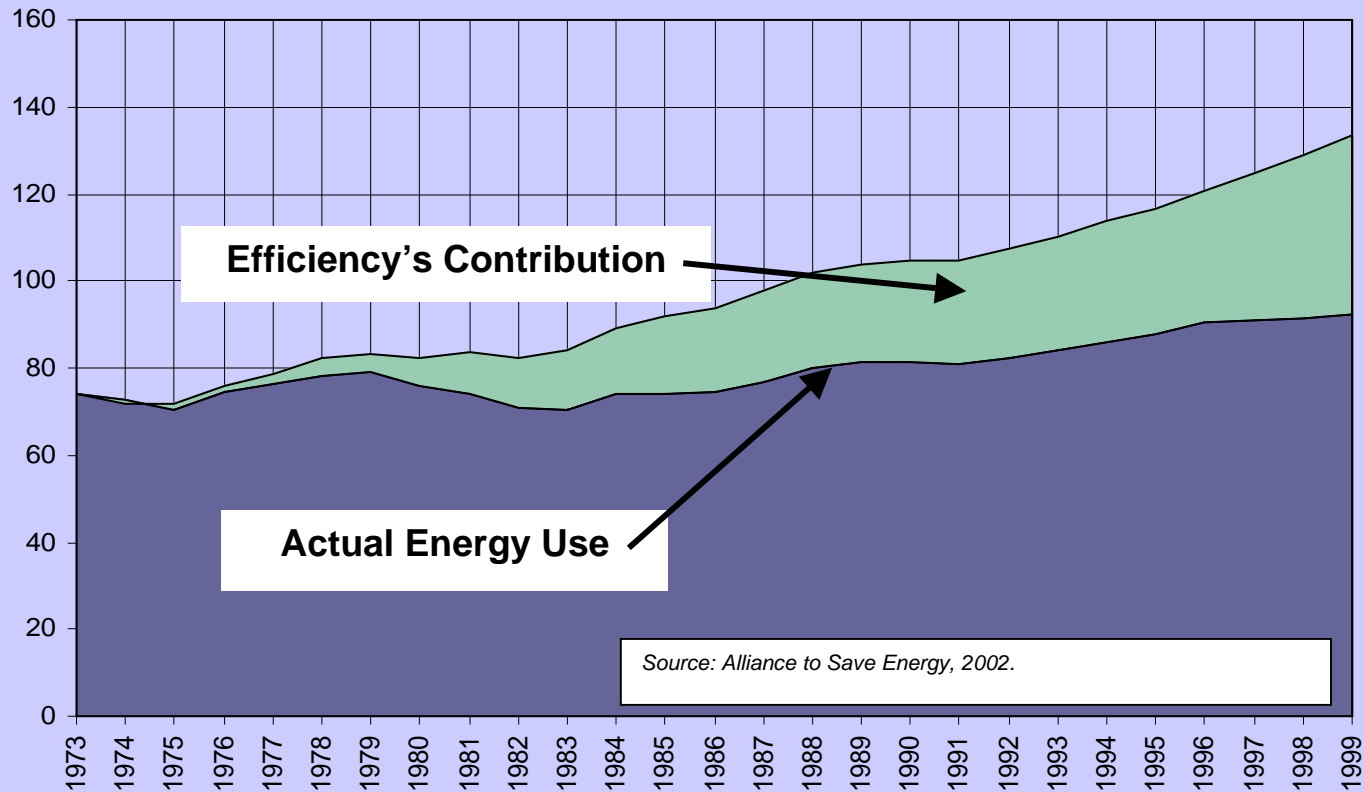
- /// Energy Emergencies
- /// Alternative Fuels
- /// Renewable Energy
 - Solar, Wind, Hydro and Biomass
- /// Energy Efficiency
 - Universities, State Agencies
 - Local Governments, Schools & NPOs
 - Industrial and Residential

Energy Flows In North Carolina

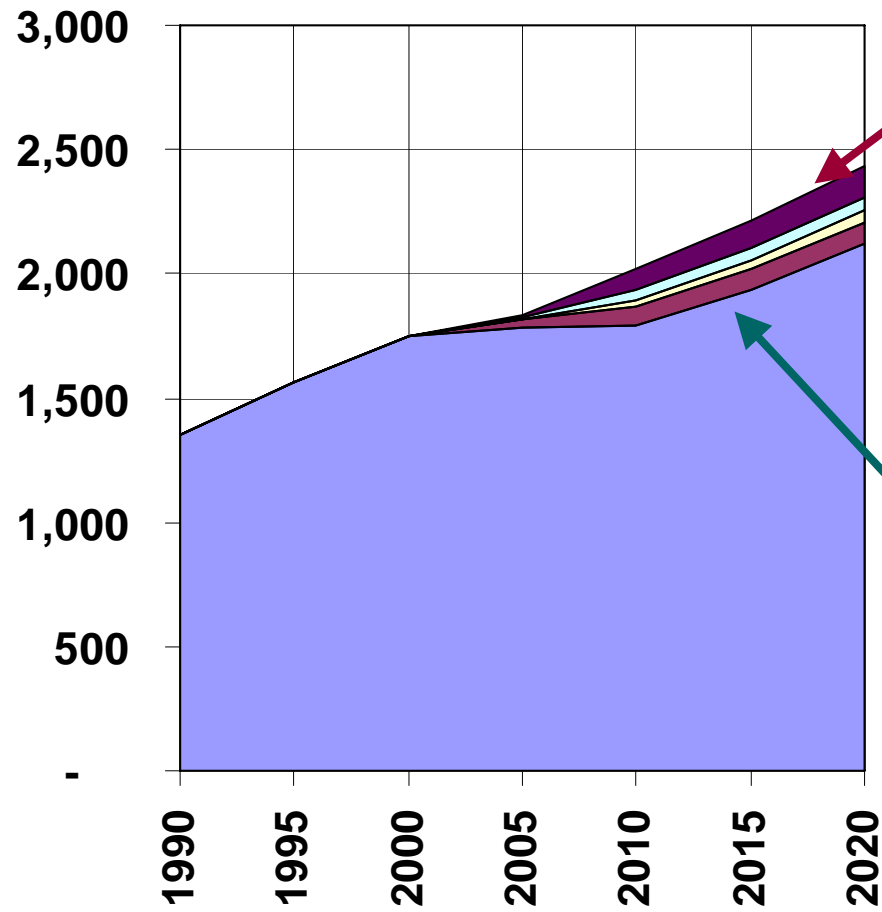


Energy efficiency's contribution to our energy supply

National Energy Supply (TBtus)



Impact of Efficiency Measures on Energy Use and Emissions – All Sectors



Base Case Energy Use

Transportation Savings

Industrial Savings

Commercial Savings

Residential Savings

Energy Efficient Scenario

- 13% reduction in total forecasted energy use
- reduces CO2 emissions 72 million lbs/year,
- 346,000 lbs of SO2 and
- 115,000 lbs of NOx

NC Energy Policy Council

- /// Author of New State Energy Plan
- /// 18-member Council advises Governor & General Assembly on Energy Policy
- /// NCUC, Cabinet Agencies (4), Energy Providers and Sector Reps
- /// Staffed by State Energy Office

State Energy Plan

- /// First Energy Plan since 1992
- /// Strong Focus on Energy Efficiency, Renewable Energy and Alt. Fuels
- /// 18 month process (hearings, experts)
- /// 92 Recommendations
- /// 15 Action Items for 2003-04; 20 for 2004-05
- /// Supported by ASU Energy Center

Next Steps for the Energy Plan

- ⚡ Received by Governor Easley
- ⚡ Submittal to NC General Assembly and all relevant State Agencies and Commissions (NCUC, State Building)
- ⚡ SEO: Lead Agency for Implementation
- ⚡ Guide for Future SEO Programs

Implementing the Recommendations

- /// Oversight by Energy Policy Council
- /// Quarterly Reports to EPC by SEO
- /// Legislative Proposals to Gen. Assembly
- /// Presentations to Key Commissions, Boards and Agencies regarding pertinent recommendations
- /// Review and Revise in 2 Years

Implementing the Recommendations

- /// Top Tier of Recommendations Will Receive Highest Priority
- /// Work Will Start/Continue on Other Recommendations as Resources Allow
- /// Energy Policy Council Will Assist in Implementation

Implementing the Recommendations

- /// Annual Progress Report to Governor and General Assembly
- /// Energy Savings to be Tracked and Program Impact Evaluated
- /// Additional Research to be Conducted on Selected Recommendations
- /// ASU Energy Center to Coordinate Research and Support for Effort

The EPC's Top Fifteen: Energy and Economic Issues

- ⚡ (1) DOC and SEO support Energy Efficiency and Renewable Energy-related Economic Development
- ⚡ (2) SEO should convey energy research to DOC for recruitment strategy
- ⚡ **Status:** ASU Energy Center developing database on emerging energy-related jobs and economic impacts with DOC guidance.

Energy and the Environment

- ⚡(3) DENR: Prepare for GHG Marketplace
- ⚡**Status:** Connect energy efficiency and renewable energy to air quality improvements; legislation for Climate Change Commission

Alternative Fuels from Biomass

- ⚡ (4A) Develop Alternative Fuel Industry through dedicated funding & matching grants
- ⚡ (4B) Raise in-state feedstock production levels
- ⚡ (4C) 35 publicly accessible alternative refueling stations by 2007

Alternative Fuels: Status

- Alt. Fuel Vehicle Demonstration Center dedicated on November 7, 2003
- Triangle Clean Cities and NC Solar Center offer Incentive Programs
- EV Challenge and Model Fuel Cell Car Programs for Grades 6-12

Alternative Fuels: Status

- ⚡ 75% AFV federal purchase requirement for state vehicles: includes universities
- ⚡ Clean Cities Programs: Triangle, Charlotte (soon), & Asheville (new)
- ⚡ DOT leading biodiesel emissions study

Alternative Fuels from Biomass

- ⚡ (5) Pursue strategies to convert animal waste into environmentally sound energy sources
- ⚡ **Status:** NCSU evaluating animal waste technologies; and NC Biomass Council promoting new technologies and uses

Alternative Energy Sources

- ⚡ (6) General Assembly should consider adopting net metering for all utilities
- ⚡ **Status:** Related to NC GreenPower program development and a NCUC docket, discussions are underway on net metering and interconnection issues between utilities and renewable energy advocates and generators.

Alternative Energy Sources

- ⚡ (7) GA should evaluate a Renewable Portfolio Standard that complements NC GreenPower Program
- ⚡ **Status:** ASU Energy Center is analyzing economic impacts of various RPS scenarios for NC; legislative bills filed but not approved

Alternative Energy Sources

- ⚡ (8) GA should reexamine Ridge Law as it pertains to wind turbines
- ⚡ **Status:** Best wind sites mapped for mtns. And coast; public opinion surveys show strong support for wind development; anemometer loan program; demonstration center with 6 small turbines is selling power to grid; utility turbine sites under evaluation

Alternative Energy Sources

- ⚡ (9) SEO should propose incentives, regulatory measures, and administrative measures to develop renewable energy
- ⚡ **Status:** SEO strongly supporting and funding NC GreenPower Program (now @ ~7,000 subscribers). Solar Center has green builder program and daylighting consortium. ASU analyzing economic impacts of solar DHW on new residential construction.

Disclosure

- ⚡(10) GA should require utilities to disclose fuel mix and emissions statistics by bill insert and website
- ⚡**Status:** NC GreenPower Program now determining levels of disclosure needed to maintain certification.

Energy Use in the Public Sector

- /// (11) State agencies and universities should reduce energy consumption by 4% annually, or 20% by 2008
- /// **Status:** *Utility Savings Initiative* working closely with 17 universities and 25 agencies. Energy plans in place and ~\$1 million in rate/billing savings. \$50 million PC program in operation.

Energy Use in the Public Sector

- ⚡(12) SEO and SCO should evaluate energy savings from new life cycle cost analysis requirements
- ⚡ **Status:** ASU Energy Center to evaluate random sample of recently construction state buildings using data from State Construction Office.

Energy Use in the Public Sector

- ⚡ (13) Facilitate local governments to finance energy efficiency and renewable energy projects (loans, PC, bundling)
- ⚡ **Status:** DPI and SEO will co-sponsor development of energy plans for K-12 schools systems. Local governments invited to USI and Performance Contracting training. PC outreach and technical assistance now being provided. Loan program restarted.

Energy Use in Residential Sector

- ⚡ (14A) NC should support a strong low-income weatherization program. Should review effectiveness of programs and analyze opportunities for improvements.
- ⚡ (14B) SEO should develop other programs to address energy efficient housing in low-income sector.

Energy Use in Residential Sector

/// Status:

- SEO formed Low-Income Residential Housing Program with \$1 million from GA
- Manufactured Housing Efficiency Program currently in 17 counties
- NC HealthyBuilt Home standards incorporated in 15-unit development
- Zero Energy Home; Passive Solar home plans

Funding for Energy Programs

- ⚡ (15) The General Assembly should review options, such as a Public Benefits Fund or other means, to enable funding of recommendations in the State Energy Plan.
- ⚡ **Status:** ASU Energy Center completed survey of other PBFs; prepared analysis of economic and energy impacts of various levels of funding.

Industrial Segment Support

- /// (16) SEO expand technical assistance and outreach to reduce energy use by industrial sector
- /// **Status:** Offer training and workshops; boiler and steam trap surveys; IES energy audits; and technical assistance

State Fleet

- /// (17) Goal of 20% high efficiency or alternative-fueled vehicles by 2010.
- /// **Status:** State purchases exceed federal EPACT 1992 regulations; earned credits can now be sold; new requirement to displace 20% of petroleum consumption

Consumer Information Outreach

- /// (18) SEO expand information resources to provide info on energy saving and use of renewables
- /// **Status:** Public tv and radio shows, news releases, conferences, workshops, newsletters, and fact sheets provide cost and use reduction info. Expanded website provides extensive links to expert resources. Training through Cooperative Extension Service.

Energy Education for K-12

- ⚡ (19) Provide educational materials and training for teachers and k-12 students.
- ⚡ **Status:** Several cross-curriculum programs are available by teacher choice including Alternative Fuels Transportation Program, Fuel Cell Education Program, National Energy Efficiency Demonstration Program, as well as a workshop on a university campus.

High Performance Residences

- ⚡ (20) Develop criteria for residential high performance building program to reduce the life cycle cost of new and existing housing.
- ⚡ **Status:** Stakeholders met to review criteria of various energy efficient housing programs; selected Energy Star; proposed legislation to provide tax incentives; Energy Star Conference in December; RESNET

For More Information

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