

Collaborative Planning through Mediated Modeling

2006 REV Conference

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October 19, 2006



The Regulatory Assistance Project

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Introduction

Regulatory Assistance Project

RAP is a non-profit organization, formed in 1992, that provides workshops and education assistance to state government officials on electric utility regulation. RAP is funded by the Energy Foundation, the US DOE and the US EPA.

Richard Sedano was Commissioner of the Vermont Department of Public Service, 1991-2001



Why a Multi-Stakeholder Process?

- Vermont faces significant supply choices
 - ❖ ~65% of annual energy is in two power supply contracts that expire in 2012 and 2015.
 - ◆ Smaller utilities face power supply dilemmas now
- Vermont statutes guide decision-makers toward a public planning process, clean energy, and a public approval process for large financial commitments



Why Else?

- DPS energy planning controversy
 - ❖ Win back confidence of the community
- Innovate
 - ❖ Apply mediated modeling approach that has been successful in other complex systems
 - ❖ System dynamics is a different way to look at the power system – perhaps we will see things differently, with policy connections



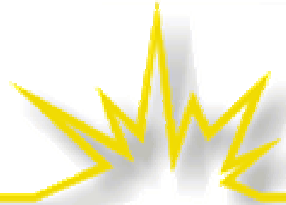
Concerns at the outset

- Be Constructive: Build a model that accounts for all important factors in the Vermont power market
 - ❖ Plus connections to regional power markets
 - ❖ Plus connections to related priorities, like the environment, affordability, economic vitality...
- Leave prior battles and politics outside
- Model is a tool – **people** still make decisions



An Objective

- Engaging a diverse group, including some “natural” opponents
- To build a model of the important decision factors
 - ❖ Including agreeing on many assumptions
 - ❖ Other model assumptions are set by user
- So that when a potentially controversial proposal to replace current big contracts hits the table, the debate starts with progress already made.



The members

Patty Richards/Ken Nolan

Burlington Electric Dept

James Brown/Dave Martin

Green Mountain Power

William Deehan/Bruce Bentley

Central Vermont Public Service

Eileen Simollardes

Vermont Gas, Inc

Lawrence Mott

Renewable Energy Vermont

Blair Hamilton

Efficiency Vermont

Paul Burns

Vt Public Interest Research Group

Avram Patt

Washington Electric Cooperative

James Gibbons

VPPSA

Dean LaForest

VELCO

Brian Cosgrove

Entergy

Julie Moore

Agency of Natural Resources

Riley Allen

Department of Public Service

State Senator Virginia Lyons

**Representative Robert Dostis /
Tony Klein**

Christopher Kilian *

Conservation Law Foundation

Aminta Conant

Lydall Thermal Acoustical

Philene Taormina

AARP

Robert G. Lang/John Aldrich

IBM

Bill Stritzler

Smugglers' Notch Resort

John H. Marshall, Esq.

For: Business Roundtable

Michael Burak

For: VBSR



Two Distinct Resource Issues

- Supplying growing needs (1-2%/year)
- Replacing large supply contracts (2 x 30-40% hits)

- Transmission an enabler of other resources



Process Details

- Duration: Sept 2005 through October 2006
 - ❖ Last meeting next week
- Meetings every 4-6 weeks (Montp. & BTV)
 - ❖ Sub-group meetings to deal with details
- Staff with expertise in modeling, facilitation and electric industry
 - ❖ Final report to come
 - ❖ Process would be better with more resources



Energy Resource Choices

- 12 different resources in the model
 - ❖ three of which are on the customer side of the meter
 - ◆ Combined Heat and Power, Efficiency
 - ◆ Net Metering Solar
 - ◆ Small Wind
 - ❖ nine on the ‘utility side’. Biomass, Coal, Gas, Large Hydro, Large Wind, Methane, Nuclear, Oil and Small Hydro.
- They are divided into combinations of Base, Peak, In-State, Out-of-State, Owned and Contracted.



Model Sectors

- Resource Supply and Customer Resources
- Requirements Consumption and End Use
- Life Cycle Impacts
- Cost per MWh
- Socio-Economic Factors
- Monetizing Impact
- Electricity Market Structure
- Policies Management Governance
- Diversity
- Data
- Indicators
- External to Vermont



Status

- Last meeting on October 24
- Model needs more work
- Portfolios of resources to focus discussion
 - ❖ These need work too

- Next steps uncertain, connected to planned “public engagement process”



Observations: Conversation and Modeling

- We know intuitively that many issues, markets, policies are linked together in electric system
 - ❖ The model goal of approximating the system with all its connections: needs more time to strengthen connections
 - ❖ Goal of participants engaging with the model was not achieved for most people – a work in progress
- Craving to “stop the world” and discuss what is going on, how we got here, and what we should do next
 - ❖ Process provided this opportunity – but the world did not stop, and the process needs more time



Priorities and Levers

- Priorities like rates, sustainability, air quality are all on the same plane
 - ❖ Reliability a step higher
- What can Vermont influence or control?
 - ❖ And how does Vermont manage other things



Resource Portfolios

- Market Reliance
- Local peakers plus market energy
- Business As Usual (keep current mix)
- Diversity – More Natural Gas
- Local Renewables
- Distributed Generation Leadership

May be useful for public engagement



Elements in Common among the Portfolios

- Emphasis on Energy Efficiency
- Some Use of the Regional Market
- Clean Energy Resources

- Possible Rate Design Shifts

- HQ? Gas? VY? In-state generation?

Many Open Issues

(Many more recommendations)

- Factoring in Externalities
- Connections to the Economy
- Carbon Markets
- Commodity prices
- New technology
- Future Use of the Model



Check It Out

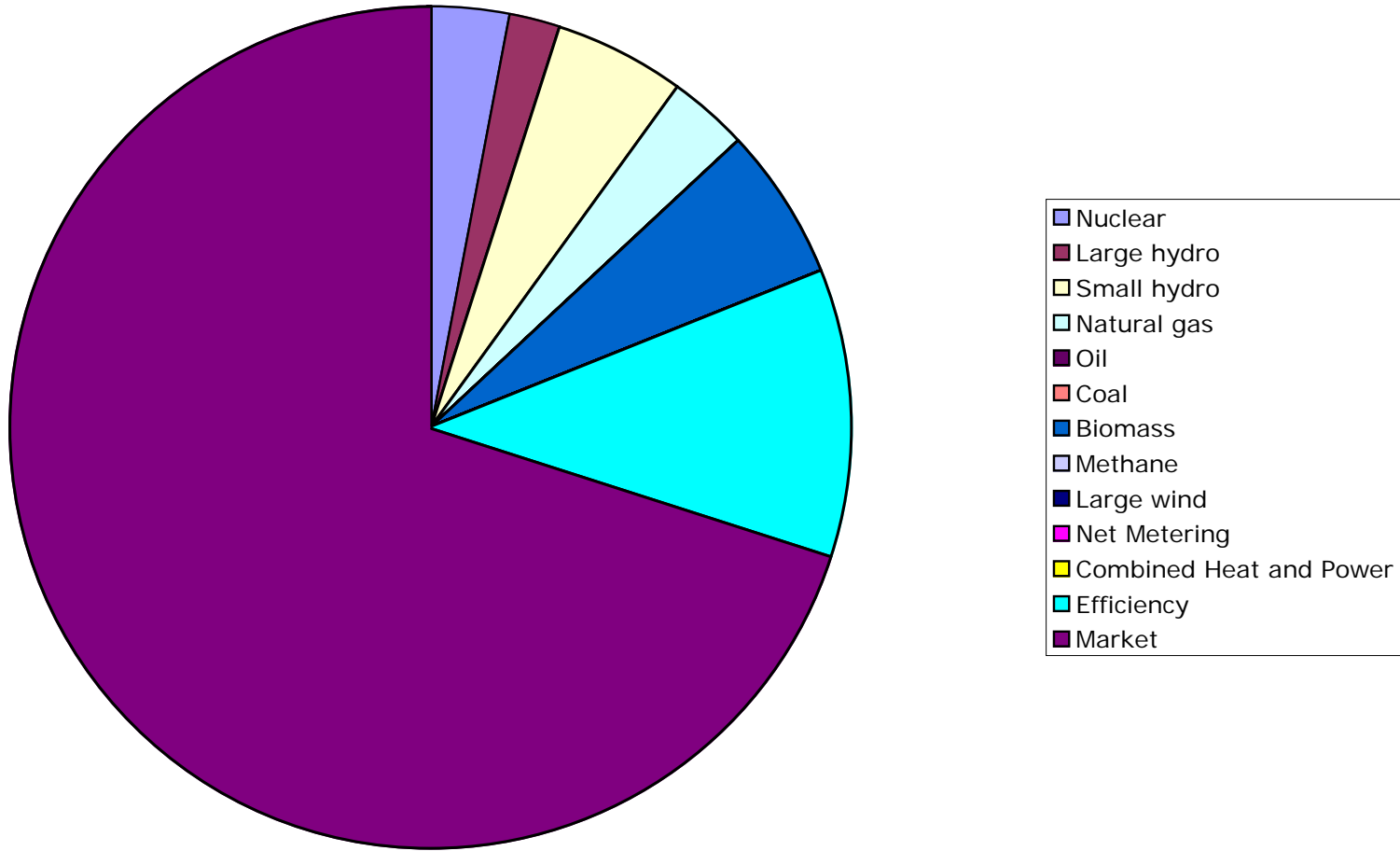
- <http://publicservice.vermont.gov/planning/mediatedmodeling.html>



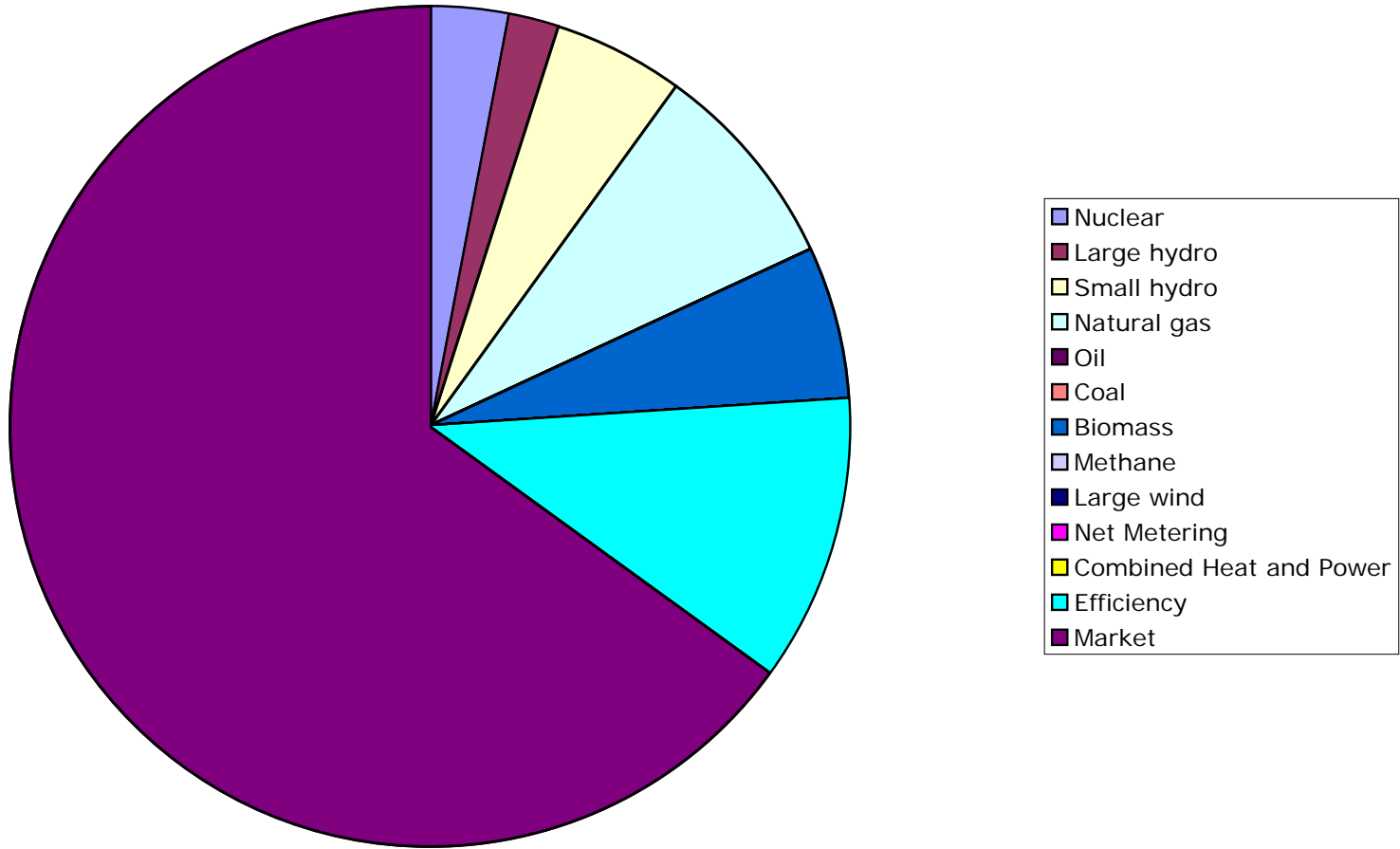
Thanks for your attention

- ❖ rapsedano@aol.com
- ❖ <http://www.raponline.org>
- ❖ RAP Mission: *RAP is committed to fostering regulatory policies for the electric industry that encourage economic efficiency, protect environmental quality, assure system reliability, and allocate system benefits fairly to all customers.*

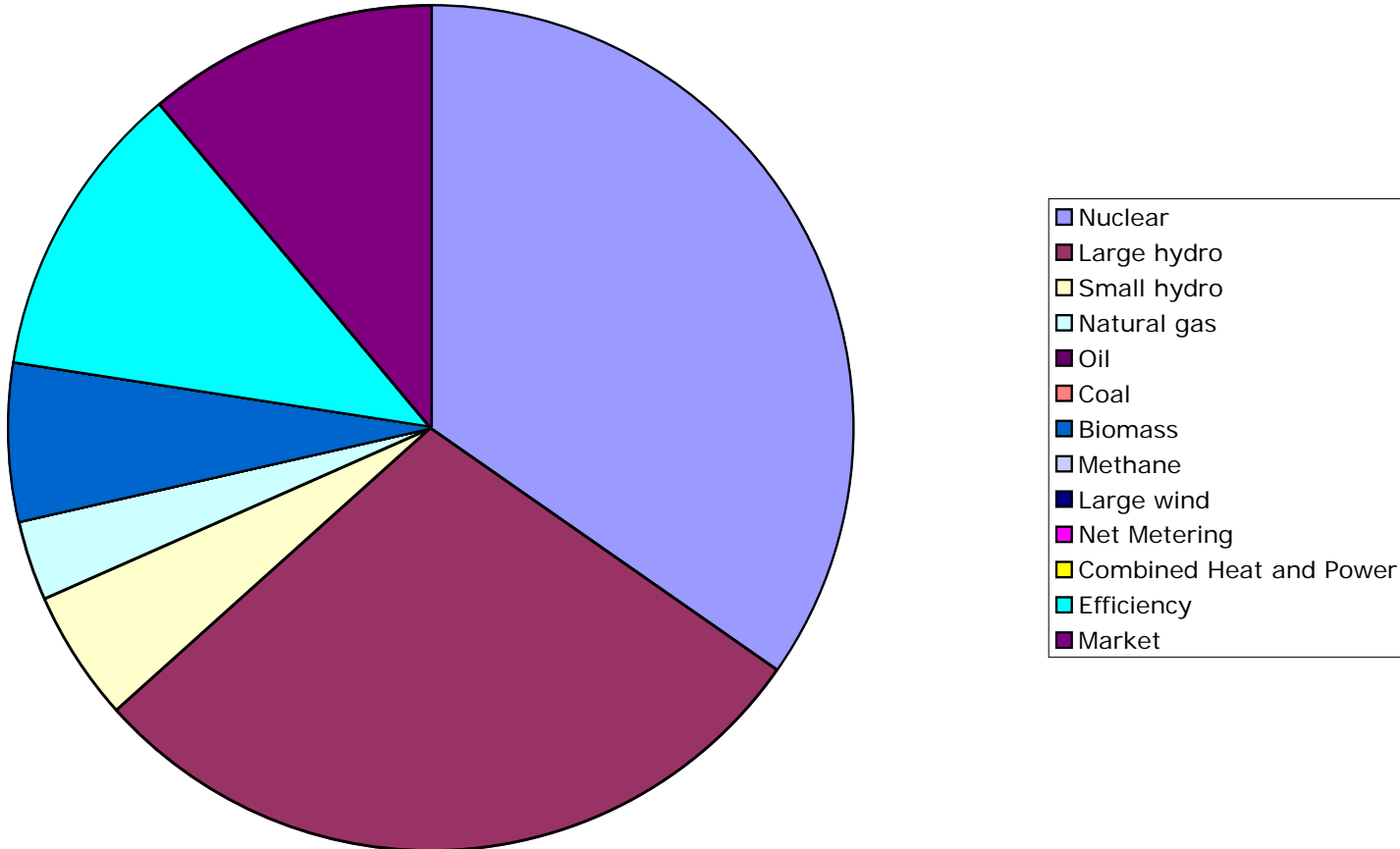
Portfolio Relying on Market



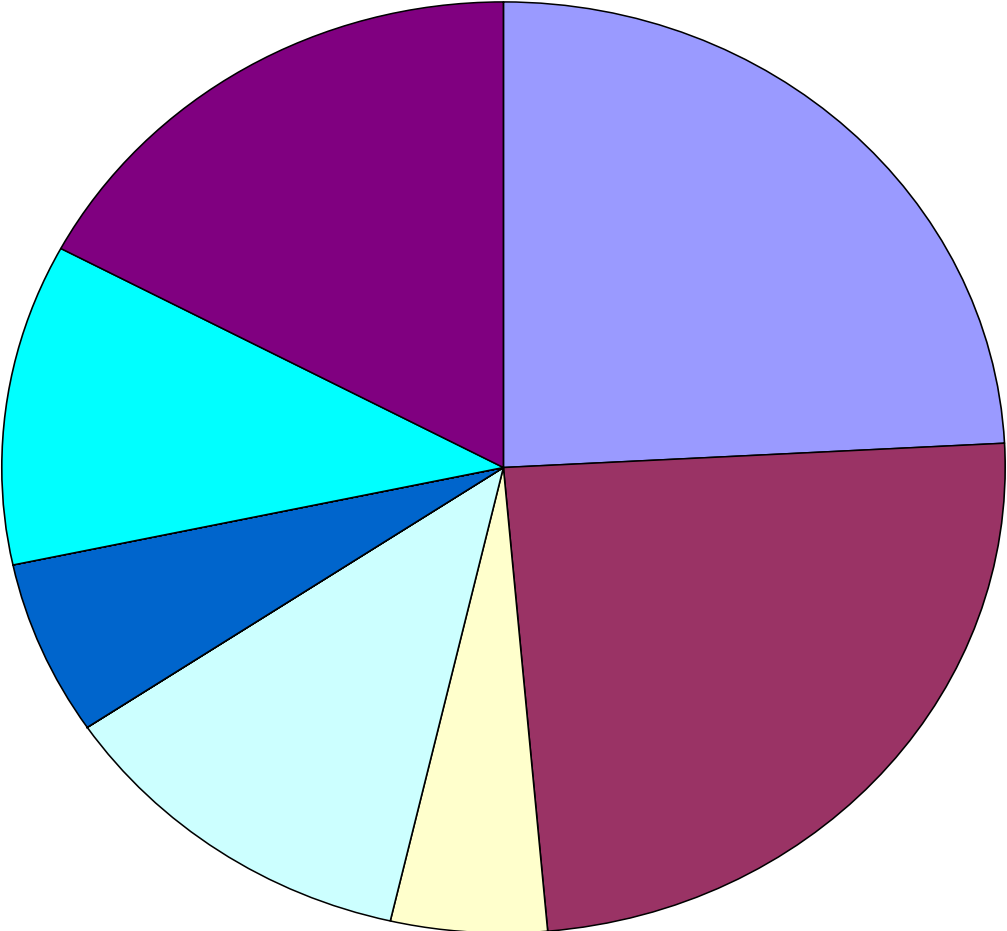
Portfolio Local Peakers



Portfolio Current Mix

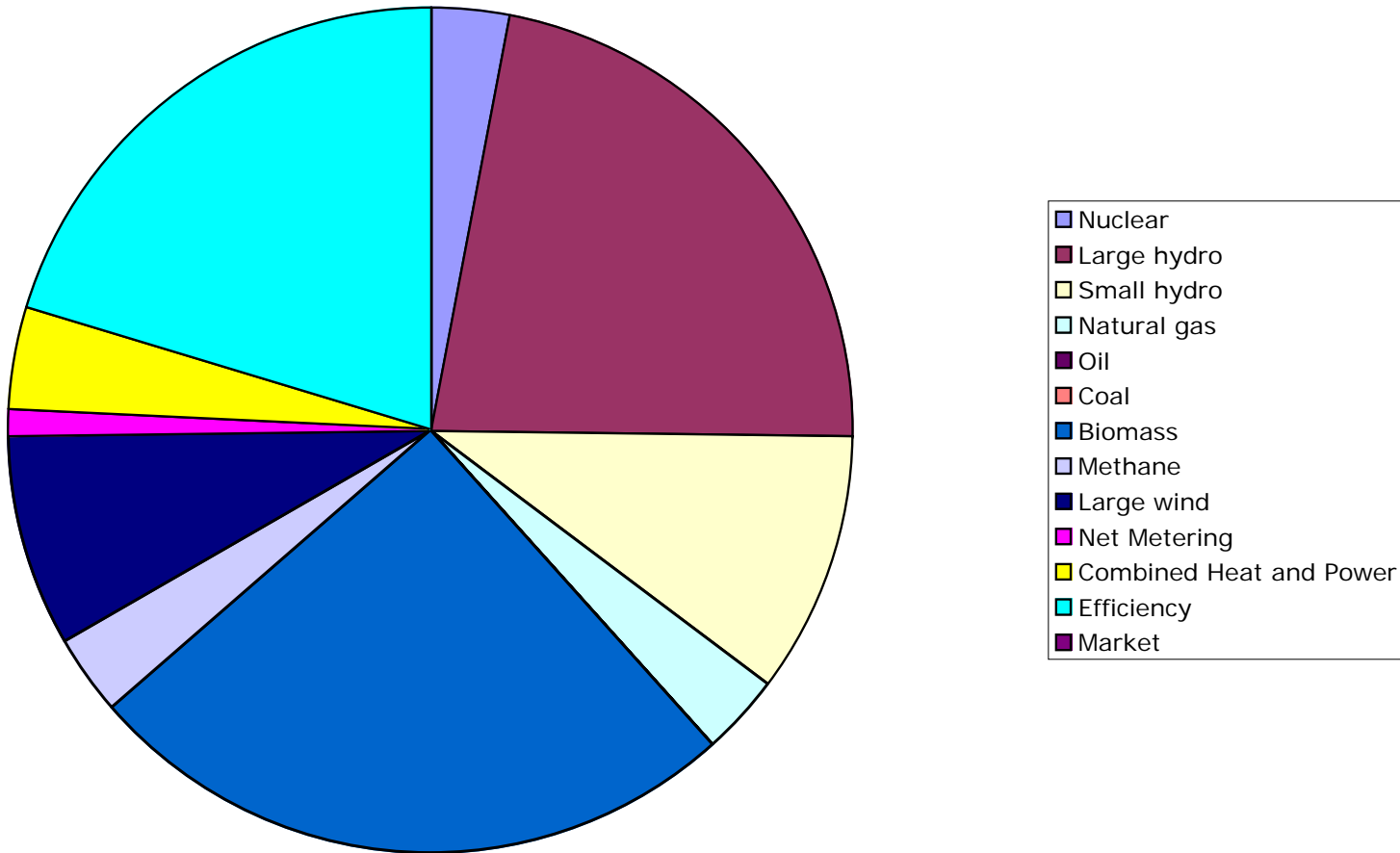


Portfolio Diversity



- Nuclear
- Large hydro
- Small hydro
- Natural gas
- Oil
- Coal
- Biomass
- Methane
- Large wind
- Net Metering
- Combined Heat and Power
- Efficiency
- Market

Portfolio Distrubuted Generation



Portfolio Local Renewables

