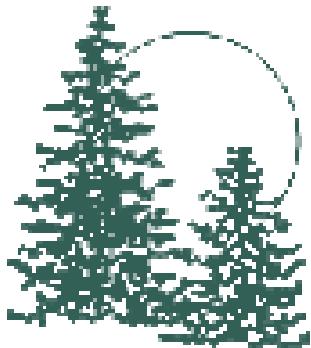

Overview of US Experience with Electricity Disclosure



ED HOLT
& Associates, Inc.

Energy Smart Consulting

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Harpwell, ME 04079
Tel. 207.798.4588
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edholt@igc.org

NIMBROMAN
STRAIGHT
ENGINEER
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Please Pay First

We Accept



Enter Electricity
Provider and
PIN Number

Cash
Check
Credit
Debit
More Options

Stripe
Card



Receipt?
Yes
No
Thank You!



10+
Minute
Plan
Anything
Any Place

5+ Weeks
and After
11 PM.
17% GO
EASY!

UP

Whole
Peeled Tomatoes

Nutrition Facts

Serving Size 1/2 Cup (121g)
Servings Per Container About 7

Amount Per Serving

Calories 25 Calories from Fat 0

% Daily Value*

Total Fat 0g **0%**

 Saturated Fat 0g **0%**

Cholesterol 0mg **0%**

Sodium 220mg **9%**

Total Carbohydrate 5g **2%**

 Dietary Fiber 1g **4%**

 Sugars 3g

Protein 1g

Vitamin A 15% • Vitamin C 20%

Calcium 2% • Iron 4%

*Percent Daily Values are based on a
2,000 calorie diet.

INGREDIENTS: TOMATOES,
TOMATO JUICE, SALT,
CITRIC ACID, CALCIUM
CHLORIDE.

Distributed by:
Hannaford Bros. Co.
Scarborough, ME 04074

**For product questions or
concerns contact us at
1-800-213-9040**



What Are Labels For?

- Product labels help consumers make better (more informed) decisions
- Labels do not change preferences
- Labels provide information--education is a separate task
- Labels enable consumers to make purchasing decisions that reflect their preferences

Effective Labels

- Provide information consumers care about
 - relevant and important
- Tell consumers things they don't already know--product-specific information
- Are easy to understand and easy to use
- Are authoritative, factual and credible
 - perceived as legitimate

Disclosure Issues

- What information to provide?
- Scope: company or product?
- Format or display: standard or flexible?
- Mandatory or claims-based?
- Dissemination and distribution: frequency and media
- Verification method

Consumer Research

- 17 focus groups in six states
- Random telephone survey of knowledge & attitudes--1307 adult consumers
- Mall intercepts tested performance of different labels with 1001 consumers in 8 cities
- Mall intercepts tested preference for product vs. supplier label, and tracking approach
- Sponsored by National Council on Competition and the Electric Industry. See reports at <http://www.rapmaine.org/disclose.html>

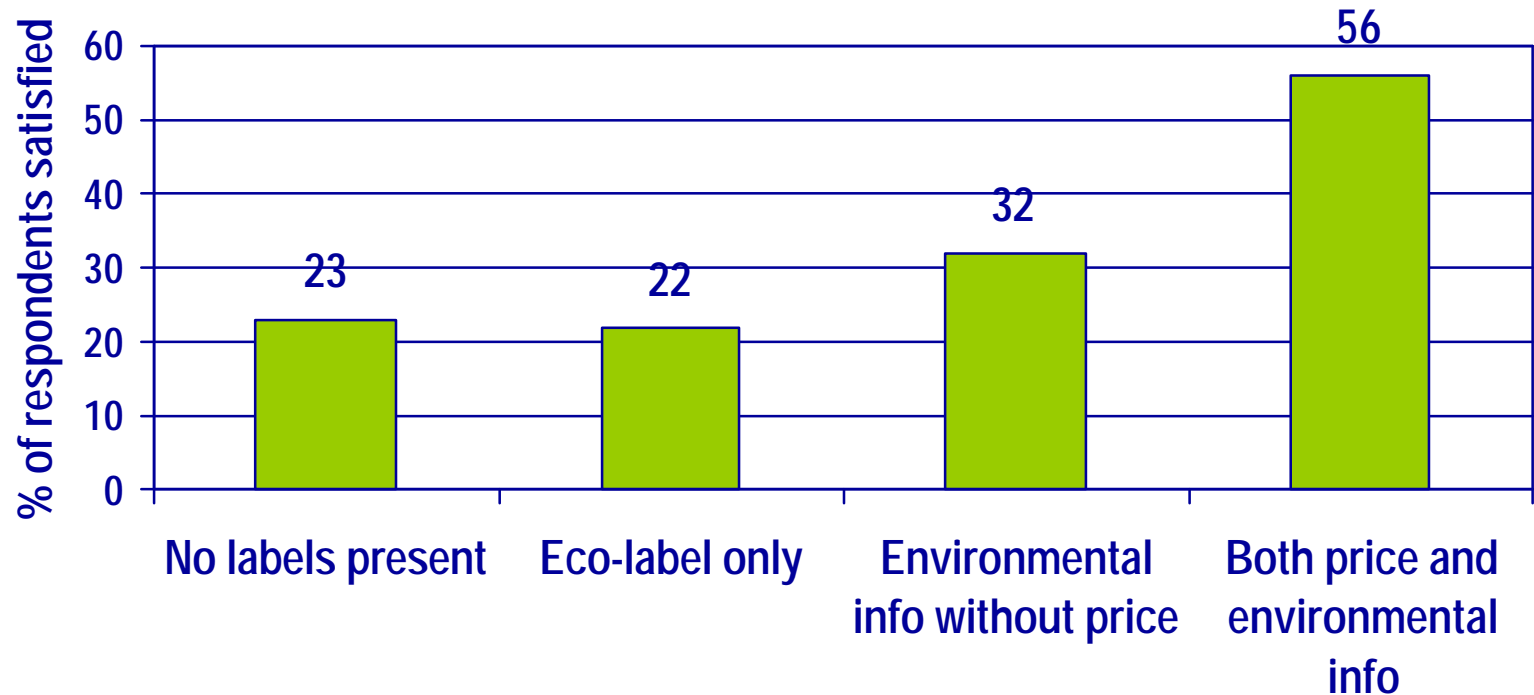
Knowledge and Attitudes

- Focus groups said price was most important factor in decision, but environmental factors were most important to survey participants
- Knowledge of current fuel mix is poor, and consumers think it is cleaner than it really is

Resource	Survey	Actual
Natural Gas	22.6%	15.3%
Hydro	20.5%	8.3%
Coal	17.3%	51.0%
Nuclear	10.9%	19.7%
Oil	9.1%	3.2%
Other	2.8% (solar)	2.1%

Consumers Want Full Information

When choosing among 3 products...



Price Information

Average Monthly Use	250 kWh	500 kWh	1000 kWh	2000 kWh
Average Price of Generation	5 ¢	4.5 ¢	4 ¢	3.5 ¢

- Focus groups preferred average price at different levels of use
- Mall intercepts: no clear preference, but average monthly bill (\$30/month) performed best -- 90% could determine the lowest cost alternative between two products (vs. 70% for average price)

Environmental Information

- Fuel mix
 - keep it simple and uniform
- Emissions
 - balance desire for information, data availability, and information overload
- Choose most important emissions from a policy perspective
 - CO₂, NO_x, SO₂, radioactive waste?

Presentation Matters

- When trying to compare products and comprehend their characteristics...
 - Tables of fuel mix perform better than pie charts
 - Adding system fuel mix (for comparison) confused people and decreased comprehension
 - Bar graphs of emissions work as well as tables
 - Raw emission numbers without a reference point decreased comprehension

Consumers Prefer Product Info

- 57% thought the label referred to the product rather than the company (34%)
- When asked to choose which information should appear on all labels, 52% chose product fuel mix rather than company fuel mix (39%)
- People who belonged to or recently made contributions to an environmental organization are more likely to desire product information
- It would not make sense to give price information for a company's portfolio

Disclosure Scenarios Affect Choice

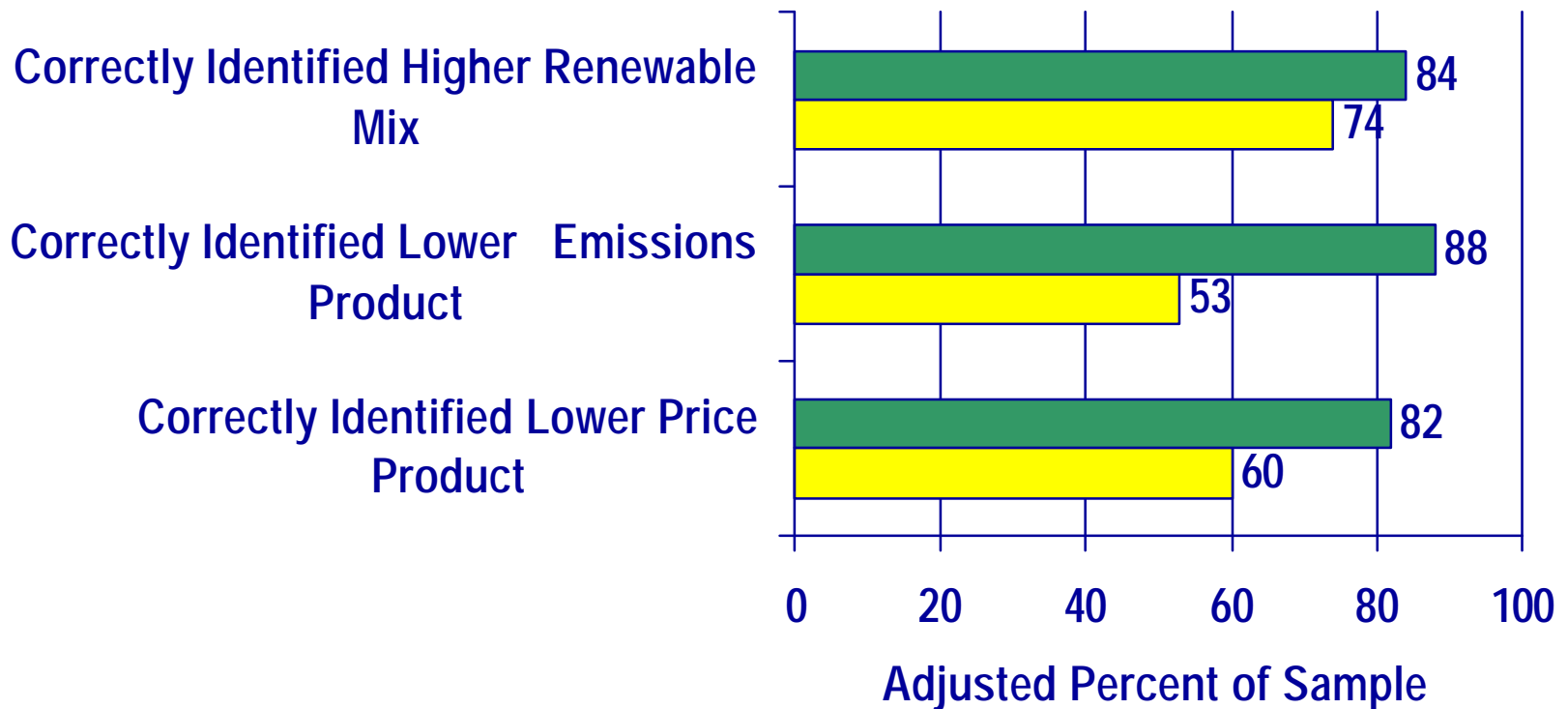
- When choosing among 3 products...
 - preference for low cost product was increased by $2/3$ when cost information was present
 - preference for low cost product decreased by $1/2$ when only environmental information was present

Label Testing

- Price, fuel mix and emissions were all relevant factors when respondents chose the product they were most likely to buy
 - most sensitive to changes in price
 - fuel mix and emissions were both a close second
 - when both fuel mix and emission information was available, people relied more on emissions data to determine which products were environmentally sound

Performance Improves with Uniform Format

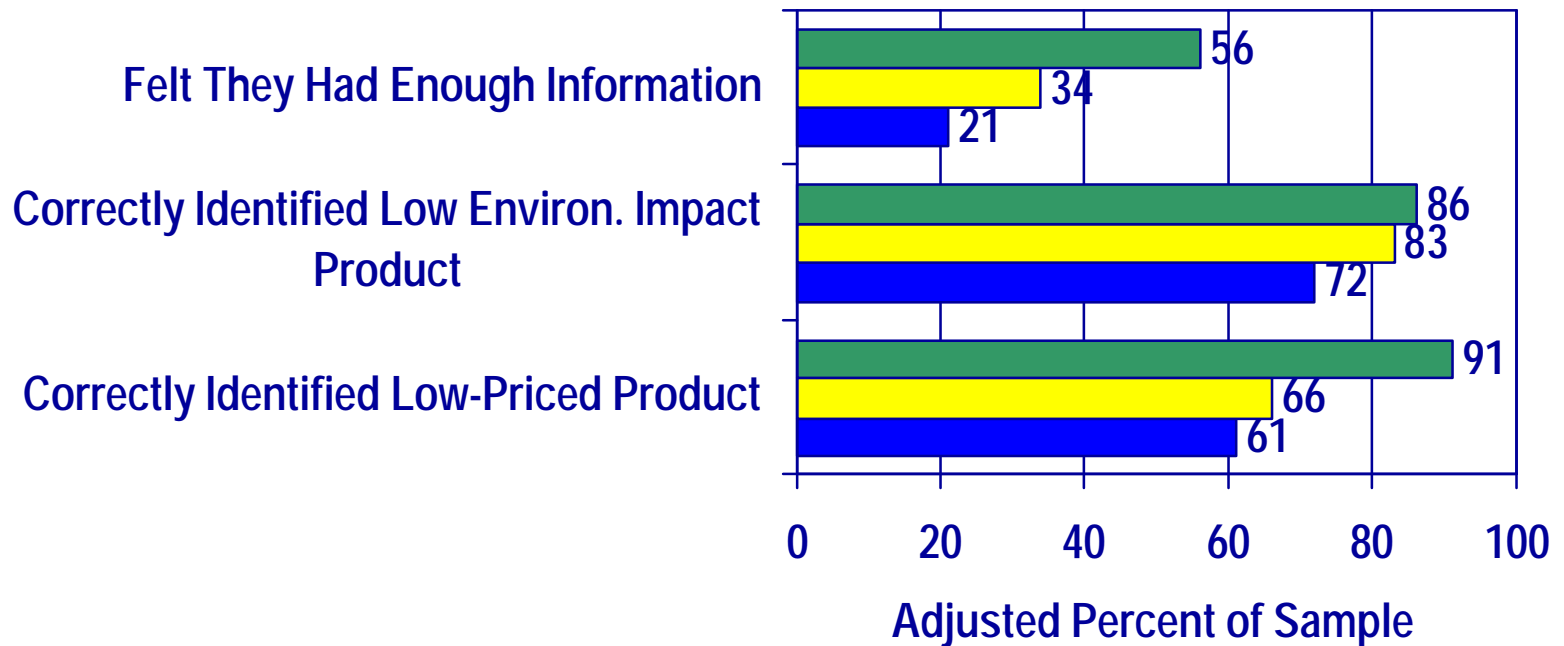
Uniform vs. Different Formats



■ Different Formats ■ Uniform Formats

Performance Suffers with Voluntary Labeling

Voluntary vs. Mandatory Labels



- No Labels, Only Verbiage
- Some Products Had Labels
- All Products Had Labels

**UNIFORM INFORMATION DISCLOSURE LABEL
for**

Standard Offer Service provided by Energy Atlantic, LLC
(Meets or Exceeds Maine's 30% Renewable Requirement)

MAINE

Residential & Small Commercial Class
February 2002

Generation Price:

Average price per kWh at different levels of use. Prices do not include regulated charges for customer service and delivery.

Avg. Use per Month	250 kWh	500 kWh	1000 kWh	2000 kWh	10,000 kWh	20,000 kWh	40,000 kWh
Avg. Price per kWh	4.089¢	4.089¢	4.089¢	4.089¢	4.089¢	4.089¢	4.089¢

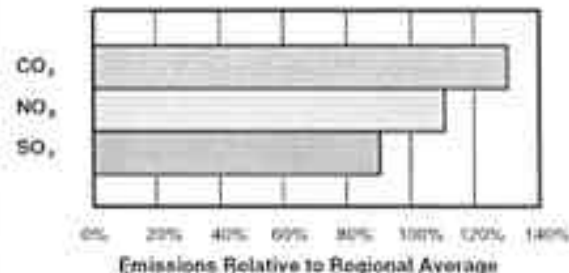
Power Sources:

Demand for this electricity product was assigned generation from the following sources:

Biomass	14 %
Coal	13 %
Hydro	0 %
Nuclear	15 %
Natural Gas	13 %
Solar	0 %
Oil	26 %
Other Renewables	7 %
Wind	0 %
Municipal Trash	0 %

Air Emissions:

Carbon dioxide (CO₂), nitrogen oxide (NO_x), and sulphur dioxide (SO₂) emission rates from these sources, relative to the regional average:



LABEL DESCRIPTION

Generation Price: To determine your average monthly supply price, multiply your average monthly use by the per kWh rate. See your bill to determine average monthly use.

Power Sources: The actual electricity you use will be indistinguishable from the electricity used by your friends and neighbors. There is no way to identify the actual power plant that produced the electricity you consume in your home because everyone is served through the same transmission and distribution system. But it is possible to track the dollars you pay for electricity. Your electricity dollars will support electricity generation from various energy resources in the proportions listed on the power content label.

Emissions: Emissions for each of the following pollutants are presented as a percent of the regional average emission rate. **Carbon Dioxide (CO₂)** is released when certain fuels are burned. It is considered a greenhouse gas and a major contributor to global warming. **Nitrogen Oxides (NO_x)** form when certain fuels are burned at high temperatures. They are considered contributors to acid rain and ground-level ozone (or smog). **Sulfur Dioxide (SO₂)** is formed when fuels containing sulfur are burned. Major health effects associated with SO₂ include asthma, respiratory illness and aggravation of existing cardiovascular disease. The production of electricity can produce other harmful emissions and have other environmental impacts. Environmental impacts differ among individual power plants.

NOTE: A more comprehensive disclosure label is available by visiting www.energyatlantic.com or upon request by calling Energy Atlantic toll-free at 1-888-373-7011.

Label Distribution

- Most consumers want to receive information in the mail
 - bill insert is ok
 - some object to “junk mail”
- Most want to receive it on a regular basis
 - monthly, quarterly, semi-annually, annually

Verification Options

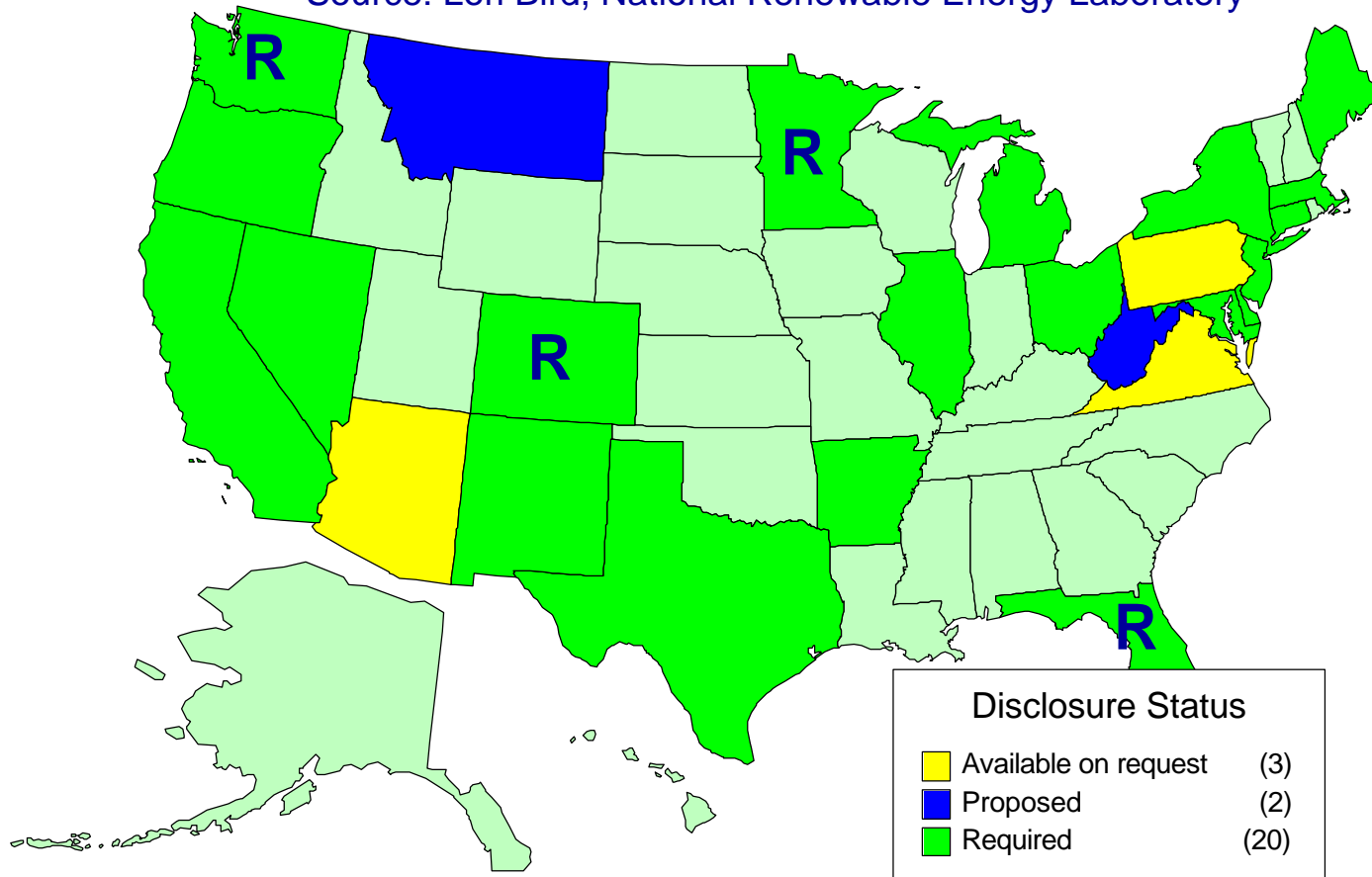
- Contracts: follow the money
 - anything not under bilateral contract is assumed to be system mix minus known contracts
- Tradable tags: separate market for attributes
 - all kWh, all generation attributes are recorded (tagged) in a database (type, emissions, origin)
 - these attributes are traded in a separate market
- Imports
 - if exporting region has a consistent verification system, accept the attribute claims
 - if not, label as “imports from <country>”

New England Tracking System

- NEPOOL Generation Information System established to track generation attributes
 - all generation, not just renewable
 - includes generator ID, capacity, location, vintage, fuel type, location, time of generation, emissions, date of generation, emissions data, etc.
- Useful for multiple purposes
 - disclosure verification
 - RPS compliance
 - green power marketing
 - tradable renewable certificates

Status of Disclosure

Source: Lori Bird, National Renewable Energy Laboratory



R = disclosure in a Regulated state

Conclusions

- Consumers want information to compare electricity choices
 - consumer protection is important to efficient and competitive markets
- Labels help consumers make decisions that reflect their true preferences
- Labels increase consumer confidence in the market and participation in choice
- Mandatory labeling with uniform format is key