



## Energy Information & Communication Research

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### Using Hybrid AMR Strategically

March 1, 2005

Instead of choosing one automated meter reading (AMR) technology to serve their entire customer base, electric utilities often employ a combination of AMR technologies, because some AMR systems simply cannot be cost-effectively deployed beyond certain customer segments. By strategically selecting an ...

**Content type:** Focus Report, Research | **Document ID:** EIC-F-7 | **Author:** Leland Keller

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### The Future of Building Automation: Facility Managers Speak

March 1, 2005

Commercial facility managers and energy managers have a standard controls protocol and a trained staff among their highest priorities. Many are ready to accept increased automation but are hesitant to adopt wireless connectivity until communication of building control data is secure.

**Content type:** Focus Report, Research | **Document ID:** EIC-F-8 | **Author:** Kathleen Burns

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### Mapping the Trails of Energy Data: Helping Customers Use Energy Information to Improve Efficiency and Profit

August 1, 2004

Energy service providers offering energy information and related services develop more effective relationships, sales processes, and program participation through understanding how consumer organizations currently use energy data and executing on the best service opportunities. In this report we discuss ...

**Content type:** Focus Report, Research | **Document ID:** EIC-F-6 | **Author:** Leland Keller

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### State of the Energy Information Services Market 2004

March 1, 2004

The market for energy information services (EIS) and products has begun a slow recovery, judging by our research with vendors in this field. EIS market demand is now driven by budget management and cost allocation concerns among large business customers; more of them are now committing to smaller EIS ...

**Content type:** Focus Report, Research | **Document ID:** EIC-F-5 | **Author:** Leland Keller

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### Fixed-Network AMR: Lessons for Building the Best Business Case

December 1, 2003

Is it time to automate meter-data retrieval? The ancillary benefits of enabling frequent and unscheduled reads are attractive for reducing special field visits, improving customer satisfaction, and supporting demand response programs. Nevertheless, the costs of automated meter reading (AMR) can be difficult ...

**Content type:** Focus Report, Research | **Document ID:** EIC-F-4 | **Author:** Michael Wiebe, Gary Fauth

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### Monitoring and Targeting: Tapping the Well of Operational Efficiency

November 1, 2003

Monitoring and targeting (M&T) is a structured approach to analyzing business and manufacturing processes with an eye for improving energy efficiency. The M&T approach correlates historical energy consumption to measurable factors of business operation and other variables to develop benchmarks and goals ...

**Content type:** Service Report | **Document ID:** EIC-21 | **Author:** Leland Keller, Florence Lu

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### Critical Peak Pricing: Combining Communications, Control, and Pricing for Residential Demand Response

August 1, 2003

Electric utilities and energy service vendors have combined load-control technology and communications with innovative pricing techniques, creating a new breed of price- and demand-responsive load management known as critical peak pricing (CPP). CPP programs take tariffs that are designed to reflect ...

**Content type:** Focus Report, Research | **Document ID:** EIC-F-3 | **Author:** Leland Keller

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### State of the Energy Information Services Market 2003

April 1, 2003

It has been a tough couple of years for the energy information services (EIS) market. More than two dozen EIS providers have exited the market or merged with other companies in the past two and a half years. Many EIS providers have never made a profit, and many more have struggled to develop a business ...

**Content type:** Focus Report, Research | **Document ID:** EIC-F-2 | **Author:** Leland Keller

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### Choosing the Right Communications and Control Platform for Distributed Generation

January 1, 2003

Distributed generation and other demand-response resources can now be automatically dispatched directly from the supply-side control room at utilities and independent system operators.

**Content type:** Focus Report, Research | **Document ID:** EIC-F-1 | **Author:** Leland Keller

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### Public Wireless Options for Revenue Metering (Revised 11/06/02)

September 1, 2002

A meter with wireless communications is usually easy and relatively inexpensive to install. But actually making the meter communication work can be tricky because building components and other obstructions can interfere with communications.

**Content type:** Research, Service Report | **Document ID:** EIC-20 | **Author:** Dick Montague

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## Metering Executives' Insights on the Future of Metering Technologies and Meter Data Management Services

March 1, 2002

What's in the future for metering and communications? Will advanced metering become widespread? Will utilities retrofit existing meters or install new ones? E source talked with eight executives from utilities and metering manufacturers to get their views. There were some areas of consensus, such as ...

**Content type:** Research, Service Report | **Document ID:** EIC-18 | **Author:** Lynn Fryer

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## Meter Data Analysis Services: Making the Most of Interval Data

December 1, 2001

Load profiles contain a wealth of information on how buildings are performing, yet selling such services is still tough. E source believes these services will gain a strong following in the coming years, as more-sophisticated tools help diagnose problems, rank them according to potential savings, and ...

**Content type:** Research, Service Report | **Document ID:** EIC-14 | **Author:** Lynn Fryer, Leland Keller

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## Metering by Power Line Communication

December 1, 2001

Using power lines for utility metering is attractive because they're already in place, they're connected to every meter, and they're owned and controlled by the utility. However, they're also plagued with electrical noise and often present an unfriendly environment for data communications.

**Content type:** Research, Service Report | **Document ID:** EIC-17 | **Author:** Dick Montague

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## The Case for Advanced Metering

August 1, 2001

Advanced metering is needed to enable customer demand response, which in turn is necessary to keep wholesale prices from spiking wildly. California's recent energy crisis offers two lessons for states that are considering advanced metering: advanced meters are well worth the cost, and the time to act ...

**Content type:** Research, Service Report | **Document ID:** EIC-16 | **Author:** Paul Gromer

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## Internet Metering of Commercial and Industrial Users: Ready or Not?

July 1, 2001

We look at the promises, problems, and prospects of Internet metering from the point of view of energy service providers and commercial and industrial energy users.

**Content type:** Research, Service Report | **Document ID:** EIC-15 | **Author:** Dick Montague

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## Utility Accounting Services: Making the Most of Monthly Billing Data (EIC-12)

December 1, 2000

Utility accounting services (UAS), including bill payment, bill verification, and benchmarking, are very useful for energy managers trying to juggle complicated utility bills for multiple facilities. The UAS business has expanded from a few thousand end users in 1997 to hundreds of thousands at the end ...

**Content type:** Research, Service Report | **Document ID:** EIC-12 | **Author:** Lynn Fryer

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### **Voluntary Load Curtailment Systems for Win-Win Load Control (EIC-13)**

December 1, 2000

More and more large electrical energy users are selling power they don't need at the moment back to their utilities during a power shortage, often for a price 20 or 30 times what they pay for it. It's called voluntary load curtailment, and everyone seems to be winning with it. This report examines ...

**Content type:** Research, Service Report | **Document ID:** EIC-13 | **Author:** Dick Montague

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### **Energy Information Services: Tales of Early Adopters**

July 1, 2000

With energy costs increasingly regarded as controllable, large energy users are turning to a variety of energy information services (EIS) for analyses of their energy usage and costs. But they differ considerably in their use of those services, and even in their objectives. This report presents the stories ...

**Content type:** Research, Service Report | **Document ID:** EIC-11 | **Author:** Dick Montague

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### **On Your Mark, Get Set, Slow: The Developing Market for Competitive Metering**

May 1, 2000

Whether to make metering competitive in the U.S. remains a controversial issue. This report evaluates market evolution in California, the only U.S. state that has initiated competitive metering so far, and looks at how the metering market evolved in the U.K. under very different conditions. The approaches ...

**Content type:** Research, Service Report | **Document ID:** EIC-10 | **Author:** Paul Gromer, Mark de Figueiredo

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### **Continuous Commissioning: Following the Data Trail to Low-Cost Energy Savings**

December 1, 1999

The capability to assess building systems remotely has led to the practice of continuous commissioning"—ongoing monitoring of light, heat, air conditioning, and so on. Paying careful attention to building component data is a cost-effective way to keep track of how a building is operating, diagnose ...

**Content type:** Research, Service Report | **Document ID:** EIC-9 | **Author:** Ira Krepchin

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### **When You've Gotta Have It: Options for Collecting Interval Data**

November 1, 1999

To obtain interval data, utilities and end users can choose either to upgrade an existing meter or replace it. We examine the technologies and their costs, profile major manufacturers, and offer case studies of interval metering technology in use.

**Content type:** Research, Service Report | **Document ID:** EIC-8 | **Author:** Charlotte Otero-Goodwin

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### **From RTP to Dynamic Buying: Communication, Analysis, and Control Tools for Managing Risk**

October 1, 1999

For “energy-aware” end users and demand-constrained providers, current and emerging technologies for supporting dynamic pricing may hold the key to market-driven savings. Early results show that market-driven load management programs can benefit both the seller and buyer, with the greatest benefits ...

**Content type:** Research, Service Report | **Document ID:** EIC-7 | **Author:** Brendan Kiernan

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### **Having an Out-of-Building Experience: 24-Hour Remote Monitoring and Control Services**

July 1, 1999

Energy costs for most buildings can be reduced by making full use of building energy management systems, altering schedules to fit business needs, and reducing the need for on-site service calls. But most corporations have neither the budget nor the skilled staff necessary for such scrutiny.

**Content type:** Research, Service Report | **Document ID:** EIC-6 | **Author:** Lynn Fryer and Brendan Kiernan

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### **Competition Comes to Metering: Regulatory Debates and Decisions**

May 1, 1999

Metering is a key issue in regulatory debates about competition in the electric industry. State PUCs are trying to decide several issues, among them whether advanced (hourly) metering should be required; whether metering should be competitive (and, if so, which entities should deliver it); and how fixed ...

**Content type:** Research, Service Report | **Document ID:** EIC-5 | **Author:** Paul Gromer

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### **Electronic Home Energy Audits**

December 1, 1998

The electronic home energy audit is an increasingly popular component of utilities' Internet and electronic communications strategy. The convenience and customization enabled by electronic media, along with the popularity of traditional audit services, make the electronic audit a natural fit. Although ...

**Content type:** Research | **Document ID:** EIC-4/RES-1

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### **Buying Energy in the New Era: How Energy Purchasing Practices Are Being Transformed by Organizational and Technological Changes**

July 1, 1998

Large companies are intensifying their efforts to squeeze costs out of their operations through aggressive and disciplined purchasing practices. As a result, corporate purchasing departments are gaining in stature and authority, and new techniques of "supply-chain management" are being widely applied. ...

**Content type:** Core Report | **Document ID:** ER-98-1 | **Author:** Bill Howe and James Newcomb

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### **Automated Customer Communications: Services, Technologies, Players, and Implications**

June 1, 1998

The penetration of basic AMR is increasing in the residential sector, but energy service providers would do well to focus on the commercial and industrial markets. Participation in direct access requires that these end users have interval or real-time meters and AMR for pricing and settlement.

**Content type:** Research, Service Report | **Document ID:** EIC-3 | **Author:** Andrew Colman

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### **Corporate Energy Managers Express Their Views in Third Annual E Source Survey**

May 1, 1998

Corporate energy managers from more than 50 large corporations and institutions gathered in San Antonio for the fifth annual E Source Energy Managers Roundtable. Most of the participants responded to a survey on energy management concerns, including electricity deregulation, power quality, and ... ..

**Content type:** Core Report, Research | **Document ID:** SM-98-3 | **Author:** Bill Howe PE

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### **Electric Money: "E Commerce" Comes to the Utility Industry**

December 1, 1997

Whether to make metering competitive in the U.S. remains a controversial issue. This report evaluates market evolution in California, the only U.S. state that has initiated competitive metering so far, and looks at how the metering market evolved in the U.K. under very different conditions. The approaches ...

**Content type:** Research, Service Report | **Document ID:** EIC-1 | **Author:** Barbara Mitchell

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### **Got Data? Service Bureaus Manage Energy Information**

December 1, 1997

As energy users gear up for negotiating with power suppliers, they are realizing that information about how their facilities use energy is invaluable. Such information, properly applied, can help achieve multiple benefits, including savings from bill validation, operational improvements, identifying ...

**Content type:** Research, Service Report | **Document ID:** EIC-2 | **Author:** Lynn Fryer

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### **CELECT Intelligent and Invisible Load Control**

September 1, 1996

Will energy-related home automation systems become a profitable service? This question remains unanswered. However, a system called CELECT (Control Electric) indicates that the technology is ready—providing that costs for in-home communications can be reduced.

**Content type:** Core Report, Research | **Document ID:** PP-96-3 | **Author:** Karen L. George

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## Access To Utility Customer Information: Implications for Energy Efficiency Services

September 1, 1996

As competition emerges in the United States electricity industry, controversy is brewing over access to data historically held by utilities about their customers, ranging from names and addresses to energy usage profiles. Power marketers, energy service companies, and other players want equal access ...

**Content type:** Core Report | **Document ID:** SM-96-8 | **Author:** Lynn Fryer

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## Online Energy Services for Commercial Energy Users

May 1, 1996

Regulatory and technological changes now make possible online energy services such as real-time access to consumption data, remote monitoring and control of buildings, and online energy pricing and trading. In E Source's view the commercial sector is the most promising target for these online ... ..

**Content type:** Core Report | **Document ID:** SM-96-4 | **Author:** Paul Komor

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## Tapping the Value of Energy Use Data: New Tools and Techniques

March 1, 1996

For energy service providers aspiring to create new products and services for their customers, one relatively low-cost opportunity is to provide better, clearer, more usable information on energy use, performance, and costs. Such information is highly valued by large energy users, and new techniques ...

**Content type:** Core Report, Research | **Document ID:** SM-96-3 | **Author:** Lynn Fryer

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## Seven Reasons to Submeter Electricity

March 1, 1996

When it comes to electrical submetering, information is not only power—it also is money. Electrical submetering can be a valuable tool for improving management of electrical energy, and for improving efficiency. There are at least seven reasons why facilities should incorporate submetering into ...

**Content type:** Core Report | **Document ID:** TU-96-4 | **Author:** Bill Howe and Wayne Stebbins

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## Smart Residential Appliances: Will the Information Superhighway Dead End into a Dumb House?

June 1, 1995

Growing numbers of electric utilities—in partnership with cable companies, controls vendors, and telecommunications providers—are working to develop and deploy interactive home energy management networks capable of communicating with residential appliances.

**Content type:** Core Report | **Document ID:** TU-95-4 | **Author:** Palamadi Vishwanath

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## Strategic Issues Paper V Real-Time Pricing and Electric Utility Industry Restructuring: Is the Future "Out of Control?"

April 1, 1994

Increased price transparency in electric power markets will be the driving force for fundamental changes in the packaging of energy services for electricity customers. Rapid advances in communications and control capabilities may make it possible for electricity merchants to provide highly customized ...

**Content type:** Core Report | **Document ID:** SIP V | **Author:** James NewcombWarren Byrne

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