

“Connecting  
Electricity Customers  
to Markets”



Carlos Álvarez

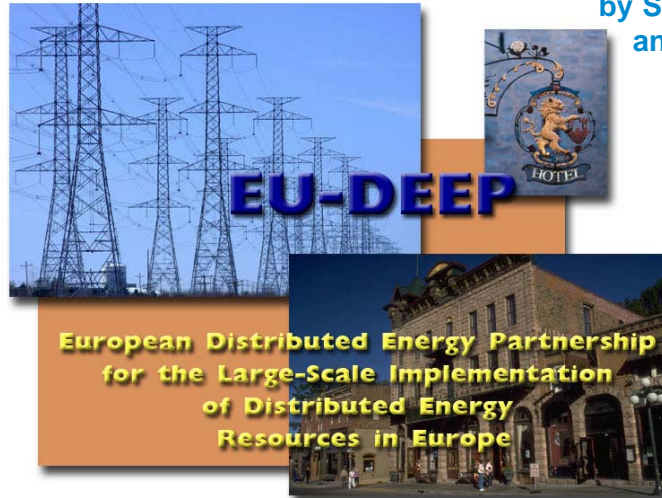


Seppo Kärkkäinen

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by Seppo Kärkkäinen  
and Carlos Álvarez



## 1. INTRODUCTION

Nine European energy utilities are the core of an Integrated Project funded by the European Commission. It aims to remove in five years most of the barriers which prevent a massive deployment of distributed energy resources (DER) in Europe. In partnership with major private and public stakeholders, it will use a demand-pull rather than technology-push approach. This approach will provide several "fast-track options" to speed large-scale implementation of DER in Europe.

This development requires a set of iterative R&D tasks by utilities, research laboratories, DR equipment manufacturers, and investors to qualify the prospects of the newly defined demand segments.

This work will be completed using one-year experimental measurement campaigns to gather realistic data on the life cycle costs of the candidate technologies. To validate the new demand-pull approach, the project must study a minimum of five demand seg-

ments that include both "incremental-DER" from existing applications, and "DER-breakthrough" performance from the study of disruptive behaviours introduced by new trading mechanisms. Manufacturers should then be in a position to launch industrialization tasks of the most promising DER solutions. Policy makers and regulatory bodies will be able to release some of the barriers which still prevent more DER solutions from reaching market applications.

The project considers one work package specifically designed to do the demand description and modeling, and another devoted to Local Trading Strategies defined as "trading mechanisms for a better management of customer consumption/production through the interaction with the supply mechanisms and markets in which end-users play an active role."

These two work packages are heavily influenced by the massive search for demand response resources in European electricity markets. Thus, they coincide very well with the objectives of task XIII of the implementing agreement on DSM of the IEA. The details of these work projects follow.

## 2. DEMAND DESCRIPTION AND MODELING

Demand description and modeling are the first tasks to be addressed in EU-DEEP. The objective is to design, develop and validate innovative methodology, based on future energy market requirements. The result should be fast-track options, defined as a coherent mix of technology, investment and demand forecasts. Proper execution should remove some or all of the barriers for enhanced DER deployment. When implemented, these fast-track options will reinforce the share of DER-based electricity within the next ten to twenty years in Europe energy consumption.

EU-DEEP demand studies will produce a market assessment methodology that can detect appropriate demands for DER technologies in two main categories: a) "incremental demand" that enhances existing DER systems; and b) breakthrough demands, which will use a Local Trading Strategy (LTS). There also will be proposals for new enabling regulations favouring DER deployment. These studies are organized in four different tasks:

- 1.1 **Demand segmentation**, where different demand segments are identified across Europe, leading to customer segments with DER or/and LTS implementation opportunities
- 1.2 **Data compilation and sharing**, where data is defined and compiled from the utilities and from any other source of information including measurement campaigns and/or enquiries amongst customers
- 1.3 **Analysis of incremental-DER models**, based on demand segments where DER already exists
- 1.4 **Creation of DER-intrusive demand models**, based on technology availability and incentives promoted by DER and/or LTS schemes

The more relevant aspects of these tasks with respect to the investigation of Demand Response Resources are discussed below.

### 2.1. DEMAND

Demand segmentation has to be "customer" rather than "supply" oriented. This segmentation procedure is different from common utility practice. In contrast, DER segmentation should be based on: a) energy requirements and usage patterns; b) physical energy consuming processes; c) flexibility in the energy usage; and d) attitude towards DER investments.

Initial proposed EU-DEEP methodology will use traditional sectors and later consider splitting them according to the required degree of detail. The first two levels will describe the activity of the customers, and a third level will identify suitable sectors for DER deployment. The three defined levels are:

1. **First level:** Divides the demand into residential, commercial and industrial markets.
2. **Second level:** Uses the NACE Revision 1.1. ("Statistical classification of economic activities in the European Community", Eurostat), which is directly compatible at the two digit level with the ISIC Rev. 3.1 (International Standard Industrial Classification of All Economic Activities, United Nations Statistics Division).
3. **Third level:** A further disaggregating of the demand based on significant parameters should be carried out in order to identify the most potential sectors for DER deployment purposes.

An example of this segmentation philosophy is provided on page 10 in Figure 1.

### 2.2. DATA COMPILATION

The objective data gathering is to fully describe typical customers for each segment from available information at utilities, manufacturers, research centers and specific studies. Table 1 lists the desired parameters. Generation of such a database will be one of the important outputs from the EU-DEEP project.

The result of the compilation process of a segment is shown in figure 2 on page 10.

*continued on page 10*

# North American Utility Demand Response Survey

by Pete Scarpelli &  
Randy Gunn

## INTRODUCTION

Summit Blue Consulting is finishing a survey of utility demand response programs in the United States and Canada. This survey is collecting information on the demand response programs that individual North American utilities are conducting. The results of this survey will complement the data that the project team has already collected on demand response programs offered by North American power pools and independent system operators (ISOs).

The data that the project team is collecting on both residential, commercial and industrial utility demand response programs through this survey includes:

- The specific demand response programs that utilities are currently conducting, how long the programs have been operating at each utility, program eligibility requirements, and how utilities market the programs to their customers.
- Program pricing structures or rate discounts.
- Relevant utility information, such as their standard rates, their number of residential and commercial and industrial customers, and peak demands.
- Any load control equipment that utilities provide to customers as part of their programs, how customers' loads are monitored through the programs, and how their load monitoring or billing information is processed.
- Program performance information, including the number of customers participating in each program, the peak demand reduction that utilities realize from each program, and how utilities calculate the latter. Also, whether the programs are expanding, in maintenance mode, or declining, and the reasons for their status.
- Planning and analysis that utilities conduct regarding these programs. This information includes the extent to which they conduct market potential studies for the programs and how they do so, the type of benefit-cost analysis they conduct for the programs, and how they incorporate the programs into their long-term system planning.
- The utilities' satisfaction with various aspects of their programs and which program elements they would like to change.

The survey results will be used to document the "state of the practice" regarding demand response programs in North America. The survey results will be useful for demand response market potential benchmarking purposes, as well as program valuation and technology documentation purposes.

## PRELIMINARY SURVEY RESULTS

As of mid-December, we have completed slightly more than half of the 40-50 utility surveys planned for this project. General findings to date include:

1. Most of the utilities contacted are conducting at least one residential and one commercial/industrial demand response program.
2. Only about 20%-25% of utilities have conducted any type of market potential study for their DR programs.
3. Program benefit-cost analyses that utilities conduct tend to be somewhat simplistic. These either use the same techniques as for utility conservation programs, or compare the DR program costs per kilowatt reduced to the cost of a combustion turbine or spot market electric prices.
4. Most utilities use integrated resource planning to incorporate demand response programs into their long-term system planning.
5. Most utilities are satisfied with customer acceptance of their programs, as well as their billing and payment processes. Utilities have mixed assessments of their current program prices and load reduction estimation procedures. Many utilities want to replace their DLC control technology or change their program pricing structures

Notable residential survey results include:

- The most prevalent residential DR programs are two-part time of day (TOD) rates and direct load control (DLC) programs.
- Program participation for DLC programs varies widely between utilities, ranging from 3% to 25% of eligible customers. Participation in TOD rates and other residential DR programs is generally low, usually ranging from almost zero to 4% of eligible customers.
- Load reduction impacts from these programs are generally small, usually 1%-3% of residential peak demands. However, several exceptional DLC programs can reduce residential system peak demands by about 10%.

Notable commercial/industrial (C/I) survey results include:

- The most prevalent C/I DR programs are two-part time of day (TOD) rates, voluntary demand “buy-back” programs, and interruptible rate programs.

- Program participation rates tend to be low, usually 2% of eligible customers or less, except for programs restricted to the largest customers.
- Several utilities can reduce their total peak demands by 10% or more through their C/I DR programs. The largest peak demand impacts come from interruptible and buy-back programs.



**Mr. Randy Gunn, M.S.** is a Principal with Summit Blue Consulting, and has 25 years' experience in utility demand response programs. Previously, Randy was Manager of Utility Consulting at Sieben Energy Associates and worked for Northern States Power in program development. At NSP, he managed a large DR program using interruptible rates. He has an M.S. in planning from the University of Minnesota with an undergraduate degree in physics.



**Pete Scarpelli** is Vice President, Marketing and Business Development at RETX. Pete is responsible for driving the strategy and business development efforts for RETX. He is the inventor of RETX's Load Management Dispatcher (LMD) application and the co-inventor of RETX's Regional Negawatt Hub (RNH) application.



**Ross D. Malme**, author of the article on the next page, is the President, CEO and Founder of RETX. He has been a senior manager in the energy industry for twenty years, and is recognized as a national expert in uniform business rules and retail energy issues. Prior to starting RETX, Ross held executive management positions with several major energy and energy technology companies. He created a coalition of retail energy suppliers, vendors and end-users instrumental in unbundling revenue cycle services in California, and pioneered the development of automated meter reading technology. Ross can be reached at [rmalme@RETX.com](mailto:rmalme@RETX.com).



## Next Expert Meeting in San Francisco

by Ross Malme

### **Our third Experts Meeting for Task XIII is set for Wednesday, February 2nd and Thursday, February 3rd in San Francisco, California.**

Our hosts will be the California Demand Response Research Center (DRRC) operated by Lawrence Berkeley National Laboratories (LBNL) and the Pacific Energy Center operated by Pacific Gas and Electric Company (PG&E). You can find out more information about the DRRC at their website at <http://drrc.lbl.gov/> and the Pacific Energy Center at <http://www.pge.com/pec/>.

Please use the registration form for the meeting found on the portal, and return it to Patti Duncan at RETX via email at [pduncan@retx.com](mailto:pduncan@retx.com) or via fax at 770-390-8501. You can also reach Patti directly by phone at 770-390-8502. We have a special group rate at the Hotel Palomar, located at 12 Fourth Street, San Francisco, California, USA. You can visit their website at: <http://www.hotelpalomar.com/>. Ask for the IEA DSM Task XIII Group Rate: \$165 US / night.

Please use the Hotel Reservation Form available on the portal to make your reservations directly with the hotel. Try to arrive by 6:00 pm on Tuesday if possible, so we can meet in the lobby at 6 for an informal group dinner.

The Hotel Palomar is a Kimpton property and honors the Kimpton Loyalty Program. It is a few minutes walk from renowned Union Square and the major shopping areas of San Francisco. It has a business service center, valet and laundry service, a 24 hour fitness center, and complimentary high speed wireless Internet access. There is no charge for car service to San Francisco's financial and

multimedia business districts. There are staff members who speak French, Spanish, Chinese, and German.

If you arrive via San Francisco International Airport (SFO) you have several transportation options. An airport shuttle to downtown San Francisco is available from the baggage claim area as are Taxis, limos and buses; but we highly recommend taking BART, the high speed rapid transit system in the San Francisco Bay Area. You can catch BART at the SFO terminal and take it to the Powell Street Station. The hotel is just a half block away at the corner of 4<sup>th</sup> and Market. Cost is under \$5 US.

The Pacific Energy Center located at 851 Howard is an easy two and a half block walk from the Hotel Palomar. We have planned a group dinner with LBL on Wednesday evening.

On Friday, February 4th, following our Experts Meeting, the DRRC and the Pacific Energy Center are planning a one day symposium on DR research projects underway in California. We are invited to participate as guests. They have also requested we provide a couple of talks on DR international activities. If you are interested in attending and/or giving a presentation on Friday, please note it on the registration form.

Saturday we are planning to organize a wine tasting trip to the Napa Valley, about 2 hours North of San Francisco. If you want to join us, please indicate it on the registration form. Once we have an idea on the number of participants we can give you a firm idea on costs, but I expect the cost to be in the \$100 area plus what you decide to buy to take home!

# STAYING CONNECTED WITH WEB CONFERENCES

by Mark Wright

As the Task XIII project enters an intense phase of gathering information and publishing, **it is critical that country experts stay closely connected with the progress of the team.** The experts must interact with the task leaders to insure that the toolkits will support and enable development of Demand Response Resources within member country's markets. Regular monthly Web conferences will report on progress, answer questions, assist completing homework assignments, and promote the use of the tools and the working groups to make the project successful.

For some of us, staying connected means getting on a plane and sitting in a room face-to-face with the team. Sometimes it's as simple as sending an email or using the phone. Those activities can become expensive and time-consuming – or too limited in scope. Using innovative web-based technology to meet online, web conferences allow participants worldwide to join in a presentation, participate in interactive meetings, and even share electronic tools to collaborate and stay connected with the project. This saves a great deal of time and money and keeps the project moving on schedule.

Participating in these meetings is a simple matter of accessing the Internet site and logging on. Then participants call a conference number to allow conversation. The opening screen shows a number of sections that allow you to participate. In the upper left, there is a list of slides that have

been prepared for presentation with all titles visible. In the lower left, the attendees list shows who is connected and their status. Participants can use the color-coded box next to their name to show they are doing fine and to proceed (green), request the speaker to slow down (red), ask for help (yellow), or ask a question (purple). The moderator can react appropriately to the needs of his audience based on these indicators. There is also a section in the lower left of the screen for typing questions. If any of the audience members feel more comfortable writing down their question rather than asking live over the phone, the typed questions will be queued up and managed by the moderator to assure that everyone's questions are recognized and answered.

Task XIII hosted two live web conferences in November and December with excellent results. In those events, the presenters gave a prepared project status presentation to the audience with live interaction. Participants were able to virtually "raise their hands" to ask a question or make a comment. As in physical meetings, the moderator controls the progress of the slide presentation and the flow of the conversation. A number of tools are available including white boards, opinion polling, and session recording to deal with larger audiences and for viewing later by people who were unable to attend "in person." The recorded sessions are available through the project portal and all agendas and supporting documents are archived for review at a later date.



by Ross Malme

Much has been written about the power crisis Californians endured in 2000 and 2001. High prices, reliability problems and rolling blackouts became daily front-page news. The US is currently recovering from a recession. California voters recalled their Democratic governor and elected Republican Arnold Schwarzenegger who has very strong views on energy policy.

California has launched several new demand response initiatives to address volatile prices and reliability. One is a mandate that the three largest utilities meet at least 5% of their peak demand through demand response programs by 2007. Another is the creation of the Demand Response Research Center (DRRC) in 2004.

Led by Lawrence Berkeley National Laboratory, the DRCC is a multi-institutional concept. Its main objective is to develop, prioritize and conduct research results in significant advancement of demand response knowledge and then publish the results. The DRRC's key include system developers, aggregators, program implementers,

utilities, industry trade associations, state policy makers, researchers, building owners, engineers and operators, equipment manufacturers, and end use customers. The specific focus of the Center will be on the following:

- Create a research roadmap for DR in California
- Establish multi-institutional partnerships
- Foster connections with stakeholders through outreach efforts
- Sustain long-term attention to DR research topics
- Conduct research, development, demonstrations and technology transfer

The DRRC has offered to host the upcoming Task XIII Experts Meeting in San Francisco on February 2<sup>nd</sup> and 3<sup>rd</sup>. We accepted their invitation eagerly! Please see more about the meeting in the related article in this newsletter. For more information about the DRRC visit their website at [www.drcc.lbl.gov](http://www.drcc.lbl.gov) or contact Mary Anne Piette, the Research Director at [mapiette@lbl.gov](mailto:mapiette@lbl.gov).



# Project Releases

## Task XIII Delivery Milestones in December 2004

by Mark Wright

December is an exciting month for the Task XIII project. We have three major deliverables scheduled for release to the project team. Our hard work and collaboration will produce these releases by the end of the month:

1. **Market Characterization Toolkit** – This actionable, hands-on toolkit will include a guide with instructions for performing a market characterization study, sample templates and survey forms, feedback from the participating countries, and an analysis summarizes of the data collected to date. This toolkit can be used in any electricity market considering the use of Demand Response Resources.
2. **Communications Toolkit** – Another practical, hands on toolkit to aid stakeholders in designing an effective market-specific communications campaign promoting Demand Response Resources. The toolkit will include instructions for developing effective communications at all levels of energy markets, templates and forms to frame key messages, and delivery channels for different actors in the marketplace, case studies of successful DRR communication campaigns, and sample material such as press releases, marketing collateral, and video segments.
3. **Research Library** – the online library of Demand Response Resource information will be available to all participating countries. This collection of case studies, white papers, and in-

sightful information from around the world will be a resource in each planning phase for Demand Response in a target market. The library is organized by topic and country of origin and represents a very valuable knowledge base for both novices and experts in demand response programs.

These deliverables will be published in the Intellectual Property section of the project portal and are available for use within any participating country. They can be distributed at the discretion of the Executive Committee member for that country. The intellectual property rights for this material are owned jointly by the participating countries funding the work and will continue to be administered by the Operating Agent until the end of the project.

The project portal is located at [www.demandresponseresources.com](http://www.demandresponseresources.com).



*Mark Wright is Vice President and Chief Information Officer for RETX. He is responsible for all research, development, deployment, and support of information technology including the ground breaking ePath suite of demand response solutions. He has previously served as CTO for an internet-based logistics company, and in a variety of director level infrastructure and applications positions at Atlanta Gas Light, Computer Sciences Corporation, and Pratt and Whitney. Mark can be reached at [mwright@RETX.com](mailto:mwright@RETX.com).*

# Open Invitation to Join Task XIII

Everywhere one turns, one can see that we are nearing the end of cheap hydrocarbon fuel. For three decades the International Energy Agency (IEA) has lead the world in energy supply research and development, public policy formulation and has fostered collaboration among most of the world's energy consuming nations. Over the last decade the IEA Demand Side Management (DSM) Programme has made major contributions to energy efficiency and demand response activities in its 17 member countries. This has helped improve energy security and manage price volatility while improving the environment.

Last year the IEA DSM Programme approved a major new project called Demand Response Resources (DRR). Designated as Task XIII, the mission is to develop the tools necessary for participants to deploy demand response into their electricity markets in ways that best address local issues. Project participants have found that demand response can be extremely important for managing resource adequacy, mitigating market power, addressing T&D congestion issues and in managing risks. For more information on the project please visit the project's Internet portal at [www.demandresponseresources.com](http://www.demandresponseresources.com).

Interest in Task XIII is extremely high. We continue to receive inquiries on the project from other IEA DSM Programme members and nonmember countries alike. Participation in this phase of the project is closed, but the IEA DSM Executive Committee has authorized the Operating Agent to structure a second implementation phase. Our intent is to invite interested parties to join in a second implementation of the project beginning in the last half of 2005.

The participants in the second phase will have several advantages over earlier participants. First, they will have access to all of the intellectual property, experience and lessons learned from the first phase. Second, there will be more certainty in the second phase because first phase deliverables will be complete. Finally, the second phase participants can expect to have much more hands-on participation from the Operating Agent in achieving their unique project goals.

If you are interested in receiving more information or in participating in this phase of the project please contact Ross Malme, the Task XIII Operating Agent, at [malme@retx.com](mailto:malme@retx.com) or phone directly in the USA at 770-390-8510.

## Upcoming Events

Upcoming Events		
Event	Date	Location
DistribuTECH	January 25-27, 2005	San Diego, California
Experts Workshop	February 2-3, 2005	San Francisco, California
National Demand Response Workshop	April 19, 2005	Helsinki, Finland
ExCo Meeting	April 20-21, 2005	Lapland, Finland
Peak Load Management Alliance (PLMA)	April 27-29, 2005	Atlanta, Georgia

continued from page 2

- 1<sup>st</sup> Level: Commercial
- 2<sup>nd</sup> Level: 55.10 Hotels and other commercial accomodations
- 3<sup>rd</sup> Level: 55.10\_6 Luxury Hotels (with restaurant, laundry , gymnasium, outdoor swimming pool, sauna, shops....), Northern Europe

- Heating space: *High*
- Lighting: *Medium*
- Heating hot water: *Medium*
- Motor: *Medium*
- Heating processes: *Low*

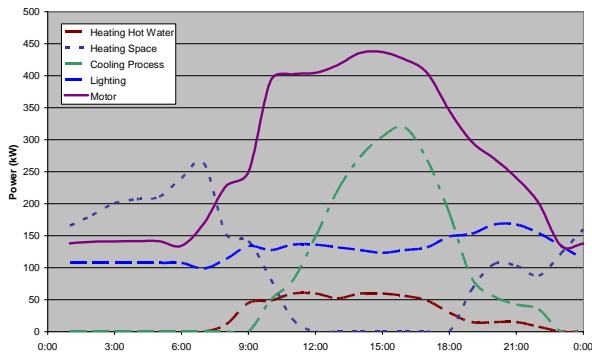
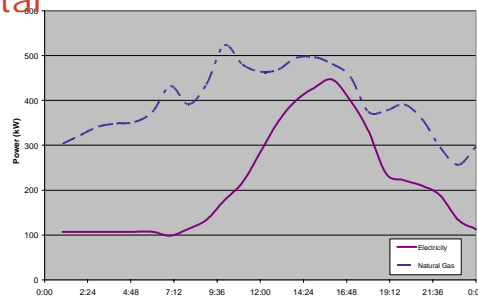


Figure 1: Example of Segment

Table 1: Segment definition parameters

SEGMENT IDENTIFICATION
ENERGY SUPPLY (Electricity, Natural gas, others)
END USAGE (Thermal, Lighting, others)
DEMAND FLEXIBILITY
POWER QUALITY
POWER RELIABILITY
STORAGE (capabilities: Thermal, Electrical, others)
GENERATION (Capabilities: Renewable, Conventional)

■ Segment 88.11\_2 Small Hospital



End Usages (thermal, lighting, etc.)

### 2.3. SEGMENT RANKING

To reduce the number of segments to model, an analysis was performed to rank these segments according to EU-DEEP purposes. The ranking was based on several factors. First is the potential of the segment for DER (Generation or Storage) technologies, both available and innovative. The second is the LTS potential of a segment to adapt its energy consumption to tailored strategies that will result in more customer-adapted energy supply and pricing strategies.

### 2.4. SEGMENT MODELING

The final step in exploring the potential for DER/LTS implementation is a "Demand Model" which will simulate the effect of customer implemented DER/LTS actions upon segment energy requirements. An example of the results of these models is given in figure 3, where the combined effect of several DER and DR actions is simulated.

## 3. LOCAL TRADING STRATEGIES

Distributed energy resources (DER) include distributed generation (DG), storage and controllable loads located at diverse customer sites.

When DER penetration increases, it becomes more important to predict, control measure these resources.

Local trading strategies (LTS) are "trading mechanisms that manage customer energy consumption and production through interaction with the supply mechanisms and markets in which end-users play an active role."

Local trading strategies (LTS) that include aggregation and remote management of DER are necessary for efficiently connecting DER to the electricity market. DER response to market price supports the proper operation of the electricity market. Managing power distribution network bottlenecks and power quality may also need data exchange between DER automation and power distribution automation. High DER-penetration in relatively weak networks may not be possible without coordination between DER-protection and power distribution network protection. Electricity end-use automation and DER automation need mutual coordination and data exchange, too.

In EU-DEEP the work related to Local Trading Strategies is carried out inside Work Package 3 (WP3) with main objectives:

### Segment. 80.10-7 High Education with sport facilities, RE

#### Mixed scenario: DR+DS+DG

- Control AC load (60% from 10h to 14h)
- Electrical storage (230 kWh; 10 to 20h)
- DG: 50 kWp (PV; 10 to 20h)

} ►  $\Delta\text{Peak} = -8.5\%$

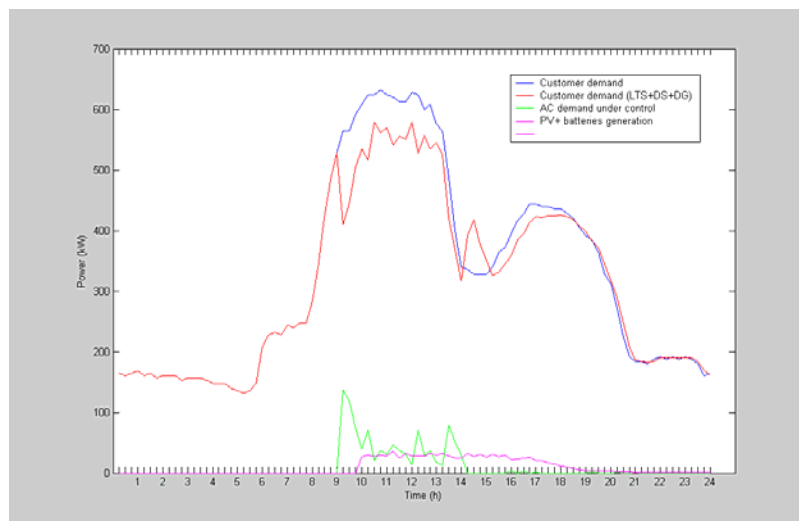


Figure 3. Simulated segment behaviour results

- To define the requirements for energy metering and communication tools needed to make the best use of Local Trading Strategy (LTS) approaches
- To develop systematic approach for the contribution of LTS to grid related issues
- To understand end-user behaviour when faced with new pricing strategies that are supported by communication tools in to improve the Local Trading Strategy component of DER;
- To develop systematic approaches for Cost / benefit analysis and models for the five demand segments.

In practice Work Package 3 is made of five complementary tasks. Their main content and some results are explained in the following.

### WP3.1: WORKSHOP ON THE PROGRESS OF TECHNOLOGIES AND DEMAND RESPONSES

A workshop with some invited experts was organized in March 2004 with WP2 in order to update the knowledge on technologies for intelligent

management of DER, LTS related technologies and methodologies and customer responses on market based LTS. The keynote papers and common conclusions can be found on the website of EU-DEEP ([www.eu-deep.com](http://www.eu-deep.com)).

### WP3.2: APPRAISAL OF LTS APPROACHES

- Assessment of the end-users' acceptance of new energy distribution/supply practices (technical intrusion and accuracy required by LTS, specifications for optimal efficiency, sensitivity to real-time pricing, etc...):
- Identification of consumer targets for LTS (can be different from demand segments selected in WP1);
- Assessment of the technical potential and alternative practices to implement LTS for the targeted groups;
- Appraisal of LTS acceptability and its impact of load curves for each consumer group (residential and I&C) through a questionnaire campaign;
- Study of LTS's impact on consumption patterns, and demonstration of LTS potential (using available data from other projects, including by IEA and in the USA), integration of LTS in the tool developed in WP1.3.

As the first step, the modelling of different types of end-users has been started to simulate their LTS and demand response potential.

### WP3.3: TECHNOLOGY ASSESSMENT FOR THE INTELLIGENT MANAGEMENT OF DER TECHNOLOGIES

- Assessment of existing and new technologies and trading modes for equipment specifications needed in WP4 and for innovative solutions of WP3.4.
- Compilation of the results of LTS projects from past projects (EU, IEA, the USA, etc...) and WP4 experimental measurement campaigns, in order to draw-up recommendations on the most promising concept and technologies.

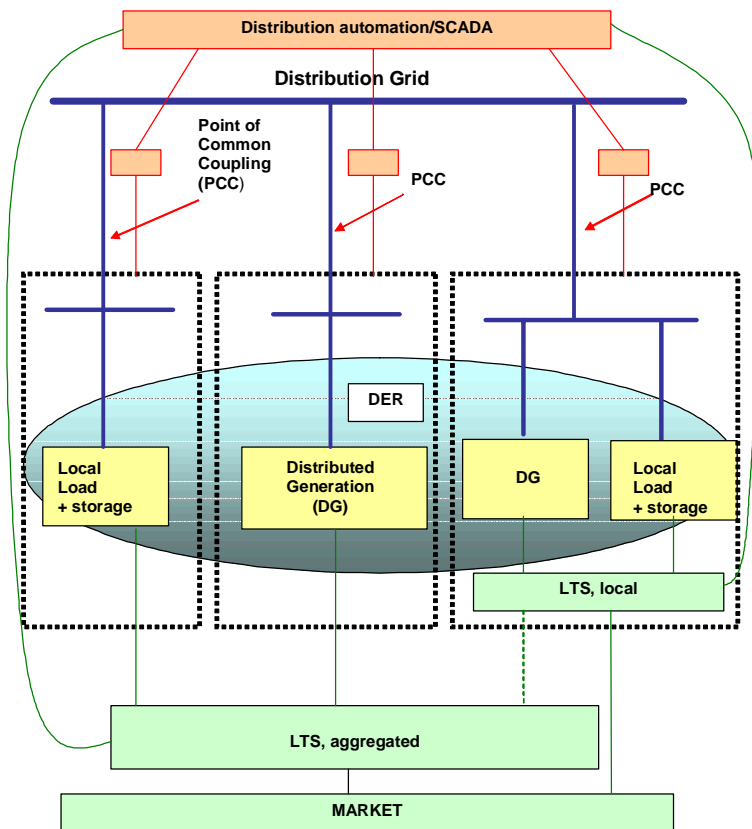


Figure 4. DER and LTS connections to market and distribution networks

As the first step, the specifications for metering, communication, automation and system architecture have been produced.

#### **WP3.4: INNOVATIVE PRACTICES AND SERVICES AT USING LTS**

- Identification of innovative LTS-related practices and services, and assessment of their relevance to competitive energy markets, by the participating utilities.
- Investigation of web interfaces and software agents and communication on power lines.

#### **WP3.5: COST/BENEFIT ANALYSIS OF THE INTEGRATION OF LTS INTO DEPLOYMENT SCENARIOS**

- Cost/benefit evaluation of LTS for DER deployment, for both the utilities (reserve capacity, network and market constraints) and the end-users (flexible energy consumption/generation, including ancillary services, economic viability of LTS services) - reuse of tools from the BUSMOD EU Project, comparison with USA evaluation methodologies. Development of business cases in each demand segment of EU-DEEP

*Carlos Alvarez received his MSc and PhD in Electrical Engineering in 1976 and 1979 from the Universidad Politécnica de Valencia, where he has served as a Professor since 1989. His professional activity has been performed in the electric energy systems field in the framework of utilities, research centers and Universities. He has conducted, in the last ten years, more than 13 funded research projects with utilities (in Europe and the USA) in the areas of Distribution Systems, Power Quality, Environmental Impact and Technology Evaluation and Development. He promoted the foundation of the Institute for Energy Engineering of the Polytechnic University of Valencia where he is currently in charge of the Electricity and Power Systems Research Group His current work is in the areas of the Flexible Delivery and commercialization of the electric energy in free market environments.*

*Seppo Kärkkäinen received the Master of Science degree in 1968 and the Doctor of Technology degree in 1976, both from Helsinki University of Technology. After working at Nokia Cable Works, he joined the Technical Research Center of Finland (VTT) in 1975. His current position is research professor of electric energy systems. He is the author of more than 200 publications. His main areas of interest are energy economy, operation and planning of energy and power systems, demand-side management and distributed energy in competitive electricity markets. He also serves as the IEA DSM executive committee member for Finland.*



## **Demand Response Resources Project Featured at DistribuTECH 05**

DistribuTECH is a world renowned electricity industry conference produced by the publisher, PennWell. The North American DistribuTECH conference for 2005 will be held at the San Diego Convention Center on January 25-27. More information about the conference and exhibition can be found at <http://dt05.events.pennnet.com/>.

One of the DistribuTECH conference tracks for 2005 is on demand response. We are pleased to announce that IEA Task XIII will be one of the featured topics at this year's conference. On Tuesday, January 25<sup>th</sup> from 3:00 to 4:30 a panel discussion on the project consisting of Dan Delurey, President of the Wedgemere Group and Chairman of the US Demand Response Coordination Committee, Dan

Violette, President and CEO of Summit Blue Consulting and Chief Economist on the project and Mark Wright, CIO of RETX who is responsible for the innovative project Internet portal will discuss the status of the project, expected deliverables and plans for the next several months. Ross Malme, Operating Agent for Task XIII will chair the panel discussion.

Copies of the presentations from the panel discussion will be available on the project Internet portal [www.demandresponseresources.com](http://www.demandresponseresources.com) shortly after the conclusion of the meeting. If you wish to have the Task XIII project team organize a similar session in your country, contact Ross Malme, Task XIII Operating Agent at [malme@retx.com](mailto:malme@retx.com).