



Newton-Evans Research Company's

# Market Trends Digest

March 2010



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# **Global CAPEX and O&M Expenditure Outlook for Electric Power T&D Investments: 2010-2011**

## Funding Outlook for Smart Grid Development Based on January 2010 Survey Results

To monitor and measure the effects of the global economic conditions on capital spending and on operations and maintenance budgets of utilities around the world, Newton-Evans Research Company conducted a third “tracking” survey of North American and international electric utilities spanning 36 countries to obtain the information contained in this report. The current survey was undertaken in December 2009 and completed in January 2010. The survey results are the basis for the narrative summaries and the charts and tables of information contained in this report. The report is a follow up to two previous studies on CAPEX and O&M budgets first published in December 2008, which included survey data collected from 112 utility officials during mid-November 2008 through mid-December 2008. The second study was conducted in June 2009 and that was based on the active participation of 118 electric utilities in 36 countries. Findings from both of these earlier surveys are compared with this new round of findings throughout this edition of the report.

In addition to requesting information regarding capital investment and operations and maintenance budgets for 2010 and 2011, the newest survey also queried respondents on five possible rationales for budget changes: Regulatory Mandates, Smart Grid Initiatives, Government Stimulus Bills, Regulatory Changes, and Economic Outlook/ Revenue Forecast. Information on planned capital and O&M expenditure ranges for T&D activities were solicited at the end of the survey. Most of the respondents did complete this new subsection.

The findings support a view marked by a “cautiously optimistic spending outlook” during the first quarter of 2010, especially so for the developing regions of the world. The Western nations (North America, Western Europe) remain cautious regarding their CAPEX budget outlooks. However there are different viewpoints, especially on multi-month project deferrals, based on



the regional breakouts of replies. Further, among North American utilities there remain substantial differences in budget outlooks based upon the type of electric utility responding to the survey (investor-owned, public, and cooperative).

The latest survey was directed to upper level managers and senior staff directly involved with transmission and distribution planning, as these officials were most likely to be involved in some or all aspects of formulating the T&D budget and planning for smart grid initiatives within the utility.

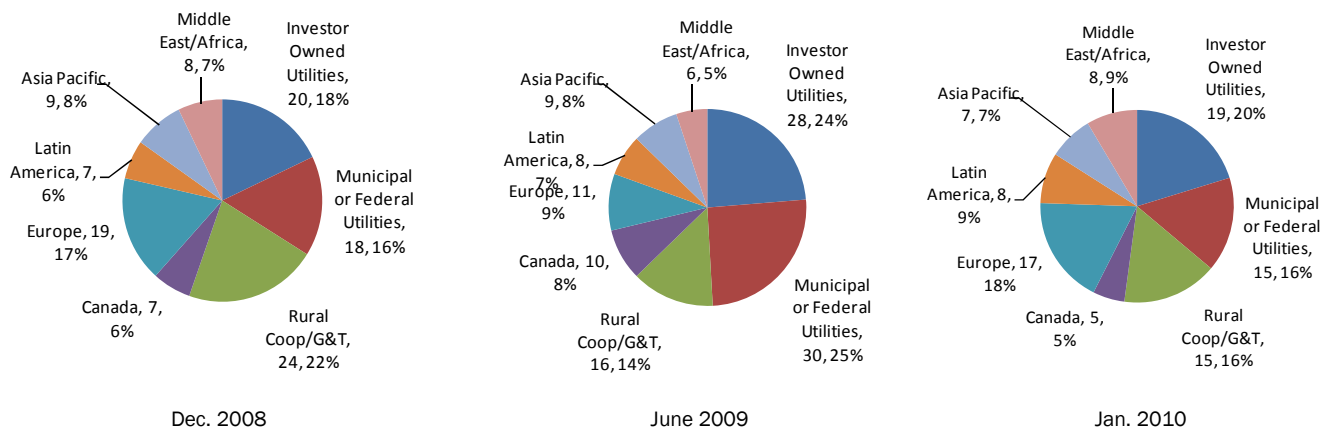
The Newton-Evans survey was designed to obtain information from a T&D operations and engineering perspective. Budget information requests were made for the following: SCADA, EMS and DMS Outlook, Substation Automation and Integration, Protection and Control, Distribution Automation, Transmission Infrastructure, Distribution Infrastructure and Automated Meter Reading and Advanced Metering Infrastructure.

Figure 1-1 provides the reader with information concerning the make-up of the utility respondent base for this survey. The representative sample for this new study did not vary more than a few percentage points in any category when compared to the December 2008 study or the June 2009 study.

The percentage of respondents indicating an increase in CAPEX and O&M budgets for both transmission infrastructure and also EMS, SCADA, and DMS roughly doubled what it was in previous years.

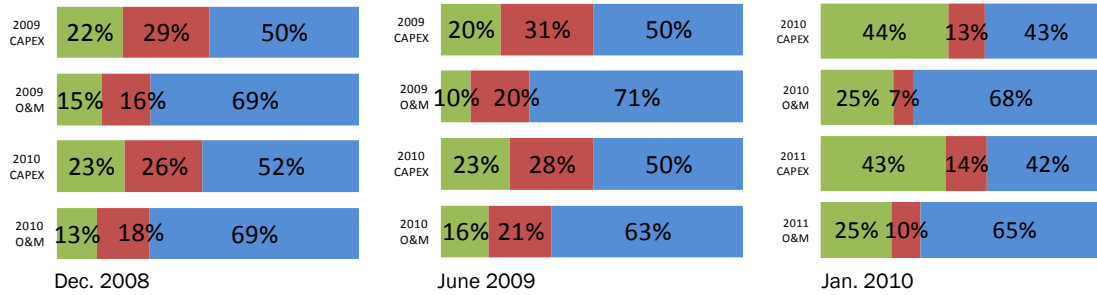


Figure 1-1. Sample Distribution by Type and Region of Utility

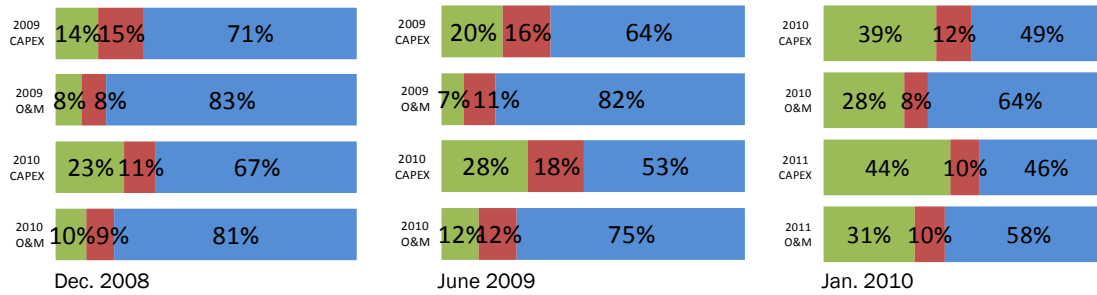


**North America:** Investor Owned, Municipal or Federal, Rural Coops & G&Ts, Canada  
**International:** Europe, Latin America, Asia Pacific, Middle East/Africa

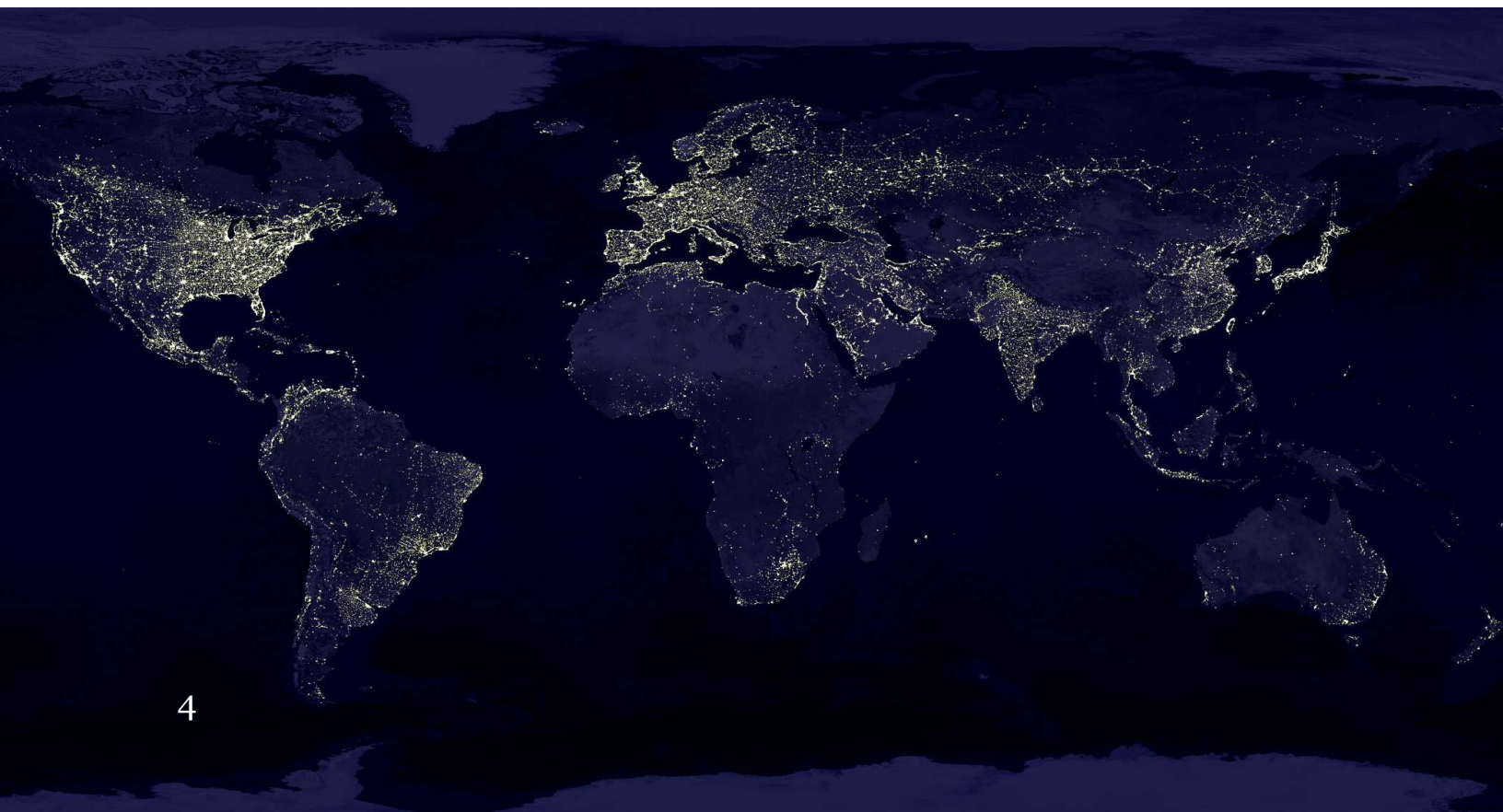
**Budget Outlook for Transmission Infrastructure** Increase Decrease No Change



**Budget Outlook for EMS, SCADA and DMS** Increase Decrease No Change



To order "Global CAPEX and O&M Expenditure Outlook for Electric Power T&D Investments: 2010-2011" visit our website [www.newton-evans.com](http://www.newton-evans.com) and click on "Our Reports" to place an order through our secure 3<sup>rd</sup> party payment provider. A direct download link will be provided to you after submitting your billing info; follow the instructions to save a copy of the .pdf to your computer.



## **Distributech 2010:** Twenty Years of Industry Insight

By Liz Forrest

PennWell Publishing's 20th Anniversary Distributech Conference & Exhibition is sure to be memorable. As one of the leading annual T&D industry events, this year's lineup again does not disappoint. Our own Chuck Newton will be there to discuss Newton-Evans' findings of our most recent capital investment and O&M budget tracking study from January 2010. His presentation at Distributech "*CAPEX Outlook for Smart Grid Investment,*" is scheduled for Tuesday afternoon, March 23rd, at 3:00.

If you are planning to be in Orlando early for the Electric Light & Power Conference, you may want to check out Chuck's session geared for utility executives, titled "*Re-Investing in Our Electric Utilities – Where do We Stand Now?*" which will be held on the morning of Monday March 22, at 8:15.

In addition to Chuck's sessions mentioned above, there will be a bevy of other sessions of timely topics to the electric power industry. Similar to last year's conference in San Diego, this year's topics are geared mainly around Smart Grid with breakfast roundtables both days devoted to Smart Grid Integration. The only difference was that last year attendees were speculating on where the ARRA funds would have the most industry impact, and this year, many of the attendees have already benefitted from the Stimulus Plan.

This year's keynote speakers are Jon Wellinghoff , Chairman of FERC; Gordon Gillette, President of TECO; and Dave Barry, nationally syndicated columnist.

Additionally, there is to be a Utility Mega Session on the smart grid topic, "*Commercialization and Success Stories of Smart Grid Technologies Through Public/Private Partnerships.*"

The conference will be hosted by Tampa Electric (TECO) and will be held March 23-25, 2010 at the Tampa Convention Center. For more information, visit either the website [www.distributech.com](http://www.distributech.com), or follow the conference on Facebook or Twitter. Debbi Boyne, PennWell Publishing's main contact for the event can be reached via Phone: 918-832-9265, or via E-mail: [dboyne@pennwell.com](mailto:dboyne@pennwell.com).

### Some of the sessions at Distributech

Session Title	Date	Time
How Your Customers Will be Operating Your Grid	Tues 3/22	1:00-2:30 pm
Smart Grid	Tues 3/22	1:00-2:30 pm
Designing Distribution Management Systems for Smart Grid Strategy	Tues 3/22	3:00-4:30 pm
Lowering Implementation Costs and Risks of Smart Grid Programs	Tues 3/22	3:00-4:30 pm
Smart Grid Implementations in Action	Tues 3/22	3:00-4:30 pm
Smart Grid Devices - Ensuring Hardware and Software Quality and Reliability	Wed 3/23	9:30-11:00 am
Integrating PV as a Smart Grid Resource	Wed 3/23	9:30-11:00 am
Communications to Network the Smart Grid	Wed 3/23	9:30-11:00 am
Smart Grid: Enhanced Grid Management, Stability and Reliability	Wed 3/23	9:30-11:00 am
Smart Grid Integration and Information Management Strategy	Wed 3/23	2:30-4:00 pm
Enabling the Smart Grid with Mobile and Geospatial Technologies	Wed 3/23	2:30-4:00 pm
Securing the Smart Grid	Wed 3/23	2:30-4:00 pm
A Statewide Smart Grid Wireless Communications Network: 3 Years & Running	Thurs 3/24	8:00-9:30 am
Smart Meters in the Lone Star State	Thurs 3/24	10:00-11:30 am
Advanced Utility Applications: <i>Leveraging the Smart Grid for Demand Response</i>	Thurs 3/24	10:00-11:30 am
Smart Data, Smart Testing & Smart Maintenance	Thurs 3/24	10:00-11:30 am
Visualizing Automation of the Smart Grid	Thurs 3/24	10:00-11:30 am
IP/Ethernet Substation Networks: A Multi-Svc Resource & Path to Smart Grid	Thurs 3/24	10:00-11:30 am

## Publications Sales Event

Through March 31<sup>st</sup>, when readers purchase any of our three flagship report series listed below, they will be granted a 30% discount as follows:

#### **The Worldwide Study of the Protective Relay Marketplace in Electric Utilities: 2009-2011**

Complete Four Volume Set	<del>\$5750</del> \$4025
Volume 1 - North American Market	<del>\$1850</del> \$1295
Volume 2 - International Market	<del>\$1850</del> \$1295
Volume 3 - Market Analysis/Forecast	<del>\$1850</del> \$1295
Volume 4 - Supplier Profiles	<del>\$500</del> \$350

#### **The World Market for Substation Automation and Integration Programs in Electric Utilities: 2008-2010**

Complete Four Volume Set	<del>\$7500</del> \$5250
Volume 1 - North American Market	<del>\$2500</del> \$1750
Volume 2 - International Market	<del>\$2500</del> \$1750
Volume 3 - Substation Equipment, Intelligent Electronic Devices, and Communications Products and Services: Supplier Profiles	<del>\$750</del> \$525
Volume 4 - World Outlook for Substation Automation: Market Forecast and Assessment	<del>\$3000</del> \$2100

#### **The World Market Study of SCADA, Energy Management Systems and Distribution Management Systems in Electric Utilities: 2008-2010**

Complete Four Volume Set	<del>\$7,500</del> \$5250
Volume 1 - North American Market Survey and Analysis	<del>\$2,500</del> \$1750
Volume 2 - International Market Survey and Analysis	<del>\$2,500</del> \$1750
Volume 3 - World Market Analysis/Forecast	<del>\$2,500</del> \$1750
Volume 4 - Supplier Profiles	<del>\$750</del> \$525

To take advantage of this sale give us a call at +1 410 465 7316 or call toll free 1 800 222 2856, or fax your Purchase Orders to +1 410 750 7429. Send email inquiries to [info@newton-evans.com](mailto:info@newton-evans.com)

## **i-PCGRID Workshop** *by Jeff Gerhold*

In response to the release of Newton-Evans report, "Critical Issues in Protective Relaying," organizers for the seventh annual i-PCGRID (Innovations in Protection and Control for Greater Reliability Infrastructure Development) Workshop hosted by Pacific Gas & Electric invited Newton-Evans to provide the results of this Relay Engineer-to Relay Engineer study recently undertaken with the help of scores of protection engineers from around the world. This unique study reviews detailed responses to over 40 questions submitted by relay engineers that were grouped into seven topic segments.

On Thursday morning, March 18th, Chuck Newton will address this Workshop regarding the report that captured their attention. He will speak on "Critical Issues in Protective Relaying" as well as "The 2010-2011 Outlook for CAPEX and O&M Budgets for Protection and Control". Organizers indicate that the i-PCGRID Workshop is a collaborative effort aimed at informal discussion and information exchange with emphasis on the global efforts to modernize the electric grid, enhance security and reliability of the energy infrastructure, and facilitate recovery from disruptions to energy supply. The intent is to integrate knowledge with research efforts and expert analysis during normal and emergency operations. They anticipate approximately 200 system experts from around the world will attend this Event, including utility/ISO and vendor executives, federal and state officials, academics, researchers, and other industry experts.

Specifically, industry speakers from a worldwide elite group of power P&C experts will include academic researchers from prestigious universities in the U.S. and abroad, scientists from national labs, experts from manufacturing and technology, dignitaries from international utilities and ISO's, and prominent governmental and regulatory officials. A partial list of presenters includes:

- +Philip Overholt, DOE Office of Electricity Delivery and Energy Reliability
- +Gerald Fitzpatrick, NIST
- +Bob Cummings, NERC Director of Situational Awareness
- +Dr. Milton Holloway, ERCOT Center for the Commercialization of Electrical Technologies
- +Larry Sollecito, President, GE Digital Energy
- +Bill Dickerson, Arbiter Systems
- +Armondo Guzman, Fellow Research Engineer (SEL)
- +Mark Adamiak, Manager Advanced Technology Programs (GE)
- +Dr. Merwin Brown, Director of CIEE (California Institute for Energy and Environment)
- +Dr. Rui Moraes, Director Network Security and Analysis Department (ONS Brazil)
- +Jim McIntosh, Director, Renewable Resource Integration (CAISO)
- +Dr. Dejan J. Sobajic, Director R&D (NYISO)

For details regarding the Newton-Evans report titled "*Critical Issues in Protective Relaying*," see our website , give us a call at +1 410 465 7316 or write to [info@newton-evans.com](mailto:info@newton-evans.com)

For further information or to register for this i-PCGRID Workshop, please contact Gail Jackson (662-325-9088) or [Gail@cavs.msstate.edu](mailto:Gail@cavs.msstate.edu)

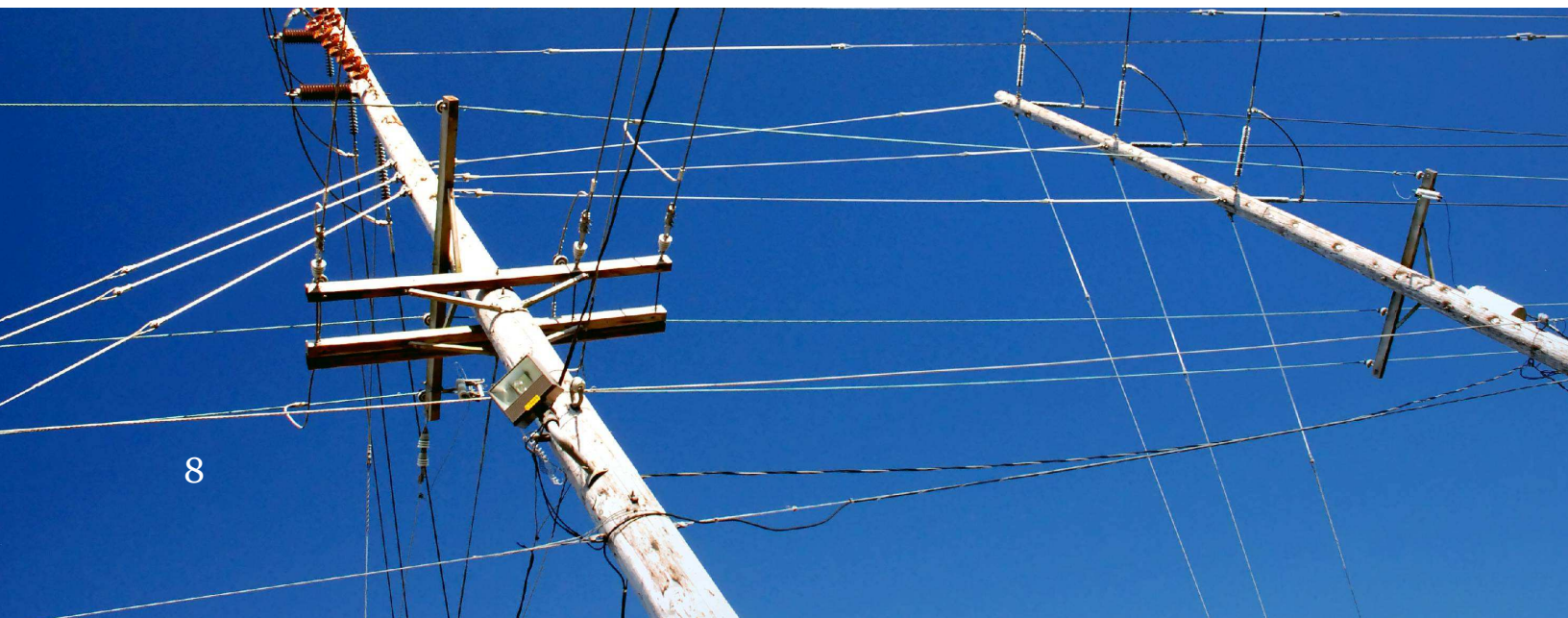
For On-line Registration:

[https://www.cavs.msstate.edu/iPCGRID\\_Registration/registration.htm](https://www.cavs.msstate.edu/iPCGRID_Registration/registration.htm)

## Conferences: Additional Information

The information on the EL&P conference can be found at <http://www.elconference.com/index/conference-information.html> . Chuck's talk will be on "*Re-Investing in Our Electric Utilities - Where Do We Stand Now?*" This discussion will include coverage of investments planned for major components of the evolving smart grid as well as investments targeted on transmission and distribution infrastructure. The effects of various government stimulus programs on electric power industry investments for 2010 and 2011 will be included.

On Tuesday, March 23, Chuck will be speaking at Distributech <http://www.distributech.com> on the topic of "*CAPEX Outlook for Smart Grid Investment*" at 3 pm as part of the "*Smart Grid Implementations in Action*" session part of the SCADA and Network Management track. This presentation will feature highlights of findings from the newest edition of the Newton-Evans report "*Global CAPEX and O&M Expenditure Outlook for Electric Power T&D Investments: 2010-2011 Funding Outlook for Smart Grid Development.*"





# ***The World Market Study of SCADA, Energy Management Systems and Distribution Management Systems in Electric Utilities: 2010-2012***

## ***Pre-Order Now and Save 10%***

*See Order Information on last page for details*

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This publication will be Newton-Evans Research Company's ninth major in-depth international research program on supervisory control and data acquisition (SCADA) systems, energy management systems (EMS) and distribution management systems (DMS). The four volume series will measure current market size and offer projections on a world region basis through the year 2012. It will include a North American Market Survey and Analysis, International Market Survey and Analysis, World Market Assessment and Forecast, and SCADA/EMS/DMS Supplier Profiles for over 25 companies.

This new study will provide an in-depth appraisal of the central and remote site hardware, applications software, and communications services that electric utilities will be requesting during their next round of procurements for SCADA, EMS and DMS systems for the forecast period. In addition to profiling utility requirements, the research program will focus on defining the broader product and market requirements that suppliers must meet in order to successfully participate in the SCADA, EMS and DMS programs within the electric utility community worldwide.

The world regions included in the research publications are the North American, European, Latin American, Middle East, African and Asia Pacific markets. The series will provide a comprehensive and informative report on the control systems usage patterns and plans of electric utilities around the world.

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### **Key Issues Addressed**

- Approximate number of pole top RTUs, substation RTUs, substation PLCs, bay controllers and substation controllers currently installed in SCADA/EMS/DMS. Anticipated numbers planned for installation by year-end 2012, along with protocol requirements.
- Mention of suppliers to be considered when anticipating the procurement of SCADA, EMS, DMS, RTUs, PLCs and controllers.
- Current/future plans for connecting SCADA, EMS and DMS to existing systems.
- Utility use of or plans to implement a separate outage management system (OMS) and/or a generation management system (GMS) by year-end 2012.
- Discussion of a range of control center cyber security measures and organizations in which electric power utilities are involved.
- Likely impact of new federal energy reliability legislation on the U.S. portion of the world market.

### **Sample Survey Topics**

- Extent of use of SCADA, EMS and DMS systems by the world's electric power utilities.
- New applications of interest to electric power operations management teams.
- SCADA/EMS/DMS procurements. New, replacement and upgrade plans for EMS/SCADA/DMS.
- Operating systems, DBMS, GUIs viewed as acceptable to utility operations teams.
- External assistance and third party services requirements in control center operations.
- Vendor performance rating in five categories: overall performance, most value for money, best implementation schedule, best technical approach, and best maintenance environment.
- Choices of communications protocols within the substation, and from the substation to external EMS/SCADA/ DMS host network.
- Current and planned external linkage requirements of for SCADA/EMS/DMS systems.

### **Research Methods**

Chief operations and chief engineering personnel are the principal source of information for this program of the world electric power market for SCADA, EMS and DMS systems in electric utilities. The field survey work is being conducted using several primary research methods including personal interviews, e-mail, mail and fax surveys, with telephone follow-up conducted by Newton-Evans staff and research partners. Discussions and information exchanges with international suppliers provide additional market insight.

Newton-Evans has established business partner centers in Western Europe, Latin America, Russia, China and the Middle East. This development provides an ideal opportunity to conduct global research programs for the energy industry.

# ***The Worldwide Market for Substation Automation and Integration programs in Electric Utilities: 2010-2012***

## ***Pre-Order Now and Save 10%***

*See Order Information on last page for details*

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In 1997, Newton-Evans Research Company conducted its first extensive multi-client research program providing a clear view of the worldwide substation automation marketplace among electric utilities. An update to this study has been conducted roughly every two years since. In 2010 Newton-Evans will complete its eighth worldwide study of the market for substation automation and integration systems in electric utilities .

The new series of market studies will measure current market sizes, and estimate and forecast demand for substation automation equipment. In addition to profiling utility requirements, the research program will be focused on defining the broader product and market requirements which suppliers must meet in order to successfully participate in the substation automation programs within electric utilities worldwide. The reports will provide an appraisal of products, instruments and related substation equipment which electric utilities of all sizes will be specifying, recommending and purchasing during the forecast period.

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### **Key Issues Addressed**

- **Product Requirements:** Perhaps one of the most important topics in this study series, the research program identifies and defines the specific product functionality required in substation automation programs.
- **Product Utilization:** What is the extent of current penetration of substation automation programs in electric power utilities? What about the advances being implemented internationally by electric utilities?
- **Vendor Requirements:** The future role of smaller, specialized providers of substation equipment, and protection and control equipment, in light of the global reach of large "generalized" transmission and distribution substation equipment suppliers, is examined.
- **Purchasing Plans and Decision:** Specific plans that electric utilities have for acquiring substation-based equipment, instruments, systems and related services is covered in this series.
- **Market Analysis is the Key to the Success of this Series of Reports:** The series provides insight into the future of the substation automation and integration market and what it will take to be competitive in the ever expanding use of technology among U.S. and international power utilities.

### **Sample Survey Topics**

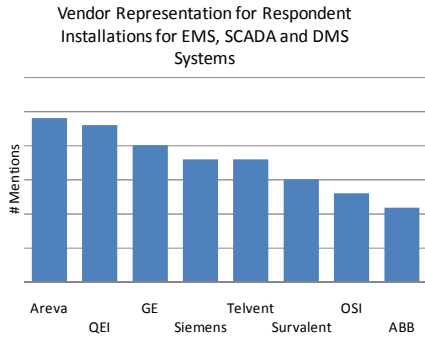
- Current Utility Substation Automation and Integration Strategy in the World's Electric Utilities
- Obstacles to Implementing Substation Automation and Integration Programs
- Estimates of Probable Spending for Substation Automation and Integration Programs between 2010-2012
- Communications Methods and Protocol Choices: within the Substation and from the Substation to External Networks
- Choice of Physical Links/Media from the Substation to External Host/Network
- Ethernet Ports Available in Typical Substation and the Security of these Ports
- Number of Simultaneous Wireless Connections Allowed in Substations
- Handling of Primary Substation Information
- Processing Tasks "Inside the Fence"
- External Assistance Required for Substation Automation-Related Activities
- Number of Substations Now in Operation; Plans for New/Retrofit Substations during 2010-2012
- Alternative Methods of Communicating with Remote Sites in Event of Loss of the Routine Communications Pathways
- Specific Equipment Types Envisioned as Being Part of a Substation-Wide Automation Program in the Near- and Long-Terms
- Current and Planned Usage of Substation Security Measures

### **Research Methods**

The principal source of information for this research study of the worldwide market for substation automation and integration programs is the substation engineering unit of major investor-owned utilities, municipal, provincial and cooperative utilities within the United States and Canada, together with national and regional power systems throughout the world.

Field survey work is conducted using a mix of primary research methods, including mail, fax and e-mail. When necessary, follow-up e-mail and telephone interviews were conducted by Newton-Evans Research Company staff.

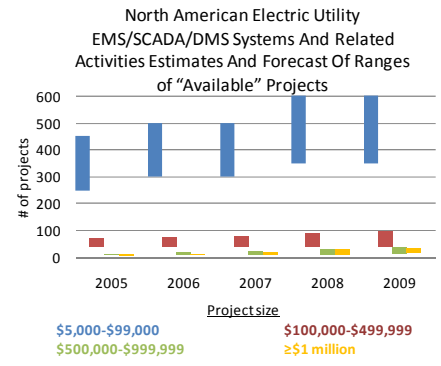
**Sample Charts:**



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2005	250	450	40	70
2006	300	500	40	75
2007	300	500	40	80
2008	350	600	40	90
2009	350	600	40	100

Year	Value Range \$500,000 - \$999,999		Value Range \$1 MILLION & OVER	
	Low	High	Low	High
2005	8	15	7	12
2006	10	20	8	15
2007	10	25	10	20
2008	10	30	12	30
2009	15	35	20	35



**Ordering Information**

**Be an Early Bird and Save Big!**

Here are the guidelines for companies interested in taking advantage of our early bird subscription rate for either or both of our 2010-2012 flagship study series.

- Prepaid orders are eligible for 10% price reductions from the \$7500.00 subscription fees to each flagship series.
  - Early bird subscribers will have an opportunity to submit topics and questions for consideration and adoption in the survey programs.**
  - Early bird subscribers will receive periodic updates during the period of conduct of field research activities:
    - March 15-May 15 for the World Outlook for EMS/SCADA and DMS (publications available in June)
    - May 1-June 10 for the World Outlook for Substation Automation and Integration (publications available in July)
  - Early bird clients will be the first to hear about breaking news and trends from the field... the world community of electric power utilities. Interim tabulations and observations will be provided and distributed to early bird subscribers.
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**Sign Us Up!**

To order *The World Market Study of Supervisory Control and Data Acquisition, Energy Management and Distribution Management Systems in Electrical Utilities: 2010-2012* or *The Worldwide Market for Substation Automation and Integration programs in Electric Utilities: 2010-2012*, phone, fax or mail this form with a check (U.S. dollars) or purchase order number to Newton-Evans Research Company, Inc., 10176 Baltimore National Pike, Suite 204, Ellicott City, Maryland 21042, USA.

Research Series	COMPLETE 4-VOLUME SET	
	Payment before Mar. 30, 2010	Payment after Mar. 30, 2010
World Market Study of SCADA, EMS and DMS Systems in Electric Utilities: 2010-2012	<input type="checkbox"/> \$6,750.00	<input type="checkbox"/> \$7,500.00
World Market Study of Substation Automation & Integration in Electric Utilities: 2010-2012	<input type="checkbox"/> \$6,750.00	<input type="checkbox"/> \$7,500.00
<b>Total Subscription Cost for Both SCADA/EMS/DMS and Substation Series</b>	<input type="checkbox"/> <b>\$12,750.00</b>	<input type="checkbox"/> <b>\$15,000</b>

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