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Advances in information technology have revolutionized business processes worldwide and helped fuel the longest economic expansion in the history of the United States. Prosperity, however, has skipped over millions of Americans—especially those living in inner cities or rural communities where access to technology is often limited or non-existent.

The “digital divide”—the gap in information technology accessibility, computer literacy, and Internet connectivity between some U.S. neighborhoods and communities and most others—is both the cause and consequence of widening socioeconomic disparities in the midst of overall prosperity.

Bridging the gap by creating “digital opportunity” is now a national goal. In 2000, government agencies were



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What Does the Failure of COP-6 Negotiations Mean for Business?

After two weeks of intense negotiations by delegations from around the world, the Sixth Conference of the Parties (COP-6) adjourned without an agreement on the next steps for implementing the Kyoto Protocol.

Several countries worked behind the scenes to restart the negotiations, arguing that an agreement could be reached. However, these efforts were for naught. The next formal round of discussions is scheduled for July

2001, following the Bush administration's request for a two month delay to allow it more time to prepare.

Many participants of COP-6 acknowledge that countries were very close to agreement when negotiations broke off. However, the failure to strike a deal, combined with political uncertainty within the European Union and the uncertain negotiating position of the new U.S. administration, has slowed the Kyoto process.

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Energy

The New Role of Rebates in Energy Efficiency Programs




Rebates have long been used in the United States to promote energy efficiency through traditional demand-side management programs. However, as we move into a deregulated energy economy, the role of rebates is being re-evaluated. In many markets, the goal is not simply to increase the sales of energy-efficient products in the current program year, but also to establish

sustained market share of these products over time (a market transformation), even after rebates are discontinued. This new emphasis on sustained market impacts leads to a new methodology in designing and implementing successful rebate programs.

Rebates can play an important role in market transformation, essentially acting as a catalyst to jump-start sales and overcome initial market barriers. However, rebates also have drawbacks that can actually inhibit market transformation. In particular, rebates can interfere with market signals between customers and suppliers, so that markets respond sluggishly. Consumers may lack knowledge of appropriate prices for rebated items (such as compact fluorescent light bulbs). Additionally, manufacturers do not receive important feedback about how their products should be improved or prices reduced to gain market acceptance.

One important problem that programs have is setting rebate amounts at the right level. Either rebate levels are too high and the program is oversubscribed, or they are too low, and only those already committed to the purchase receive rebates. To solve this problem and to reduce negative market impacts, ICF Consulting proposes a bidding process to assist in setting rebate levels and product quantities that are matched with market characteristics. In short, manufacturers would bid on rebate levels in an auction process similar to the U.S. Treasury-bill auctions. For several possible rebate levels, manufacturers would commit to sell a bid number of units. For example, in a refrigerator rebate program, manufacturers might bid on sales commitments at per unit rebates of \$200, \$150, \$100, and \$50. Based on the total bids across several manufac-

turers, the program could set a single “market-clearing” rebate level and the corresponding number of units to be sold by each manufacturer. This new bidding process would ensure the optimal allocation to maximize total sales for the existing program budget. Since the rebates operate on the margin, they would minimize negative market impacts caused by inappropriate rebate levels.

This framework is based on the review of markets and incentives in energy efficiency market transformation programs around the country. 

Environment

Managing the Complexity of Children’s Environmental Health Issues

A grassroots movement within the United States in recent years has raised awareness of environmental health risks to children. Resulting legislation has significantly increased the requirements to the public and private sector for children’s risk assessment-related activities.



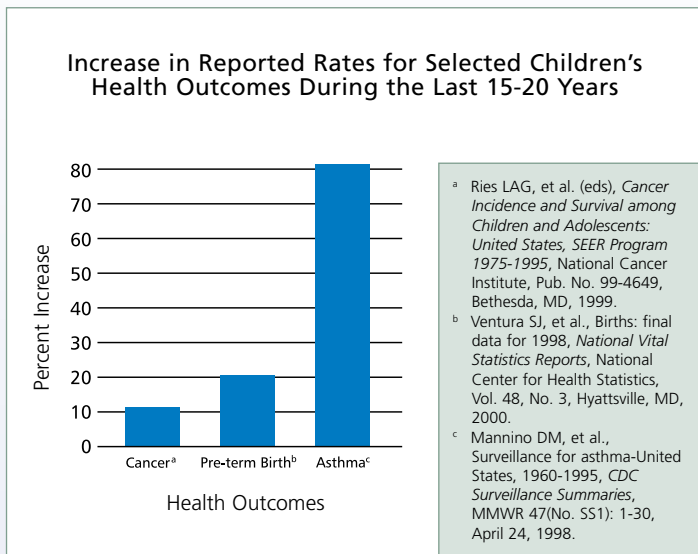
Implementing these various mandates can be very difficult, however. For example, even though the reported rates for various children’s health outcomes have risen (see chart, below), it is unclear how much these increases are due to environmental exposures, better

detection/reporting, or even increasingly older parents. Clearly, though, the world is a very different place today—children are exposed to chemicals and infectious diseases that did not exist (or rarely did so) in the environment several years ago. Also, as a common tenet of pediatric medicine states, children are not “little adults,” but rather are profoundly different from adults because of their developing neurological, immunological, digestive, and other bodily systems; their greater air, liquid, and food intake per unit body weight; and their hand and object mouthing and related behaviors.

Many of the differences between children and adults (and between various subgroups of children) are explored in an ICF Consulting study conducted for the U.S. Environmental Protection Agency, “*Risk of Waterborne Infectious Disease in Children with Normally Developing Immune Systems.*” This study, presented at the Society

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for Risk Analysis annual meeting in December 2000, reports that several key waterborne infectious agents—cryptosporidiosis, *E. coli* infection, salmonellosis, and shigellosis—affect children at about 2 to 30 times the rate of adults (depending on the disease, age group, and reporting year).



The study found a plethora of both host and exposure factors that may contribute to these higher rates, as well as to a likely greater severity of subsequent morbidity and mortality. A child's naturally immature immune system is perhaps the most important factor in terms of susceptibility to infectious disease. Other important factors identified were the normally immature gastrointestinal tract and other systems of children, child-associated behaviors (e.g., mouthing), and inherent exposure-related physiological factors (e.g., a higher water ingestion per unit body weight compared to adults). Extremes within these factors constitute subpopulations of children with even higher risk.

In the future, ICF Consulting plans to examine the key factors in more detail, prioritize the factors in terms of magnitude of effect, and identify and characterize the many interrelationships that likely exist among the factors. Despite the work that still needs to be done there clearly are several susceptibility factors that are known now to significantly affect disease rates and outcomes in children. These factors are now being used by regulators for the development of water quality standards and interventions.

Information Technology

Environmental E-Business— Helping to Manage Costs

Information technology and environmental management have converged and created a new dimension—environmental e-business. This new application of technology is quickly becoming the perfect support system to meet the challenges faced by environmental, health, and safety professionals as they interact with the business community and the natural environment.

Environmental e-business can manifest itself in several ways. Typically, intranets deliver business information, permits, applications, and best practices while the Internet extends company boundaries and promotes community outreach. Ideally, environmental e-business leverages these networks to share critical environmental program information across organizations.

As the demands for reporting and transparency have increased, the need for more comprehensive reporting systems has also risen. Meeting complex regulatory reporting and environmental compliance requirements is a tremendous cost of doing business. Federal, state, and local guidelines often conflict, making it even more difficult for companies to manage compliance. Collecting and communicating these diverse sets of information has become an integral part of environmental management.

To maximize their efforts, organizations should use a goal-oriented approach to address environmental strategies and support technologies.


The market is currently overwhelmed with software that can be costly, confusing, and often difficult to implement. Hundreds of environmental software products were available last year to help professionals cope with the information overload. Recent projections estimate that the market for environmental management information systems will grow to \$13 billion by 2003. Due to the influx of technologies, many organizations are subject to technology-driven solutions and, as a result, lose money and their focus.

To maximize their efforts, organizations should use a goal-oriented approach to address environmental strategies and support technologies. The best solutions often require a

Consulting Insights (cont.)

multi-disciplinary attitude and organizations should ensure that consideration is given to environmental management and policy, compliance management, auditing, and GIS capabilities as well as multiple IT platforms.

ICF Consulting presents a unique approach to environmental e-business by customizing a proprietary template for an organization's specific and goal-oriented needs. This technology provides a very collaborative, Web-enabled atmosphere for managers to design, manage,

deploy, and evaluate their environmental programs. For one such client, ICF Consulting prototyped an environmental compliance knowledge management system that allowed employees to access mission critical information over the Internet. This Web-based system in particular is unique because of the environmental information gap it bridges between diverse stakeholders, including employees, managers, and regulators. 

Failure of COP-6 Negotiations (cont.)

ICF Consulting believes that these delays are only temporary, despite likely demands by the Bush administration to address developing country participation and adverse economic impacts on the United States.

The global business community is undoubtedly frustrated by the lack of a clear set of ground rules and many countries are anxious to resolve these matters and proceed with the steps necessary to implement an international agreement, either the Kyoto Protocol or its substitute. Although implementation will require difficult compromise, the desire to reach an agreement will eventually prevail.

One critical fact of the Kyoto Protocol often overlooked is that it simply establishes the first commitment period of 2008-2012. All countries recognize that, to avoid "dangerous anthropogenic interference with the climate system," other commitment periods will eventually be necessary. Establishing rules for a longer term objective will lead to a negotiated deal that gives countries direction for initial steps. Concerns over carbon sinks and domestic versus international actions will then become less critical.


ICF Consulting expects that a key component of any international agreement will be emissions trading. The science and economics are consistent—emission reductions in one part of the world have the same environmental benefit as those in another location. All emission sources



need to be considered and market mechanisms allow reductions to be pursued most cost-effectively. For example, many countries, such as the United Kingdom, are considering implementing domestic emissions trading systems.

ICF Consulting expects that rules will be established that allow companies to receive credit for reducing emissions beyond national boundaries. There will likely be restrictions, however. For example, when negotiations broke off at COP-6, countries wanted to exclude carbon sinks from the Clean Development Mechanism, i.e., emis-

sion reduction credit would not be granted for forestry and agriculture-related actions in developing countries. Similarly, there will be continued pressure for countries to focus on domestic actions.

Businesses should assume that events at COP-6 have only *temporarily* slowed the momentum for an international agreement on emission reductions. Times are still opportune for evaluating the risks and opportunities for one's business posed by international concern over climate change. ICF Consulting recommends that businesses continue to evaluate current and projected emissions levels; internal and external actions to reduce exposure; and the effect on the bottom line. 

Calendar of Events

March

March 12-15, 2001

Washington, D.C. A sponsor of the **E-Gov Conference on WebEnabled Government**, ICF Consulting will also be exhibiting. Focusing on Web-enabled initiatives and online services, the conference includes elements on Understanding the Changing Climate, Building Frameworks, and managing Internet-Based Operations. *For more information, contact Chris Holmes at 1.202.862.2960.*

March 19-20, 2001

Washington, D.C. Experts from ICF Consulting's energy practice will present papers at the **American Council for an Energy Efficient Economy (ACEEE) Market Transformation Symposium** in addition to hosting a reception for members and attendees. *For more information, contact Jim Stimmel at 202.862.1117 or visit the ACEEE web site at www.aceee.org.*

March 21-22, 2001

Reston, VA. ICF Consulting will be exhibiting at the annual **ESRI Federal User's Conference**. *For more information, contact Bob Andrew at 1.703.934.3446.*

March 20-22, 2001

Baltimore, MD. At the **"Electric Power 2001" Conference**, ICF Consulting's Steven Fine will participate in a panel discussion addressing environmental issues and strategies. Mr. Fine will speak about integrating air emissions policy compliance into a profitable environmental strategy. *For more information, call 1.713.463.9595.*

April

April 4, 2001

New York, NY. ICF Consulting's Judah Rose will discuss "Predicting the Price of Power for Asset Valuation in Merchant Power Financings" at **Infocast's Project Finance: The Tutorial**. *For more information, contact Liz Kaiga at 1.703.934.3497.*

April 9-12, 2001

Washington, D.C. ICF Consulting will be exhibiting and is a Gold Sponsor of **E-Gov's Knowledge Management Conference** which is focused on designing, managing, and funding knowledge management initiatives in government enterprises. *For more information, contact Tim Herbst at 1.703.934.3766.*

April 17, 2001

Houston, TX. At the **Gulf Coast Power Association Annual Conference**, Judah Rose will be speaking on Developments in the ERCOT (Electricity Reliability Council of Texas) Market. *For more information, contact Liz Kaiga at 1.703.934.3497.*

April 27-29, 2001

Houston, TX. At the 2001 **Conference of International Association of Energy Economics (IAEE)**, ICF Consulting's Shree Vikas will co-chair the "Gas-Power Convergence" session. Discussions in the session will include issues, market forces, and modeling approaches shaping the deregulated natural gas and electric power industries in the U.S. and European Union. *For information about the IAEE conference, visit www.iaee.org. For more information, call 1.703.934.3016.*

May

May 1, 2001

Denver, CO. At the **Electric Utility Consultants Inc: What to Expect in Western Power Markets this Summer** symposium, ICF Consulting's Judah Rose will speak on "Western Supply and Demand in the Summer of 2001." Rose and Gerhard Mulder will also conduct a workshop on modeling the Western Systems Coordinating Council (WSCC) region. *For more information, contact Liz Kaiga at 1.703.934.3497.*

June

June 3-5, 2001

New Orleans, LA. ICF Consulting will be exhibiting at the **2001 Edison Electric Institute (EEI) Annual Convention & Expo**. In addition to the Exhibition, EEI is providing authoritative speakers on strategic issues shaping the industry and is joined by the Canadian Electricity Association in this year's endeavor. *For more information, contact Pat Alexander at 1.703.934.3157.*



Bridging the Digital Divide (cont.)

ordered to work with public, private, and non-profit sectors to help make computer and Internet access available to every American. President Bush has now proposed \$80 million in additional funding to this end. Two federal initiatives, *Neighborhood Networks* and the *America Connects Consortium*, are at the forefront.

ICF Consulting's technical assistance to community technology centers puts our consultants to work one-on-one with people in low-income neighborhoods.

Neighborhood Networks is a U.S. Department of Housing and Urban Development (HUD) initiative that establishes computer-based multi-service centers through innovative public and private partnerships. These centers assist people in low-income housing to learn skills critical to competing in today's technology-intensive job market. Today, there are more than 600 HUD community technology centers in low-income neighborhoods throughout the country. That is more than double the number in 1997, when ICF Consulting began supporting the initiative.

Community technology centers can make a real difference in people's lives. Less than five years ago, Trenzetta Barabin entered a computer-training class at the Versailles Arms Apartments *Neighborhood Networks* Center in New Orleans, Louisiana. With a combination of continued training, access to technology, and her own persistence, she advanced from volunteer to part-time receptionist, and eventually, to instructor at the center. With her increased salary and benefits, she purchased her first home and moved out of the Versailles Arms in September 1999. Recently, Barabin took another step upwards by landing a position with the local school system handling computer software programs for area schools.

Creating digital opportunity, as critical as it may be, will not reverse the economic fortunes of neighborhoods and communities by itself. ICF Consulting knows from experience the complex causes of socioeconomic disparities. Lifting a neighborhood and its residents out of poverty requires attention to multiple factors.

ICF Consulting is responding to the digital divide with a variety of approaches and working with a range of public and private organizations. For example, our transportation planners are exploring how to reduce vehicular traffic by placing new businesses and residences in underutilized urban areas—"urban infill." ICF Consulting is addressing the economic utilization of "brownfields" (former industrial properties) from environmental, energy-efficiency, and community-development perspectives. ICF Consulting also is participating in a pioneer study in Austin, Texas, to determine how best to link the economies of minority neighborhoods to surrounding prosperous regional economies. Our technical assistance to community technology centers enables our consultants to work one-on-one with people in low-income neighborhoods and understand in personal terms the effectiveness of diverse economic development initiatives.

ICF Consulting is one of the world's leading consulting firms advising clients on managing the world's natural, physical, economic, and community resources in a sustainable way. The firm's more than 750 employees help clients optimize energy resources, meet environmental challenges, foster economic and community development, enhance transportation policy and projects, and manage information technology resources. ICF Consulting's clients include firms in the energy and utility industries, all levels of government, and national and multilateral organizations throughout the world. ICF Consulting has 16 offices around the globe, including offices in Bangkok, Chicago, Fairfax, London, Los Angeles, Melbourne, Moscow, New York, San Francisco, Toronto, and Washington, D.C.

About ICF Consulting

For more information on ICF Consulting's services, please visit our Web site at www.icfconsulting.com.

We welcome your comments and suggestions. Please contact us at 1.703.934.3659 or by e-mail at consult@icfconsulting.com.



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Compelling Results.