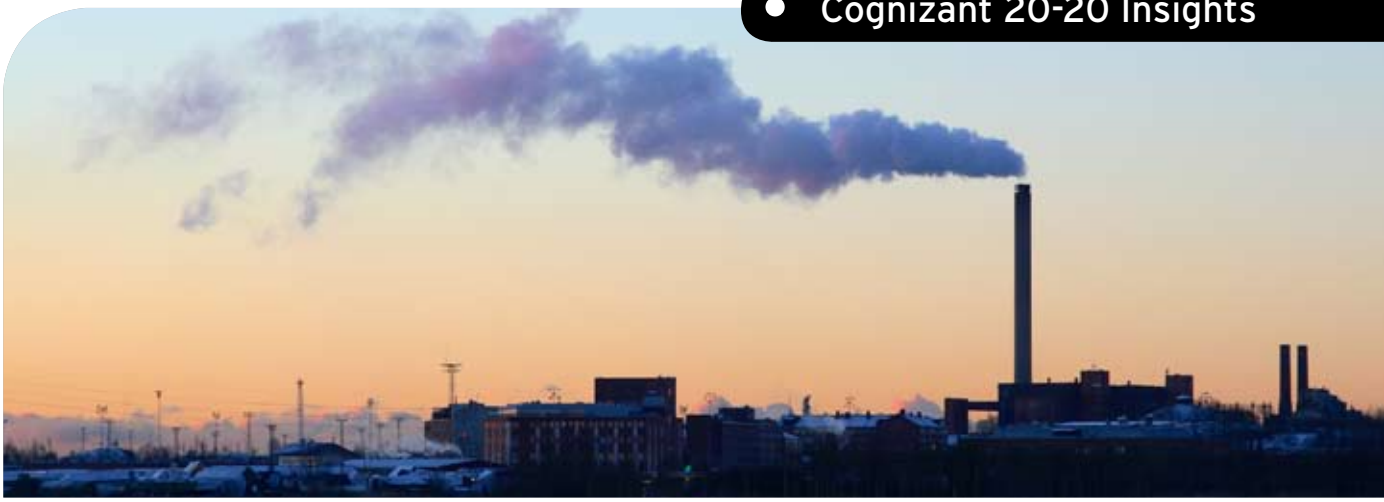

# The UK's CRC Energy Efficiency Regulation: Risks and Opportunities

## Executive Summary

The CRC Energy Efficiency Scheme (formerly known as the Carbon Reduction Commitment) is the UK's flagship approach to climate change and energy savings. The initiative officially started in April 2010 and is under the direct supervision of an executive non-departmental public body known as the Environment Agency. The CRC serves as the core of the UK's strategy for improving energy efficiency and reducing carbon dioxide (CO2) emissions, as set out in the Climate Change Act 2008.

Compliance with the CRC is required by large companies and public sector organizations, and as such, it will require serious changes in behavior and infrastructure. The CRC's goal is to cut greenhouse gas emissions by 80% by the year 2050.

The CRC will require impacted organizations to calculate their emissions and buy carbon allowances based on forecasts of the coming year. These allowances will have to be surrendered at the end of each year, and records will need to be maintained for auditing purposes. Participants will also require suitable systems to enable the monitoring, measuring, reporting on and reductions to their carbon emissions. As such, it's important for CIOs to be fully aware of the CRC, its requirements and its IT implications. These systems and processes also need to be well-integrated in the day-to-day operations of the organization.

There is also a transparency component to the CRC. Information about a participant's performance will be added into a league table alongside all other participants and will be available for public comparison. An organization's position in the league table will determine how much of the cost of their used allowances will be returned. Failure to comply with the regulations will lead to serious sanctions being applied.

Since it is a mandatory requirement for a certain set of organizations, the CRC may appear as a significant risk for participants, both to their finances and their reputation. The very fact that results will be published publicly (in a league table) means that all the stakeholders (i.e., customers, investors and employees) will be able to see just how well the organization is performing relative to competitors and peers in the market.

However, the league table also poses an opportunity. The requirement to monitor emissions and purchase allowances for each tonne of CO2 emitted creates a direct incentive to reduce emissions, increase energy efficiency and save money by reducing energy bills. The savings itself should be well in excess of the cost of CRC participation. Above and beyond that, the better an organization performs in terms of reducing its emissions, the higher it will appear in the published report, and all the revenue raised from selling allowances is "recycled" back to participants. Appearing high on the league table will also provide necessary confidence to all stakeholders, apart from mandatory compliance with the regulations.



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In summary, a structured approach to creating and implementing a CRC strategy will bring both tangible and intangible benefits to the organization and also ensure that it receives maximum benefit from the program. This paper will critically analyze the CRC scheme in detail, with recommendations on core elements of to-be strategies, such as compliance, process improvements, trading and procurement.

## A CRC Primer

The Carbon Reduction Commitment (CRC) Energy Efficiency Scheme is a new system of carbon emissions trading introduced in the UK in April 2010 (see Figure 1). The CRC is applicable to a set of large businesses and public sector organizations that, according to government estimates, contribute to roughly 10% of the UK's overall greenhouse gas emissions. Organizations that are already covered by climate change agreements (CCAs) or the EU Emissions Trading Scheme (EU ETS) may still be required to participate in the CRC, but emissions covered by these programs will not be included in the CRC. The CRC is aimed at reducing the UK's greenhouse gas emissions by 80% by 2050 (compared with 1990 levels), as required under the Climate Change Act of 2008.

## The CRC Cycle


Figure 1

The UK's Environment Agency (EA) has overall responsibility for administering the CRC, and the program is enforced by the following administrators: The EA in England and Wales, the Scottish Environment Protection Agency (SEPA) in Scotland and the Department of the Environment (DoENI) in Northern Ireland.

Organizations covered by the CRC will have to monitor their energy usage across the enterprise from April 2010. The first year will be a reporting year only, and participants will buy carbon allowances based on their energy consumption. There are no caps initially, but eventually, the CRC will become a "cap-and-trade" system in which allowances will decrease each year. Organizations will earn bonuses or penalties based on their performance. Initially, the maximum penalty or bonus is only ±10%, but by the fifth recycle, this will rise to ±50%.

But the key incentive mechanism is that the performance of participants will be published, and non-government organizations and the media will likely use the data to create performance tables for individual sectors and begin holding organizations accountable. As of August 31, 2010, 7,897 organizations, including Sainsbury's, Hilton, the National Theatre and the London Fire Brigade, have already registered for the program. Approximately 12,000 organizations had not registered as of that time, with just 30 days to go.

## Positive and Negative Effects of the CRC Scheme

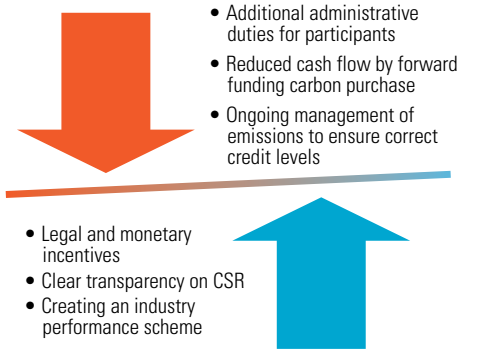


Figure 2

## Are You Eligible for CRC?

The CRC applies in full to organizations that had at least one HHM (half-hourly meter) settled on the half-hourly market in 2008 and whose electricity consumption in 2008 was at least 6,000 MWh. At current energy price levels, it applies to those with an estimated annual electricity bill of more than £500,000 (see Figure 3).

There are two tiers of compliance in the CRC:

1. **Participants:** The highest parent organization is responsible for participating and reporting energy usage of all its subsidiaries. Subsidiaries with 25% of their emissions covered by a climate change agreement are temporarily exempt, and if the remaining consumption is less than 1,000MWh, then the entire organization is exempt.
2. **Information submitters:** If an organization consumed less than 6,000MWh of electricity during 2008 through all HHMs, it is required to submit an information disclosure to the EA detailing total electricity consumption. For organizations that are part of a wider corporate structure, the highest parent organization or a nominated primary member will participate.

The CRC will directly impact approximately 5,000 organizations, with a further 15,000 organizations on HHM below the 6,000 MWh threshold. All qualifying organizations are required to report their carbon emissions through HHM electricity use, emissions through the use of oil, coal, gas, non-HHM electrical sources and all other non-transport fuels.

## How Does the CRC Work?

This scheme is designed to be as simple as possible, including self-certification of monitoring, reporting and verification of emissions, backed by an independent risk-based audit environment. Effectively, this also strengthens the incentive to improve energy and carbon management skills (particularly in relation to metering, reporting and reduction), gets senior management attention and strengthens corporate social responsibility (CSR) drivers.

The key features of the CRC scheme include the following:

- In its introductory phase, the government will sell an unlimited number of allowances at a fixed price of £12 per tonne of CO2, and in subsequent phases, it will auction a limited number of allowances annually.
- Participants can also buy or sell allowances in the secondary market.
- At the end of each compliance year, participants should surrender allowances to cover the levels of CO2 they emitted.
- The government will recycle the revenue raised from the sale of allowances back to participants after a six-month period.
- Recycling payments will have a bonus or penalty applied to them, which will be based on performance and vary over time.

## Flowchart for Determining CRC Eligibility

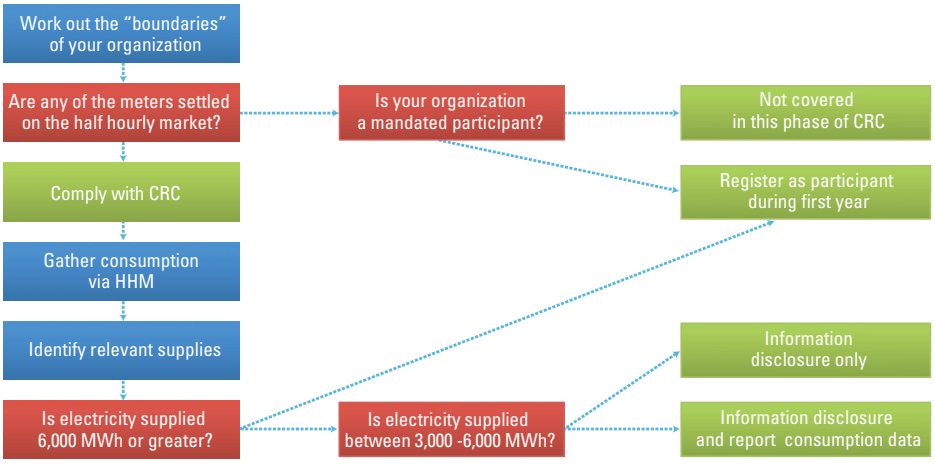


Figure 3

- All participants will be ranked together, not by industry sector, using three metrics:
  - **Absolute metric:** This measurement compares emissions over the last year with respect to the rolling average of the previous five years.
  - **Early-action metric (EAM):** This metric is based on the percentage of emissions covered by Automated Meter Read (AMR) and the Carbon Trust Standard (CTS) or a recognized equivalent. This drives voluntary steps for the CRC scheme.
  - **Growth metric:** This metric compares emissions relative to turnover as a percentage change in emissions intensity for the current year, with respect to a rolling average of the previous five years.
- Each metric will be weighted, and the final score will be calculated as a weighted average.

The CRC will have cash flow implications for qualifying organizations, and an energy savings of at least 5% will be needed to cover the average cost of administration. Since it is a mandatory scheme, the CRC places legal obligations on information disclosure, emissions reporting and purchase allowances from the government. Any organization that does not comply with the CRC will be subject to civil and criminal penalties.

## Preparing Your Organization for the CRC

The overall goal of the CRC scheme is to achieve a reduction in carbon emissions. Any CRC strategy should include a well-thought-out carbon reduction program. To identify opportunities for carbon reduction, a thorough analysis of emissions should be undertaken, and business cases should be produced to evaluate and prioritize them. A CRC strategy should also drive the organization toward a level of environmental sustainability that establishes a leadership position, hence gaining the confidence of customers and providing necessary competitive advantage. Delivering consistent reductions will be derived from a strategic approach to CRC requirements. Three fundamental steps within a strategic approach are illustrated in Figure 4.

Organizations will also have to examine their annual energy expenditures and validate against estimated savings in order to determine the benefits of CRC for their businesses. Savings of 1% to 5% can be achieved using low/no-cost measures (switching off lights, using low-energy lighting, closing windows, reducing heating by 1°C), and 6% to 10% savings can be achieved by investing in new technology (e.g., new boilers, better insulation, solar panels). Organizations should designate a person or a team with responsibility for ensuring compliance. They also need to work with other teams such as finance, commercial and administration, to gather ample and accurate data on the organization's exposure to CRC requirements and develop robust auditing procedures.

## Opportunities Beyond Compliance

The CRC program introduces many opportunities to participants and the marketplace, itself (see Figure 5). As per UK government estimates, the CRC is expected to create a £600 million market for carbon allowances and also lead to the establishment of new business lines. For example, banks can offer structured loan products to allow organizations to buy allowances. Utilities such as British Gas Business and NPower have already created a service offering for business energy customers to manage CRC requirements. Competing with them are the likes of PricewaterhouseCoopers, Ernst & Young, KPMG and IBM, which have dedicated teams for CRC.

## Steps Within a Strategic Approach

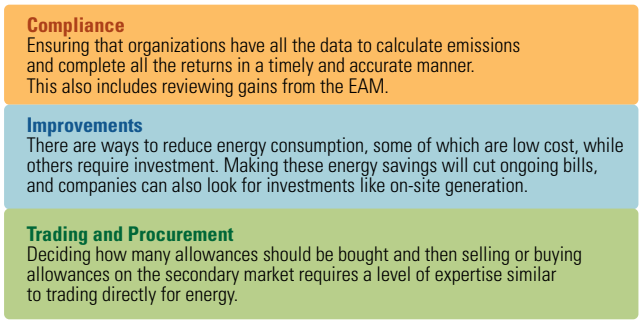


Figure 4

The CRC is a win-win opportunity, as the best performers will appear at the top of the CRC league table published each year, allowing the public and press to view an organization's standing within the scheme. To achieve desired results, participants should focus on the following:

3. **Data collection and analysis:** Organizations must understand how much electricity they used in the previous year. Utilities companies now have a legal duty to provide consumption data.
4. **Energy reduction:** A good league table position can only be achieved by energy reduction, and a goal for all participants should be to maximize energy efficiency.
5. **Improved working practices:** Training is essential to ensure that environmentally friendly ideas are put into practice to reduce energy waste.

## Risks and Implications

In simple terms, major risks for non-compliance exist for participating organizations, in the form of reputation, civil/criminal penalties and unpredictable cash flow. In relation to all civil and criminal penalties, an administrator will publish information about the organization's non-compliance. This administrator can also prosecute directors and senior managers when the offense has been committed with their consent or as a result of their neglect.

- **Financial implications:** The cost of allowances for organizations is likely to be relatively low during the fixed-price introductory phase. In auction phases, the cap, as computed by the number of allowances, will potentially drive up demand and price. Emission reduction will also benefit the organization by decreasing the cost of its allowances and energy bills.
- **Reputational implications:** A key driver for the CRC is public disclosure in a league table. This is a significant public relations risk, as it enables participants to be benchmarked. The reputational consequences of being at the top (or bottom) of the league table will prove to be more significant than the recycled payment, at least in the introductory phase.
- **Administrative implications:** The CRC presents a significant administrative and compliance burden, especially for unregulated organizations and those that do not have the personnel or experience to deal with it. The CRC relies heavily on self-certification, with a random audit of 20% of organizations. To collect relevant consumption data, organizations with a complicated customer or third-party relationships will encounter difficulties in structuring their businesses to accommodate the CRC.

## CRC is the Strategy for the Future

By the end of the first phase, organizations will need to start thinking about many more funda-

## Benefits of the CRC Scheme

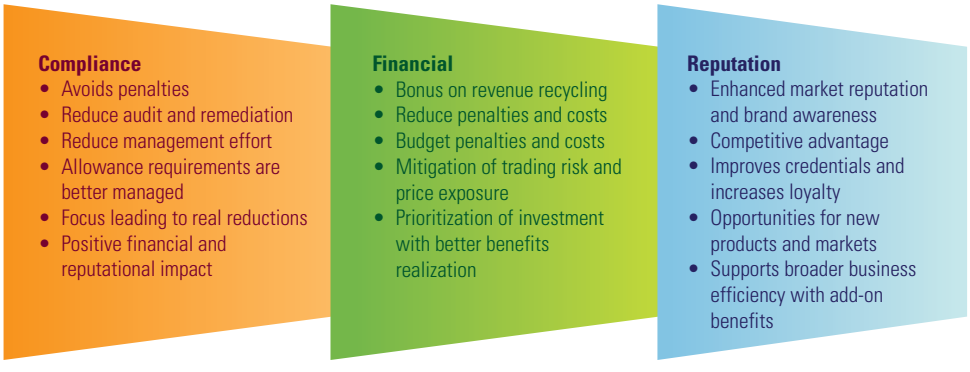


Figure 5

mental changes to maintain their performance. In later phases of the CRC, the energy consumption threshold may be reduced, enabling more organizations to join. The government may also introduce similar trading schemes for emissions that are not covered by the CRC. Hence, organizations should not take a lenient approach toward CRC compliance, even if they are not required to comply in the current year.

The CRC scheme may also expand by including the transportation sector in the future, especially as the UK government and the EU start to increase their focus on transport emissions and the EU ETS is broadened in 2012 to include emissions from aviation. This would create further challenges for organizations with large transport fleets, ranging from hospitals, to supermarkets. Non-$CO^2$ greenhouse gas emissions from refrigeration also have a massive impact on the environment, since approximately one-quarter of the emissions from large supermarket chains are due to refrigerants, which can be much more damaging than $CO^2$. Since these are produced by leaks in the system, eliminating these leaks could be accomplished by instituting new CRC incentives.

The CRC is receiving a lot of attention, and prospective participants are starting to develop strategies to manage their risks and maximize their benefits. The issues described above will play a part in these strategies and how organizations respond to this scheme. It's clear that the UK government will continue to set challenging carbon targets, and the CRC is one of the key components for meeting strategic global agreements. Organizations can use the CRC as an opportunity to implement a long-term strategy that sets out the means to adapt to and mitigate the risks of climate change. Organizations that respond well to the challenges of the CRC and are quick to take advantage of the opportunities it presents will be best placed to respond to new government initiatives in the future.

The following steps are recommended to create an action plan for compliance with the CRC:

- Understand and devise a plan to manage organizational structure by defining a CRC organization.
- Identify and develop a management plan by establishing an accurate emissions inventory (see Figure 6, below).
- Calculate the value at stake by assessing likely financial and reputational impacts.
- Evaluate the costs and benefits of early action.
- Understand the organization's potential to reduce emissions and when implementation may be most profitable.
- Develop the strategy for CRC response and carbon reduction.
- Consider the early action metrics (EAM) to improve your position in the league table and secure a portion of the recycling pool.
- Ensure that business is putting systems and procedures in place to ensure the appropriate data is being collected and collated for the evidence pack and the subsequent reports.

## Steps for Establishing a CRC Emissions Inventory

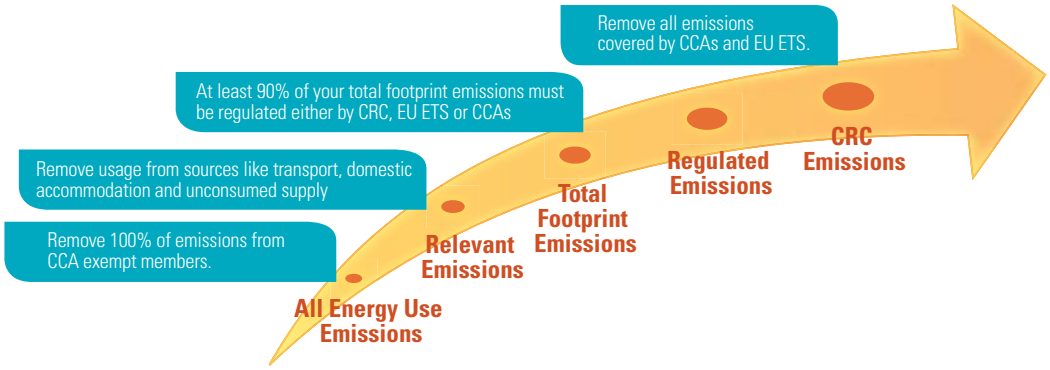


Figure 6

## Moving Forward

The CRC scheme imposes reporting and auditing requirements on participants, such as annual submissions in the form of a self-assessment and a supporting evidence pack. To ensure the accuracy and completeness of disclosures, information quality and availability is of paramount importance. The scheme also raises issues on the usage of data centers, which consume a large amount of energy.

A survey by Version One[1] reveals that 22% of senior IT professionals admit they haven't heard of the CRC, while 28% say they are aware of the scheme and have investigated whether their organization qualifies or not. Meanwhile, 42% say they are aware of the CRC program but are unsure whether their organization qualifies. Interestingly, the remaining 8% admit they "don't know" whether they have heard about the CRC Energy Efficiency Scheme or not.

Any strategy would be incomplete without focusing on the need to move from manual and undefined processes, to an integrated management information system. Designing, implementing and maintaining an end-to-end carbon management information system that aligns with overall business objectives is critical to the success of such programs.

We can help your organization meet the requirements of CRC via our special framework (see Figure 7).

We can also support you and your organization in the following ways:

- All components of CRC data preparation and submission.
- Identifying opportunities and developing business cases for prioritizing energy reduction initiatives.
- Developing and implementing an AMI and energy efficiency strategy.
- Providing end-user training on energy awareness and the implications of CRC.

We have developed a number of energy efficiency specific offerings, such as iTrackTM and ProgSoft, and we can help you assess your readiness for the CRC scheme, analyze its potential financial and reputation impacts under different scenarios, and provide a detailed roadmap on how to reach important business and regulatory goals in the most effective and efficient manner.

## A Framework for Leveraging CRC's Benefits

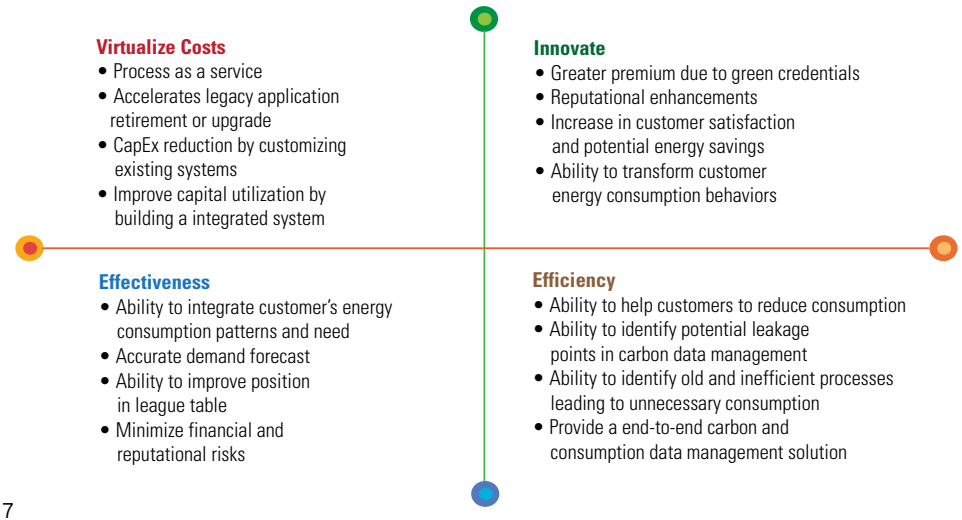


Figure 7

## Footnotes

[1] Version One, a document management software company, conducted research with 86 senior IT professionals (IT directors and managers) across a range of UK public sector and private sector organizations. The research was published August 31, 2010.

## About the Author

*Vinitesh Gaurav is an Associate Consultant in the Energy and Utilities Practice of Cognizant Business Consulting. He has more than four years of consulting and business analysis experience, working with UK and European customers in the energy and utilities, insurance and reinsurance industries. His areas of interest include customer acquisition and retention, smart metering, business energy management and energy services. He has an MBA in systems and marketing and an engineering degree in computer science. Vinitesh can be reached at Vinitesh.Gaurav@cognizant.com.*

## About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services. Cognizant's single-minded passion is to dedicate our global technology and innovation know-how, our industry expertise and worldwide resources to working together with clients to make their businesses stronger. With over 50 global delivery centers and more than 100,000 employees as of as of December 1, 2010, we combine a unique global delivery model infused with a distinct culture of customer satisfaction. A member of the NASDAQ-100 Index and S&P 500 Index, Cognizant is a Forbes Global 2000 company and a member of the Fortune 1000 and is ranked among the top information technology companies in BusinessWeek's Hot Growth and Top 50 Performers listings.

Visit us online at www.cognizant.com for more information.

**World Headquarters**
500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277
Email: inquiry@cognizant.com

**European Headquarters**
Haymarket House
28-29 Haymarket
London SW1Y 4SP UK
Phone: +44 (0) 20 7321 4888
Fax: +44 (0) 20 7321 4890
Email: infouk@cognizant.com

**India Operations Headquarters**
#5/535, Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060
Email: inquiryindia@cognizant.com