



1. Executive Overview

Across the globe and in Singapore, the awareness and support to avert the crisis of global warming has been rising at an increasing rate. Local and multi-national organizations; public sector organizations and Government agencies have been proactive in promoting sustainable practices to mitigate their impact on our environment.

The research, “Singapore Business Federation Green IT Industry Questionnaire 2008” was launched in August 2008 when the global economy was racing ahead at a dizzying pace. Oil prices were at an all time high. Investments in Green IT were one of the key drivers to help reduce energy costs and at the same time allow organizations to do their part to sustain the environment. September 2008 came and the global economic situation changed for the worse.

Recent Gartner and IDC reports have highlighted that the new wave of technologies and processes such as Server and Infrastructure Virtualization; data center outsourcing; thin client computing; tough supplier bench marking and building incentives that reward IT for low energy consumption will feature very prominently in the IT strategic plans for CIOs. This is probably more evident in today’s context as organizations are frantically trying to contain their operational costs in order to survive.

In this respect, the benefits of Green IT can continue to provide organizations with a proven mechanism to contribute to significant and valuable cost savings (though now somewhat less than in the previous situation of peak energy prices) to enable survival of the businesses and eventually the earth.





Every \$300 saved monthly from IT operations is equivalent to the “Job Credit” that the Singapore Government provides per employee. Thus, CIOs can contribute to help save jobs by simply optimizing their IT costs.

In Singapore, the awareness of Green IT is at an infancy stage. This is supported by the research findings that show 54% of those polled indicated that they are unaware of Green IT and its benefits. But there is a tremendous growth potential and business opportunities. This is supported by the research findings that indicated that organizations are willing to be educated about Green IT and its benefits.

The Singapore Government has pro-actively responded on several fronts by providing various programs and schemes to enable organizations to become more energy efficient. This includes the provision of incentives and grants to help organizations to perform energy audits; develop energy efficient design of facilities and its implementations. The awareness level of these programs and incentives must be raised before local organizations can make an informed decision to leverage on them.

Our research findings have also found that organizations are keen on increased government financial assistance including tax-breaks; co-funding of Green IT implementations; subsidized training and awareness programs that will be able to help organizations adopt sustainable energy efficiency practices.

However, the current global difficult economic times might dampen or even reduce the level of awareness of Green IT as organizations in Singapore and across the globe struggle to keep afloat.





2. Objectives of the Research

The objectives of this research were to:

1. Determine Singapore's current interests, adoption and implementation plans in Green IT
2. Determine the potential market value to businesses and industries
3. Derive critical information required to roll-out an effective implementation plan for National Green IT training, adoption & implementation

3. Demographics of Sample Size

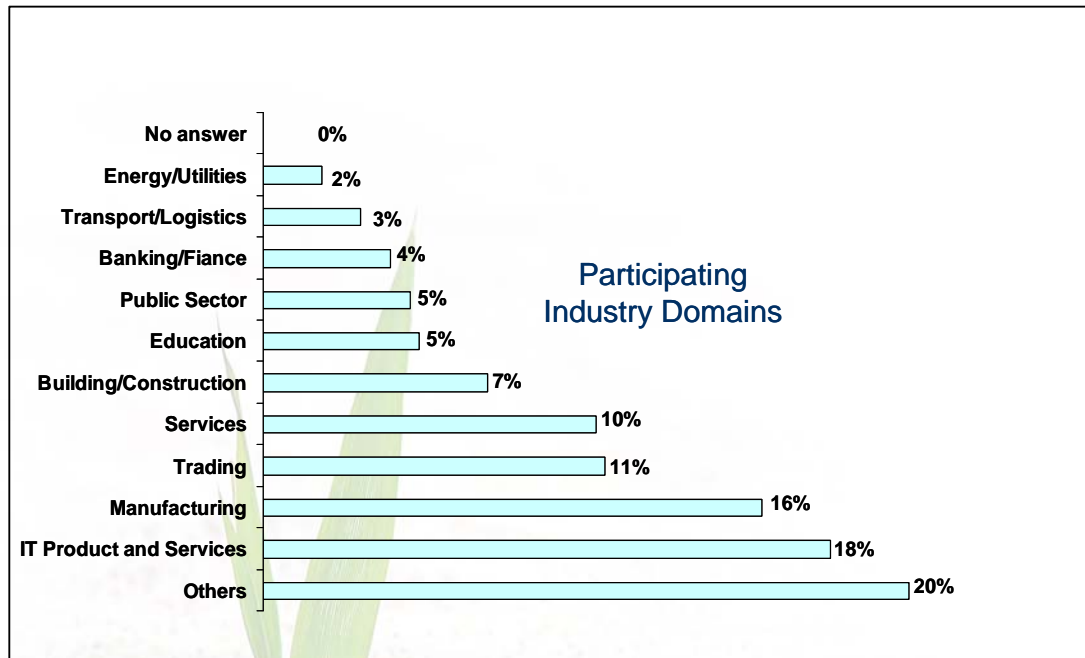
The research was conducted online from the first week of August through the first week of October 2008. An email invitation containing a link to the research was sent to the member organizations from the Singapore Business Federation (SBF) and its affiliates databases.

A total of 327 completed responses of the research was returned. The margin of error was +/- 5.4% with a confidence level of 95%. Some of the percentages may not sum to 100 due to rounding.

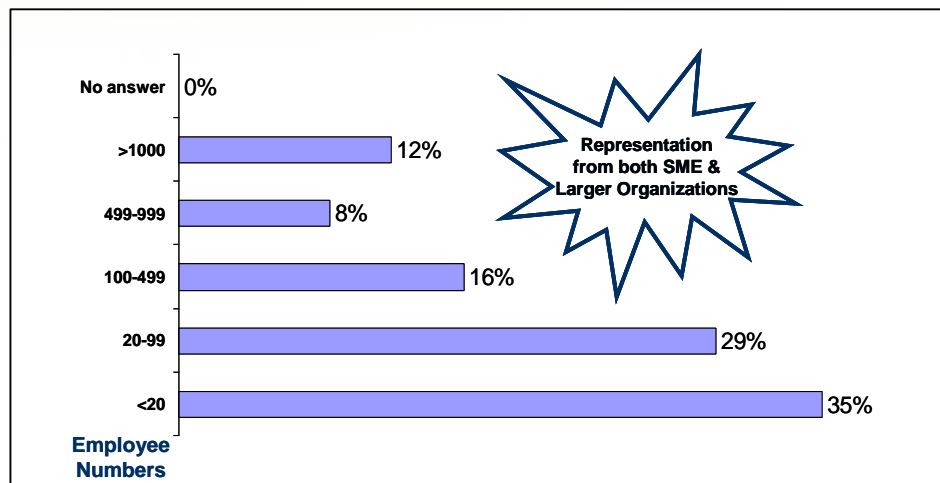


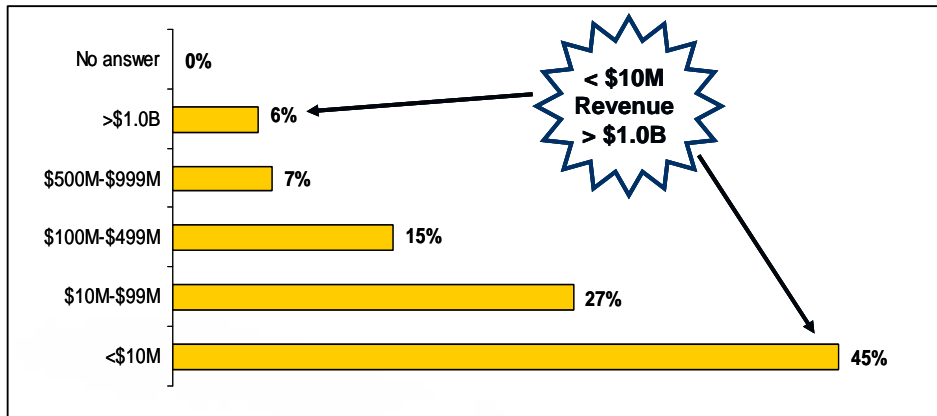


The research obtained responses from a broad range of industries including IT product and Services, Manufacturing, Trading, Services, Building and Construction, Public Sector, Education, Banking / Finance, Transport / Logistics and Energy / Utilities.



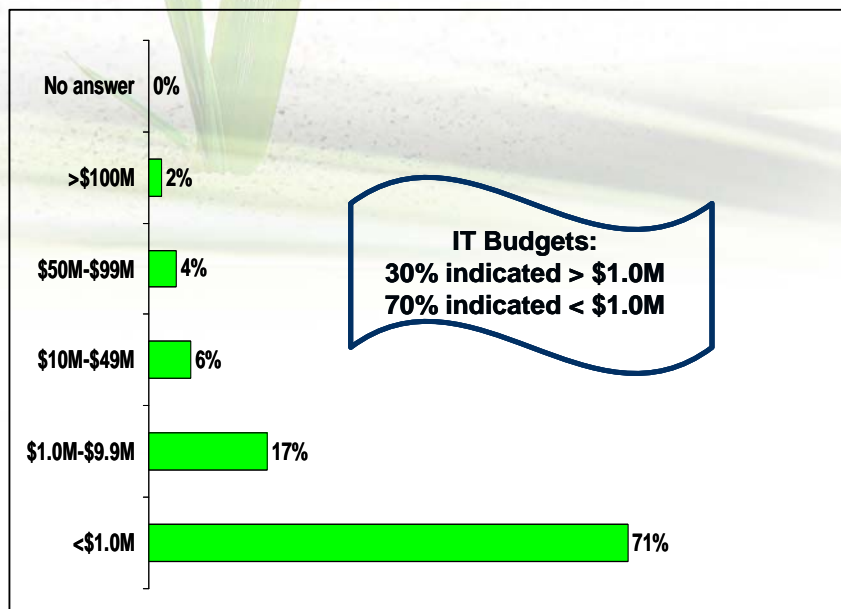
From the perspective of employment numbers, this survey was well represented by both “small medium enterprises” as well as the larger organizations.





From a revenue perspective, the sample was also generally representative of the industries. About 55% indicated that their last published or reported annual revenue was \$10.0M and above while 45% was below.

More 30% of the organizations indicated that their IT budget was greater than \$1.0M while 70% reported of IT budgets of less than \$1.0M. The distribution of IT budgets for the organizations polled are as follow:

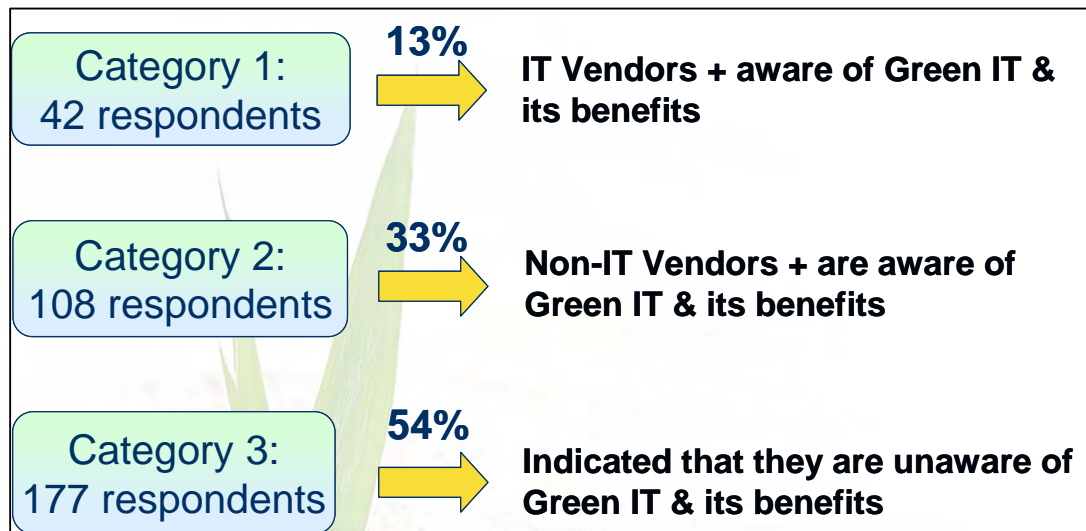




4. Summary of Survey Results

4.1 Green Awareness

Based on their responses, the respondents were categorized into 3 separate categories namely Category 1; Category 2 and Category 3. The descriptions of the categories are described below:



Over 54% of the respondents indicated that they were unaware of Green IT and its benefits. 33% of the respondents were non-IT vendors but were aware of Green IT and its benefits while the remaining 13% were categorized as IT vendors and are aware of Green IT and its benefits.

For Category 1 respondents – IT vendors, when asked to rank what would compel the organizations to embark on Green IT initiatives, an overwhelming majority of 69% ranked “Reducing operational costs” as their number #1 primary business driver. Both “Socially Responsible Thing To Do” and “Compliance Requirements” were ranked as number #2 business drivers.

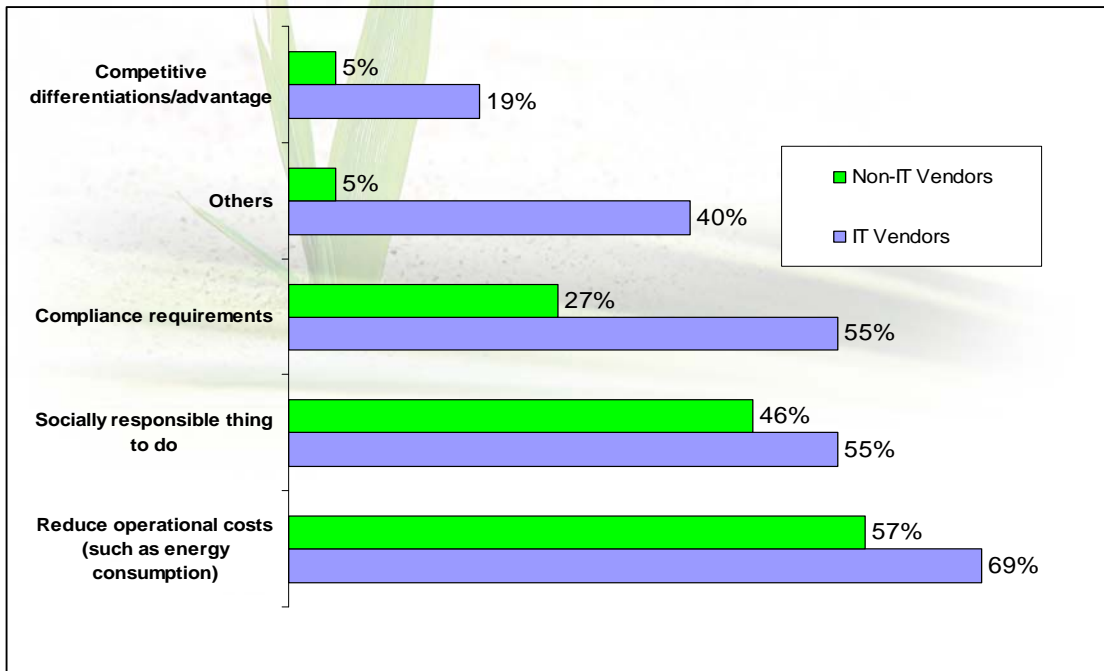




For Category 2 respondents – non-IT vendors responded similarly with “Reducing operational costs” as their number #1 primary business driver. “Socially Responsible Thing To Do” was ranked #2 followed by “Compliance Requirements” ranked as number #3 business driver respectively.

Primary Business Drivers	CAT 1 - IT Vendors		CAT 2 - Non-IT Vendors	
	Percentage	Rank	Percentage	Rank
Reduce operational costs (such as energy consumption)	69%	#1	57%	#1
Socially responsible thing to do	55%	#2	46%	#2
Compliance requirements	55%	#2	27%	#3
Others	40%	#3	5%	#4
Competitive differentiations/advantage	19%	#4	5%	#4

Primary Business Drivers to Embark on Green IT Initiatives



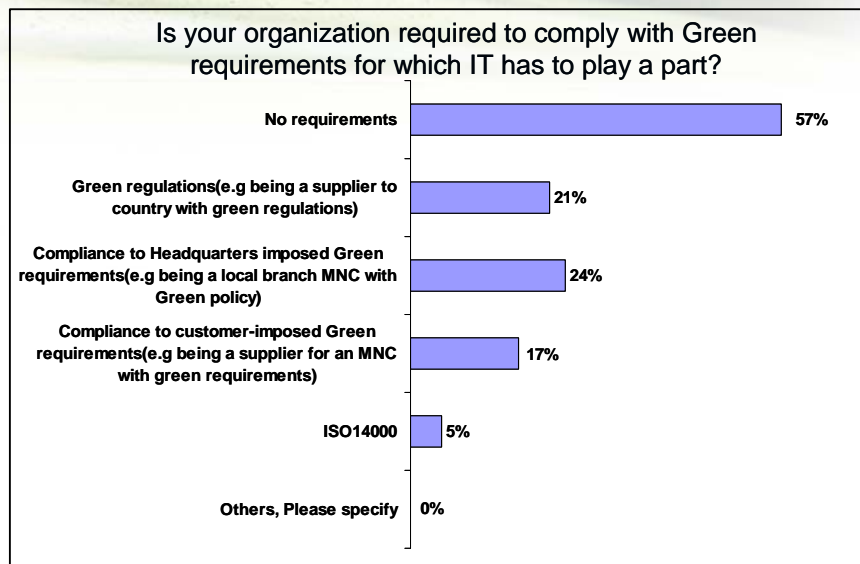


In the area of Green requirements compliance, a majority of 57% of Category 1 respondents – IT vendors indicated that they were not compelled by such requirements in their normal course of their business.

24% of the organization indicated that they have to adhere to “Compliance to Headquarters imposed Green requirements” while 21% of the respondents have to meet certain “Green regulations” as part of their business transactions. 17% indicated that they had to meet “Compliance to customer-imposed Green requirements”.

It can be attributed to the fact that these organizations conduct their businesses in countries that are more advanced in recognizing and leveraging on Green IT and its benefits. These organizations also hold the advantage of being familiar with the processes and procedures of ensuring compliance to Green requirements and regulations when compared to other organizations in Singapore that have yet to experience compliance to Green requirements or regulations.

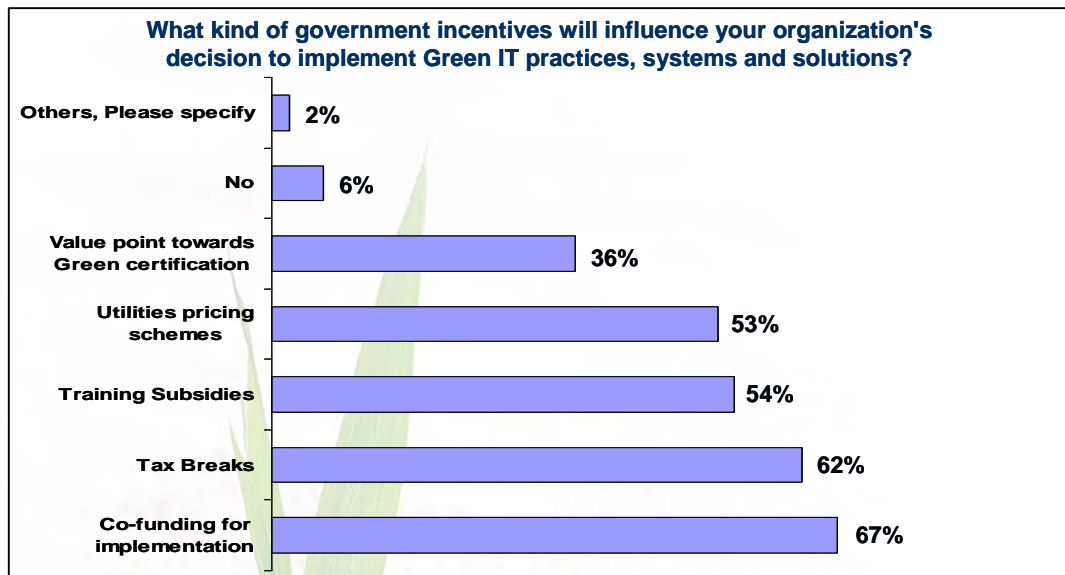
The results of the research provide a clear indication that Green IT is still at an infancy stage in Singapore with potential for growth.





4.2 Green Incentives

The research data shows that the majority of the respondents are looking towards the Singapore Government provide assistance and help in the area of tax breaks and the co-funding of the Green IT implementations.

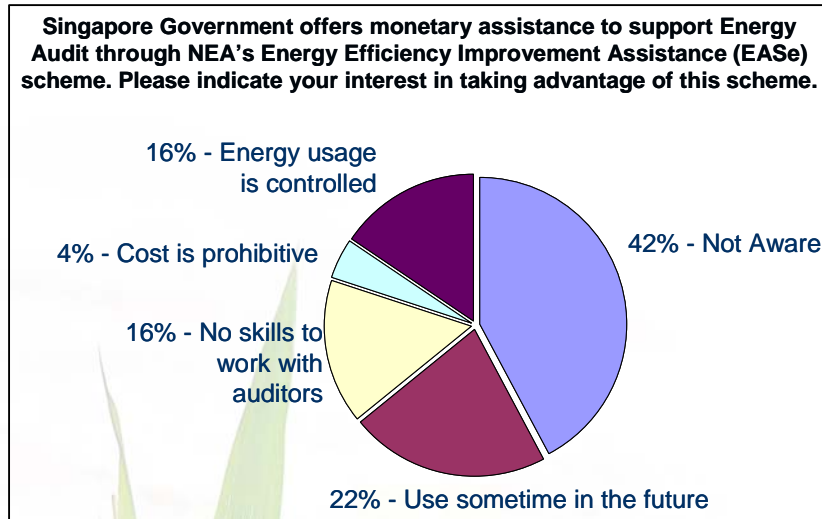


However, the data from the research also show that a majority of the respondents are not familiar with the various government incentives and initiatives they are eligible to leverage on. This is confirmed by the fact that many organizations are not familiar with the various schemes that the Government has implemented.



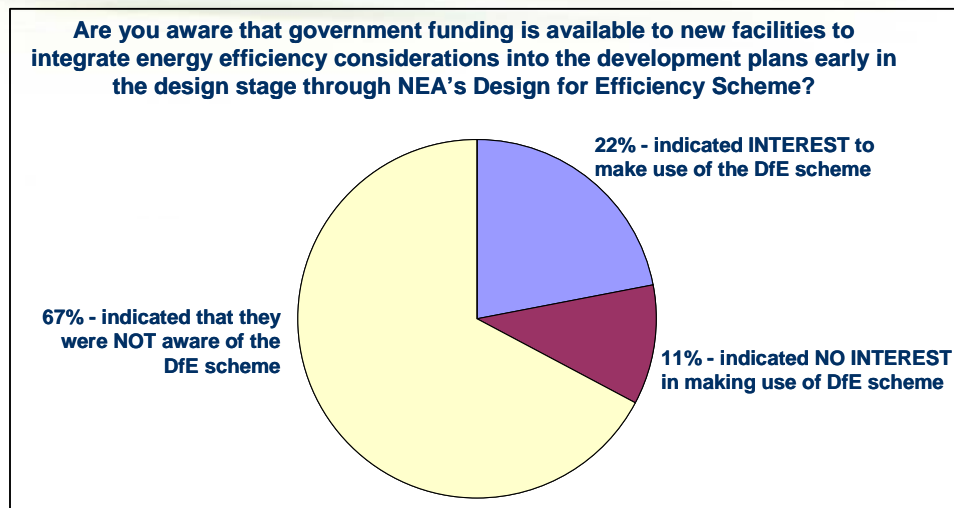


When organizations were asked whether they were interested to leverage on the monetary assistance that the Singapore Government offers to enable “energy audits”, 42% of the organizations indicated that they were not aware of such schemes.



16% of the organizations indicated that they did not possess skills to work with the auditors while 4% indicated that the cost is prohibitive to their organization.

Another 16% of the organizations polled claimed that their energy usage is controlled while 22% indicated that they will make use of this scheme sometime in the future.





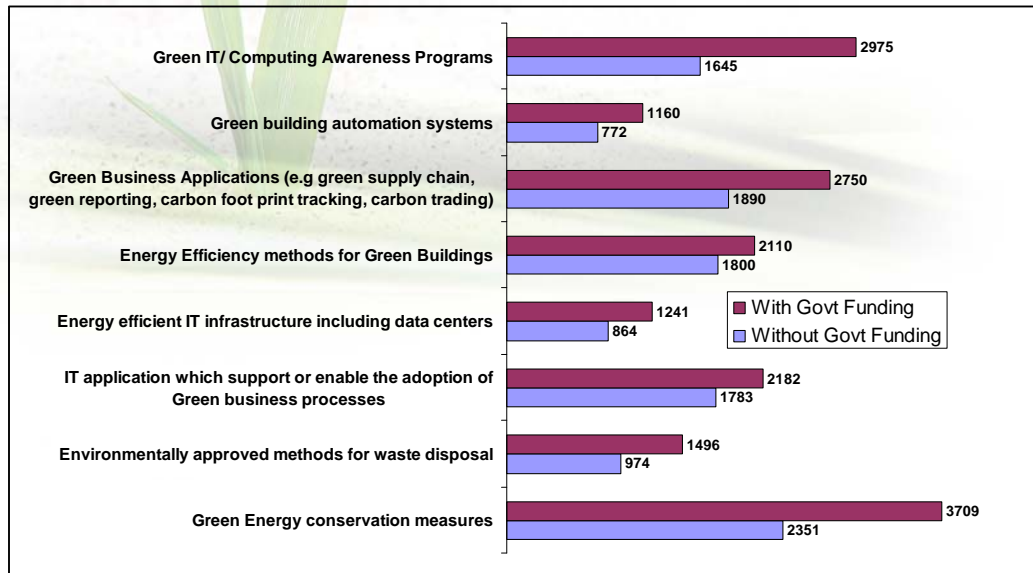
When asked whether they were aware of NEA's Design for Efficiency Scheme (DfE), 67% of those polled indicated that they were also not aware of the DfE scheme.

Another 16% of the organizations polled claimed that their energy usage is controlled while 22% indicated that they will make use of this scheme sometime in the future.

Another 22% indicated interest to make use of the DfE scheme while 11% indicated no interest at all.

In the area of training, a majority of the respondents also clearly indicated that government training incentives can help them to realize the business value of the various aspects of Green IT.

Government Funding + Training



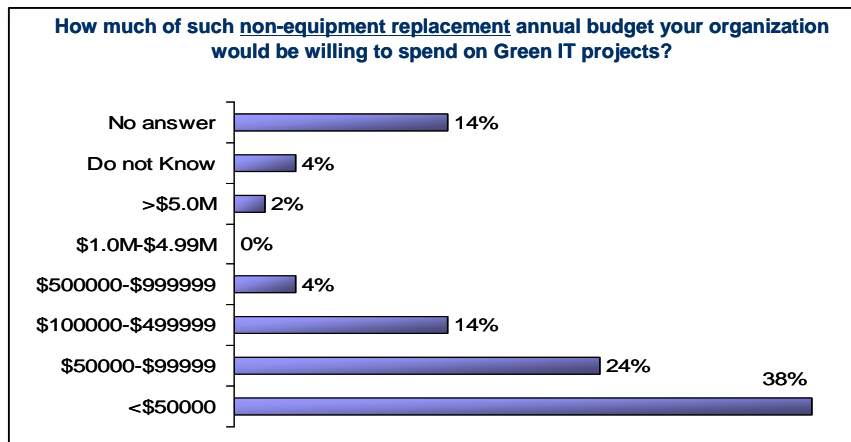
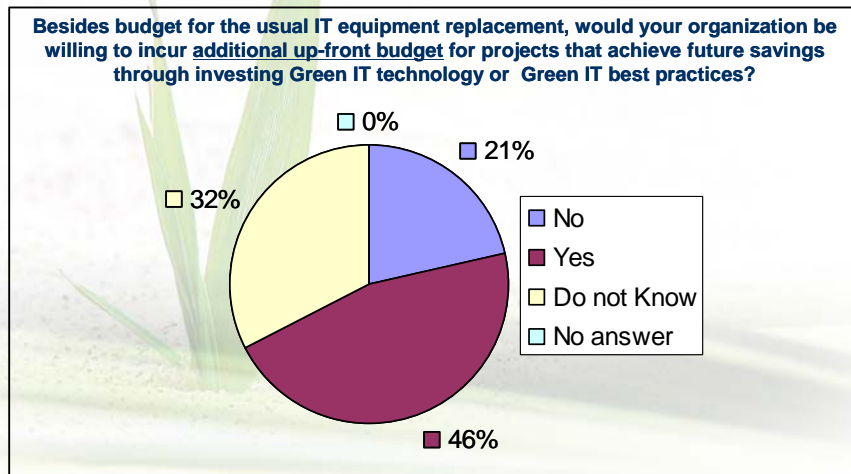


4.3 Potential Green Market Opportunities

The research data clearly shows that there are potential Green market opportunities.

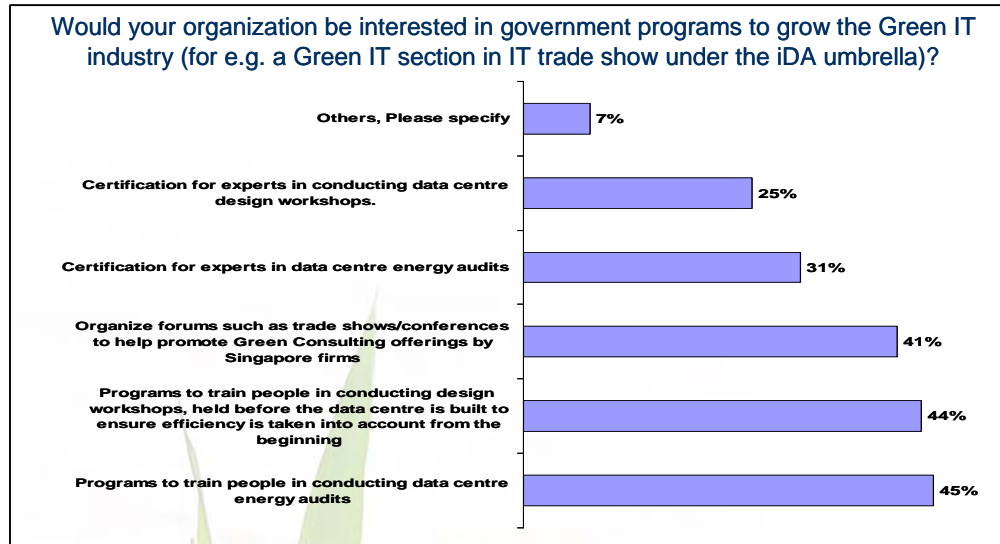
When asked whether their organizations were willing to “Spend Money to Save Money”, 46% indicated that they are willing to spend or incur additional up-front budget for projects that could achieve future savings through investing in Green IT technology or Green IT practices.

The amount of such non equipment annual budget that organizations were willing to spend ranged from less the \$50,000 to greater than \$5.0M.

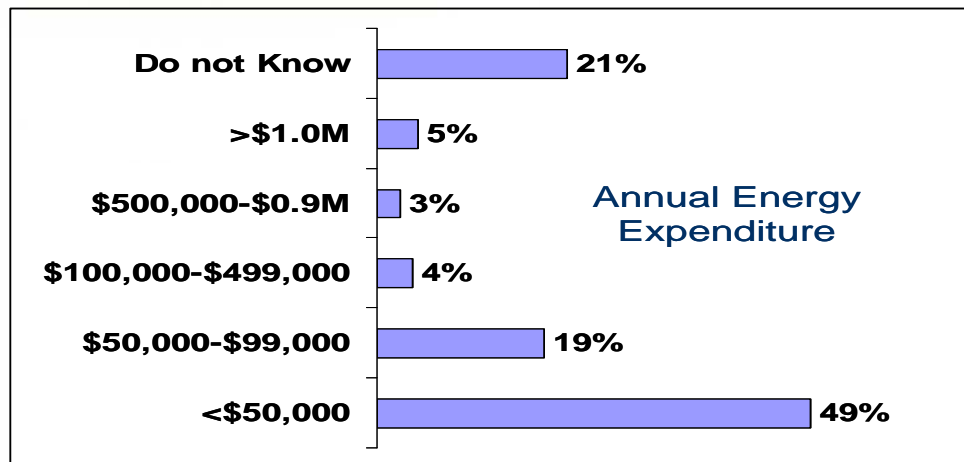




The research data also shows that there is a substantial interest by the organizations polled to participate and grow the Green IT industry.



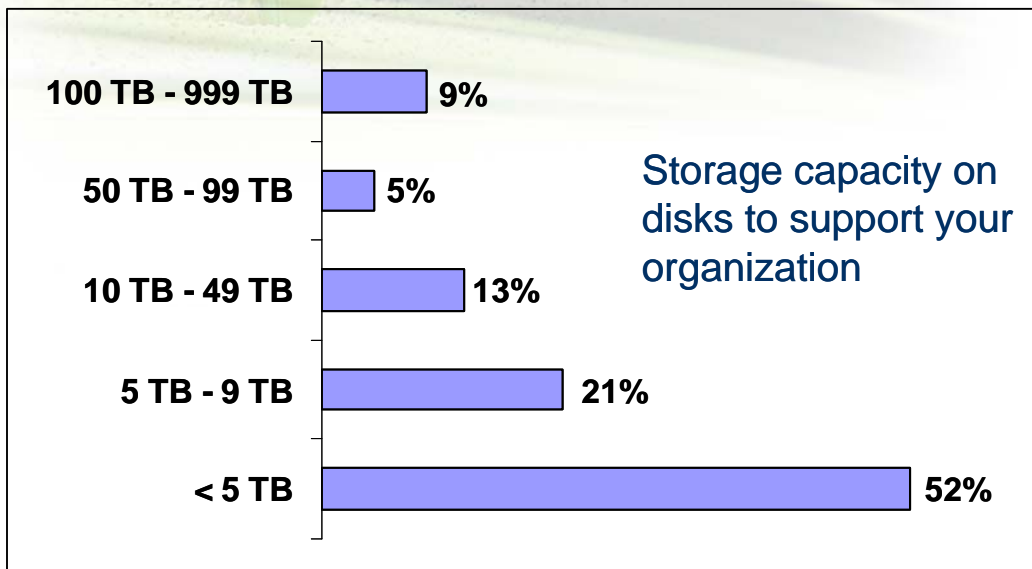
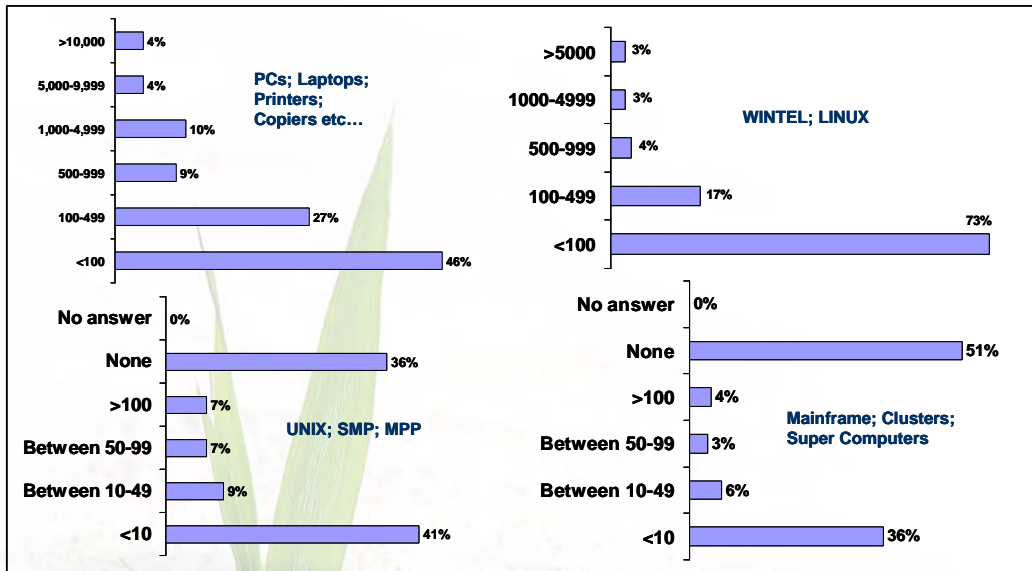
When asked about their annual energy expenditure, about 50% indicated that their annual energy expenditure was less than \$50,000. Over 20% indicated that they did not know what their annual energy expenditure while 5% indicated that their annual energy expenditure was greater than \$1.0M. This category of organizations should be targeted by Green IT vendors and service providers to provide the necessary audit, assistance and best practices to help them reign in or control their energy expenditure.





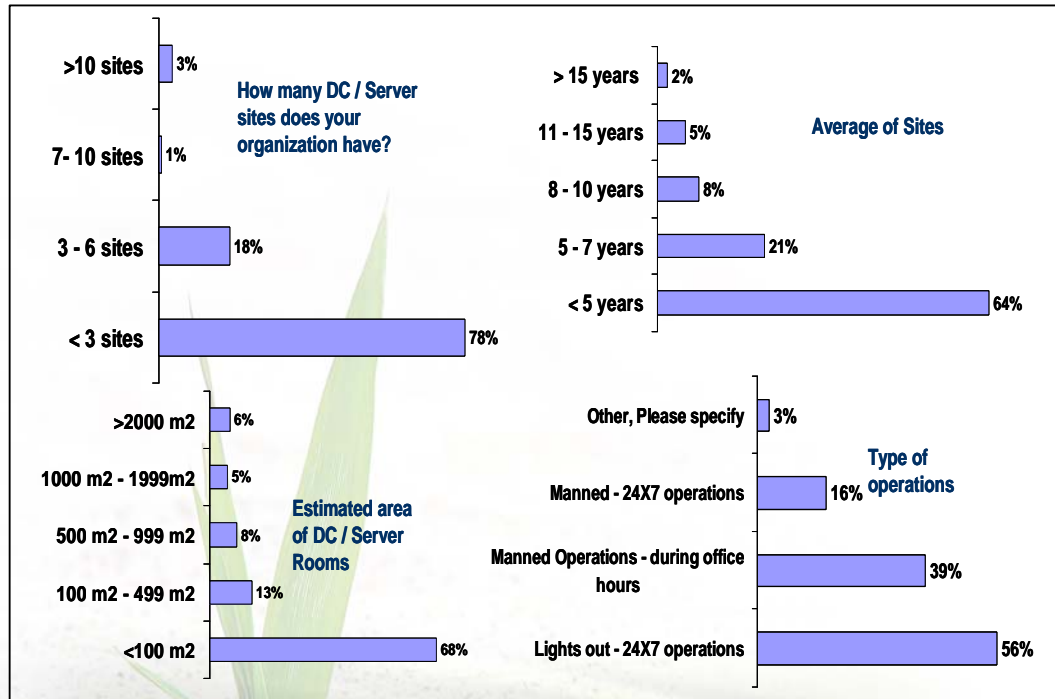
For the purpose of this research, the term “office productivity devices” was used to include personal computers; laptops; copiers; scanners etc.

The organizations were polled on the number and type of “servers” (in terms of “core counts”) that they possessed and their data storage capacities.





The research also requested for information regarding the organization's data centers and server rooms. Specifically, the data clearly shows the potential business opportunities to enable implementation of greener design, technology and best practices to renew these data centers and server rooms.



Traditionally, these IT equipments and devices tend to be the largest energy consumers in an organization through their direct energy usage and the cooling requirements that will result. The research objective is to establish a landscape with indicative areas where Green IT vendors, service providers and Government agencies can target to help organizations reduce energy consumption.





5. Insights and the Next Steps

Currently, there are many green requirements, regulations, standards and bodies that provide fragmented and sometimes overlapping pieces of such standards and or requirements that are supposed to be geared towards sustainable IT practices including ISO; LEED and Green Grid.

When this research was initiated, it was evident that in Singapore there was no central responsibility and ownership to keep track of the developments and implementation of Green IT standards to be part of the overall Singapore Standards.

In August of 2008, the Information Technology Standards Committee under the purview of the Singapore Standards Council directed the formation of a Green IT Technical Committee.

The primary objectives of this technical committee are to:

- Establish Singapore at the fore-front of providing sustainable IT services and solutions by providing a consistent and coordinated approach in the development of Green IT standards across the business computing ecosystem for Singapore.
- Develop the relevant Green IT standards for Singapore
- Create local awareness of Green IT
- Encourage the use of Green IT standards

Members of this technical committee and its working group are volunteers from the industry and Government agencies that will collaborate; adapt and customize the required standards to ensure management and governance of Green IT and sustainable practices for Singapore.

