

# **Green IT Syllabus**

## **Version 2.3**

**November 2009**

## **Entry Criteria**

There are no formal entry requirements for accredited courses, but it is targeted at anyone involved in or interested in Green IT.

It is also aimed at anyone within IT with relevant experience who wants to gain knowledge in this area or understand where their role fits in the wider environment of Green IT.

It is recommended that all candidates attend an approved training course run by an accredited Training Provider.

The purpose of the Foundation Certificate in “Green IT” is to certify that the candidate has gained knowledge of terminology, an understanding of key concepts and has comprehended the best practice principles of “Green IT”.

Upon successful completion of the education and examination components related to this qualification, candidates can expect to have gained knowledge and understanding of the following areas:

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## 1. What is Green IT?: An Overview (4 hrs)\*

1.1. Understand the overall need for an organisation to adopt a Green IT strategy including:

- The principles of climate change
- A brief understanding of climate change science
- The effect of poor and unsustainable working practices
- The effect of hazardous waste use and disposal
- Consumption of precious resources such as oil, gas and water

1.2. Understand the definition of “Green IT”. To cover:

- The key elements involved in Green IT
- Commonly accepted definitions
- The concept and dangers of 'Green Wash'

1.3. Identify and understand an organisation’s external drivers and opportunities for Greening its IT. To cover:

- Political drivers
- Environmental drivers
- Social drivers
- Legal drivers.

1.4. Identify and understand the internal drivers, opportunities and benefits of adopting a Green IT strategy for both an organisation and an IT service provider. To cover:

- Cost
- Operations
- Reputation
- Culture

1.5. Provide an understanding of the historic development and context of the Kyoto Protocol. To cover:

- The Kyoto Protocol – and historic background
- The formation of the International Panel on Climate Change
- The Rio Earth Summit
- The UN Framework Convention on Climate Change

- 1.6. Understand the main goals and objectives of government legislation and voluntary initiatives pertaining to Green IT. International legislation will be examined but an overview will be given of legislation that is pertinent to the candidates local region. To cover:

### **International legislation (Mandatory)**

To include:

- ISO14001
- BSI PAS 2050
- Energy Star
- EPEAT
- WEEE

### **Voluntary initiatives**

Such as:

- PUE/DCiE (From The Green Grid)
- SMART 2020 (From The Climate Group)

### **European/EU legislation (Non-mandatory/will not form part of final exam)**

Such as:

- Restriction of Hazardous Substances (RoHS)
- Eco Design of Energy Using Products (EuP) Directive
- EU Code of Conduct for Data Centre Energy Efficiency
- ECMA (European Computer Manufacture Association)

### **UK legislation (Non-mandatory/will not form part of final exam)**

Such as:

- UK Climate Change Bill
- UK Carbon Reduction Commitment
- Energy Performance of Buildings Directive and UK Regulations
- Batteries and Accumulators Directive

### **US/North American legislation (Non-mandatory/will not form part of final exam)**

Such as:

- American Clean Energy and Securities Acts
- Clean, Low-emissions, Affordable New Transportation Efficiency Act
- US Mayors Climate Protection Agreement
- Other relevant State legislation

### **Australian legislation (Non-mandatory/will not form part of final exam)**

Such as:

- Carbon Pollution Reduction Scheme
- Mandatory Renewable Energy Target
- The Hazardous Waste Act
- Other relevant State legislation

## **2. Internal assessment of your organisation: where are we now? (11hrs)\***

- 2.1. Gain an understanding of how to create an Green IT policy. To cover:
- The role of a Green IT policy
  - The importance of a Green IT policy
  - The importance of aligning the Green IT policy with an organisation's environmental, sustainability and Corporate Social Responsibility policies
  - How to overcome the dangers of 'Green Wash'
- 2.2. Describe how to assess an organisation's business operations; IT use and products/services in terms of their carbon footprint. To cover:
- Definition of carbon footprints: primary and secondary
  - Examples of an organisation's footprint: primary and secondary
  - An understanding of embodied against consumption emissions
  - An understanding of carbon emissions across a product lifecycle including:
    1. Concept & design
    2. Material extraction
    3. Transport
    4. Manufacture
    5. Usage
    6. Disposal
  - Carbon Footprint Calculators
  - Carbon Offsetting and Carbon Neutrality
  - Carbon trading
- 2.3. Understand the contribution that IT is making to those carbon footprints in terms of energy consumption and changing business practices. To cover:
- Data centres
  - Server utilisation
  - Data storage
  - PCs and mobile devices
  - Office applications and equipment
  - Any other key technologies such as Teleworking systems
- 2.4. Describe how to audit an organisation's existing IT functions and processes. To cover:
- Identification of energy and carbon inefficiencies
  - Planning and prioritizing green IT initiatives
  - Establishing a continuous improvement framework such as Continual Service Improvement Model
  - Tools and methods available
  - Roles and responsibilities

- 2.5. Understand the importance and risks issues and opportunities around:
- Printing and recycling
  - Energy efficient computing
  - Mobile and remote working
  - Resource sharing platforms
  - Assessment of environmental and property impacts
  - Virtualisation
  - Power efficiency technology
  - Data Centre rationalisation
  - Out-sourcing opportunities
  - Best Practice frameworks e.g. ITIL
- 2.6. Understand how to implement sustainable IT procurement processes. To cover:
- Supplier selection criteria
  - Working with suppliers
  - Tools and methods available such as Suppliers and Contracts Database
  - The benefits
- 2.7. Understand how best to re-use, recycle and dispose of IT assets. To cover:
- The role of equipment refresh cycles
  - Different approaches to CPU, server and data storage optimisation
  - Different approaches to product disposal
  - Tools and approaches available such as metering and throttling
  - The benefits of re-use, recycle and dispose
- 2.8. Gain a practical understanding of developing a Green IT Action Plan. To cover:
- The scope
  - Timelining and budgeting
  - Roles and responsibilities
  - Tools and methods available such as PRINCE2
  - Monitoring and measurement
  - The benefits
  - Employee engagement and management
  - Stakeholder identification, engagement and management
  - Tools and methods available, such as a Stakeholder Map
- 2.9. Understand the impact of change and risk management within a Green IT Action Plan . To cover:
- Definition of change management
  - Risk analysis and management
  - Tools and methods available such as RACI Matrix and CRAMM

### 3. Improve your organisation's Green IT credentials (3hrs)\*

3.1. Understand how to create and implement a joined-up Green IT strategy. To cover:

- The role of IT in other business units
- The role of IT in product/service delivery
- The role of IT in achieving wider business goals
- The role of IT investment to achieve carbon reductions
- The role of 'Silicon Offsetting'

3.2. Discuss the roles and responsibilities associated with Green IT including

- The Green IT Champion
- Procurement Manager
- Sustainability Officer
- Corporate Social Responsibility (CSR) Manager

3.3. Explain end-to-end lifecycle costing and TCO. To cover:

- New accounting practices, to include Carbon Energy Accounting and 'social' accounting methods such as Triple Bottom Line.
- Definition and calculation of end-to-end lifecycle costs
- Definition and calculation of payback periods
- Definition and calculation of Total Cost of Ownership
- Tools and methods available

**\*Note:** the percentages show the relative weightings for each area of the syllabus. These weightings reflect the approximate percentage of examination questions which will be devoted to this topic.

## Change History

Version 2.3 – Added Format of examination to end of syllabus.

## Format of the Examination

This syllabus has an accompanying examination at which the candidate must achieve a pass score to gain the ISEB Certificate in Green IT.

Type	40 Question Multiple Choice
Duration	1 Hour
Pre-requisites	Accredited training is strongly recommended but is not a pre-requisite
Supervised / Invigilated	Yes
Open Book	No
Pass Mark	26/40
Distinction Mark	None
Delivery	On-line or Paper based examination