

**Implementation Guidelines for the DSCE Directive No. 1, 2015,  
“Energy and Water Audits for Government Entities in Dubai”, issued  
by the Chairman of The Dubai Supreme Council of Energy, His  
Highness Sheikh Ahmed bin Saeed Al Maktoum**

**3 March 2015**



**His Highness Sheikh Mohammed bin Rashid Al Maktoum**

Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai

"We recognize that preserving our energy resources will be one of the greatest challenges in our drive towards sustainable development. This, however, will not materialize unless the different facets of our society adopt energy conservation principles in their core values. The future generations will be the chief beneficiary of our achievements and the best judge of what we accomplish in this field."

Ref. SCE/SG/028/2015

3<sup>rd</sup> March 2015

**Subject: Implementation Guidelines for the DSCE Directive No. 1, 2015, “Energy and Water Audits for Government Entities in Dubai”, issued by the Chairman of The Dubai Supreme Council of Energy, His Highness Sheikh Ahmed bin Saeed Al Maktoum**

After perusal of the Directive No.1, 2015 (the “Directive”) from the Chairman of the Supreme Council of Energy, H.H. Sheikh Ahmed bin Saeed Al Maktoum, we hereby issue the following Implementation Guidelines:

### **1. Definitions**

1. For the purpose of the Directive a Government Entity is defined as any of the Entities listed in Annex 1.
2. Governmental Buildings are all buildings owned by a Government Entity or its subsidiaries. Such buildings may include, for example:
  - Public administration offices.
  - Education: Schools, nurseries, etc.
  - Security: Police stations, civil defence stations, courts, prisons, etc.
  - Health: Polyclinics, hospitals, health centers, etc.
  - Research: universities, research centres, etc.
  - Culture: Theaters, museums, etc.
  - Sports & Recreation: sports centers, stadiums, public pools etc.
  - Infrastructure: water, electricity, etc.
  - Religious: mosques, etc.
  - Public Housing: e. g. for aged people or socially vulnerable groups.
3. An Energy Audit is a description of the electricity and water consumption situation in a building. It usually includes a short description of the building and the building envelope, details of the building’s total electricity and water consumption and costs, as well as recommended technical and organizational measures to increase electricity and water efficiency. There are two general types of energy audits:
  - Walk through energy audit, which includes the description of the building, electricity and water consumption as well as preliminary technical and organisational measures, with estimated potential savings and costs. It is typically performed in 1 – 5 days depending on building complexity and access to data and will not include on-site measurements
  - Detailed Audit, which is a more detailed study of the electricity and water situation of a building. It typically takes 2 to 4 weeks depending on building complexity and access to facility, and includes on-site measurements and performance testing. Electricity and water consumption is broken down into different types of use. Detailed cost calculations for

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proposed efficiency measures form part of this audit type. Detailed Audits in this document are considered to be the first step of a Retrofit project

4. Qualified Auditors are companies or individuals considered eligible to conduct Walk through energy audits, as certified by the DSCE
5. Retrofits are projects involving significant improvements of electricity and water consuming equipment as well as insulation features of the building envelope, with the main objective of producing long term savings in electricity and water consumption
6. A Retrofit Plan is a document indicating a proposed timeline for the implementation of Retrofits, as defined in the template in Annex 2
7. A Progress Report is a document, issued yearly by Government Entities, reporting on progress of the Walk through energy audits (following the template in Annex 3), and including as annexes the detailed audit Reports for the audits conducted over the course of the year which the Progress Report refers to

## **2. Energy Audits**

1. Walk-Through Energy Audits are required for Government Entities, for Governmental Buildings with over 1,000 m2 gross floor areas
2. Governmental Entities shall perform Walk through energy audits according to the following schedule, based on their total annual electricity consumption:
  - More than 150 GWh/year of electricity consumption – to be completed by the end of 2015
  - More than 10 GWh/year of electricity consumption – to be completed by the end of 2016
  - All other government Entities – to be completed by the end of 2017
3. Government Entities shall develop a Retrofit Plan addressing those Governmental Buildings for which estimated potential savings from the Walk through energy audit exceed 20% of electricity and/or water consumption and payback time is shorter than 10 years. The Retrofit Plan shall include a timeline indicating when Retrofits will be implemented for each building. The timeline shall have a maximum span of three years, starting from completion of the audits. The Retrofit Plan will have to be submitted to Dubai Supreme Council of Energy for approval within 3 months of completion of the Walk through energy audits (following the template in Annex 2)
4. All Governmental Buildings that are purchased on the market will require a “Walk-Through Energy Audit” before the purchase is made
5. All Governmental Buildings that are being renovated will require a “Walk-Through Energy Audit” before the renovation is made
6. Walk through energy audits shall be performed by Etihad Energy Services Co, which will procure those services from Qualified Auditors and provide them at cost to Government Entities. The cost charged by Etihad Energy Services Co to Government Entities will include the price paid by Etihad Energy Services Co. for the procurement of Walk through energy audits from Qualified Auditors and an administrative fee, meant to cover Etihad Energy Services Co cost for coordinating execution. The procurement of such services will be subject to the public procurement law (Law No 6 of 1997) and the relevant departments in Government Entities will be involved in the evaluation of the bids from Qualified Auditors to ensure transparency of the process. It is to be

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noted that Etihad Energy Services Co is owned by DEWA and is considered a government-related entity.

7. All costs incurred by Government Entities in the execution of the Directive (concerning procurement of Walk through energy audits, development of a Retrofit Plan and associated reporting), must be funded by the concerned Government Entity
8. Financing for investments incurred by Government Entities for Retrofits, may be facilitated by Etihad Energy Services Co through third party financial institutions, and will ultimately be covered by the electricity and water savings deriving from the retrofits
9. Government Entities shall report to DSCE about implementation of the Directive. Such reporting shall consist of a Progress Report, as defined in Annex 3, including detailed results of the Walk through energy audits (Walk through Energy Audit Reports). Such reporting shall be issued in January every year until 2022 or until completion of both the Walk through energy audits and any Retrofit projects resulting from the Retrofit Plan, if such completion extends beyond 2021
10. Government Entities are requested to nominate an Executive (Focal Point) for the execution of the Directive. The Focal Point will ensure internal alignment and coordination within the concerned Government Entity and will represent the main point of contact for the DSCE and Etihad Energy Services Co regarding execution of the Directive. The name of the Focal Point shall be communicated to the Dubai Supreme Council of Energy within 4 weeks from the communication of the Implementation Guidelines of the Directive

### **3. Exemptions from mandatory energy audits**

1. Government Entities have the right to ask for exemption from the Directive for particular buildings considered as “critical” infrastructure for security of the Emirate of Dubai. Requests must be submitted to DSCE in written form and will have to be handled within one month of their receipt. DSCE reserves the right to approve or reject requests for exemptions
2. Governmental Buildings with less than 1,000 m<sup>2</sup> of gross floor area are exempted from the Directive. Government Entities are, nevertheless, required to include those buildings in the Retrofit Plan and Progress Report, in order to allow comprehensive tracking of the initiative

### **4. Type of equipment to be considered in the walk through energy audits**

1. All types of equipment with electricity and water consumption have to be considered in energy audits as well as the building envelope elements (e.g., windows, walls, roofs, etc.). Walk through energy audits may focus on equipment with high electricity and water consumption. In the following Retrofit all electricity and water consuming equipment is to be considered as well as the building envelope
2. Typical equipment includes chillers, air conditioners, water heaters, lighting, pumps, motors, fans, air handling units, building insulation, water fixtures, and other electrical equipment

### **5. Required information and data in the walk through energy audit reports**

1. The following information is required as a minimum for each building subject to Walk through energy audits, until such time as other audit standards or guidelines for the Emirate of Dubai are published by RSB:
  - Governmental Building (name of organisation, address, responsible person, contact details)
  - Owner of the building (name of organisation, address, responsible person, contact details)
  - User of the building (name of organisation, address, responsible person, contact details)

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- Organisation(s) responsible for facility management, maintenance & operation (name of organisation, address, responsible person, contact details)
- Organisation responsible for settling the electricity and water bill (name, address, responsible person, contact details)
- Year of construction
- Total gross floor area (in m<sup>2</sup>)
- Estimated number of occupants/users
- Classification of building according to use (e.g., office, hospital, school, etc.)
- Total electricity consumption (in kWh/year and in AED/year) and water consumption (in IG/year and in AED/year) for the most recent complete year
- Results of survey and data analysis
- Proposed electricity and water saving measures (short description of the measures) and expected savings in kWh/year, and IG/year
- Calculation of current and expected avoided tCO<sub>2</sub>/year
- Estimated savings in electricity and water cost (AED/year), estimated investments required for retrofit measures and payback time

### **6. Required information and data in the progress report**

1. The following information is required as a minimum in the Progress Report, for every Governmental Building (see Annex 3)
  - Building name and address
  - Building type/usage
  - Gross floor area (m<sup>2</sup>)
  - Total electricity consumption in 2013, 2014 (kWh/year) and following years
  - Total water consumption in 2013, 2014 (IG/year) and following years
  - Walk through energy audit performed (Y/N)
  - Date of completion of Walk through energy audit
  - Estimated electricity saving potential (kWh/year)
  - Estimated water saving potential (IG/year)
  - Planned date for retrofit
  - If a retrofit was conducted, actual savings (kWh/year, IG/year)
  - Annexes: Walk through energy audit Reports, for the Walk through energy audits conducted over the year which the Progress Report refers to.

### **7. Institutional support to energy audits**

1. Etihad Energy Services Co shall assist Government Entities in initiating implementation of the Directive, by supporting the initial planning (e.g., identification of the buildings in scope, planning procurement of auditing services)
2. Etihad Energy Services Co shall assist Government Entities in procuring and executing Walk through energy audits through preselected Qualified Auditors
3. Etihad Energy Services Co shall assist Government Entities in finding an appropriate organisation for the execution of the Retrofits by drafting the RFP, organizing the public tendering, supporting

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the negotiation and selection process as needed. Etihad Energy Services Co will facilitate the financing for the Retrofit projects if the Government Entity elects to avail of this service

4. The Regulatory & Supervisory Bureau maintains a register of companies (ESCOs) accredited to execute Retrofits
5. DSCE ensures supervision of implementation of the Directive, monitors overall progress and results and supports Government Entities by dealing with any major raised exceptions/issues (e.g., requests for exemptions). This may involve, as needed, direct contacts and meetings with Government Entities to discuss progress and issues
6. DSCE provides communication to Government Entities related to the Directive (e.g., by organizing an initial workshop and reporting annually on consolidated results of implementation of the Directive) and provides points of contact to Government Entities to ensure full clarity of the requirements of the Directive
7. DSCE maintains a register of Qualified Auditors for the execution of Walk through energy audits
8. DSCE ensures co-ordination with other stakeholders for the successful implementation of the Directive, e.g. Etihad Energy Services Co, RSB, etc.

### **8. Data processing at DSCE**

1. All data provided by Government Entities will be kept confidential in DSCE and will be provided upon request by DSCE to Etihad Energy Services Co for reasons strictly connected to coordination in the execution of the Directive
2. DSCE may use the data provided by Government Entities for benchmarks and studies. In case results of those studies are published, publication will not permit any conclusions about any single entity
3. By using the reported results from the energy audits, DSCE may build up for general use a building register of Dubai government necessary for the retrofit programme

### **9. Communication related to the directive (to be specified)**

1. Communication related to submission of the retrofit plan, yearly progress reporting, and inquiries related to implementation of the Directive should be addressed to Dubai Supreme Council of Energy, Demand Side Management (email DSMaudits@dubaisce.gov.ae)
2. Communication related to implementation of energy audits (procurement and execution of Walk through energy audits) should be addressed to Etihad Energy Services Co, Chief Executive Officer (email audits@etihadesco.com)

### **10. Enforcement of the directive**

1. The Directive is effective from 1st March 2015

### **11. Implementation roadmap to be followed by each government entity**

1. Government Entities to communicate to DSCE the Focal Point manager within 4 weeks from the communication of Implementation Guidelines
2. Etihad Energy Services Co to contact the Focal Point manager to initiate the process for the planning and execution of Walk through energy audits
3. Etihad Energy Services Co to execute Walk through energy audits (with support from the Government Entities, according to the timeline and requirements in Paragraph 3 and 4) and to produce the associated Walk through energy audit Reports

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4. Government Entities to produce and submit to DSCE the Retrofit Plan within three months after completion of the Walk through energy audits (Etihad Energy Services Co will be available to support the preparation of the Retrofit Plan)
5. Government Entities to start the yearly reporting to DSCE from January 2016

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Ahmad Buti Al Muhairbi

Secretary General, Supreme Council of Energy

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**Annex 1: List of Government Entities**

Al Meydan  
Awqaf and Minors Affairs Foundation  
Community Development Authority  
Department of Economic Development  
Department of Finance  
Department of Tourism and Commerce Marketing  
DP World  
Dubai Airport Free Zone Authority  
Dubai Airports  
Dubai Aluminum  
Dubai Chamber  
Dubai Civil Aviation Authority  
Dubai Civil Defence  
Dubai Corporation for Ambulance Services  
Dubai Courts  
Dubai Culture  
Dubai Customs  
Dubai Economic Council  
Dubai Electricity and Water Authority  
Dubai Export Development Corporation  
Dubai Government Human Resources Department  
Dubai Government Workshop  
Dubai Health Authority  
Dubai Healthcare City  
Dubai Industrial City  
Dubai International Financial Center  
Dubai Investment Park  
Dubai Judicial Institute  
Dubai Maritime City Authority  
Dubai Media Incorporated  
Dubai Municipality  
Dubai Petroleum Establishment  
Dubai Police  
Dubai Public Prosecution  
Dubai Smart Department  
Dubai Sports Council  
Dubai Statistics Center  
Dubai Supreme Council of Energy  
Dubai Trade  
Dubai Women's Establishment  
Dusup  
Emirates Institution For Advanced Science & Technology  
ENOC  
Federal Electricity and Water Authority

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Financial Audit Department  
General Directorate of Residency & Foreigners Affairs  
Hamdan Bin Mohammed Smart University  
Hamdan Bin Rashid Al Maktoum Award for Distinguished Academic Performance  
Higher Technology College  
Islamic Affairs and Charitable Activities  
JAFZA  
Knowledge and Human Development Authority  
Land Department  
Mohammed Bin Rashid Housing Establishment  
Mohammed Bin Rashid School of Government  
Nedaa- Professional Communication Corporation  
Protocol Department of Dubai  
Roads and Transport Authority  
Sheikh Hamdan bin Rashid Al Maktoum Award for Medical Sciences  
The Executive Council of Dubai  
The Government of Dubai Legal Affairs Department

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**Annex 2: Template for the Retrofit Plan (to be submitted to DSCE for approval)**

Building identifier (e.g., building number) <sup>1</sup>	Building address	Building type/ usage	Gross floor area (square meters)	Total electricity consumption of the building (kWh/year)				Total water consumption of the building (IG/year)				Walk through energy audit conducted (Y/N)	Year of completion of Walk through energy audit	Estimated electricity saving potential (kWh/year)	Estimated water saving potential (IG/year)	Planned year for Retrofit	Estimated investment for Retrofit (AED)
				2013	2014	2015 <sup>2</sup>	2016 <sup>3</sup>	2013	2014	2015 <sup>2</sup>	2016 <sup>3</sup>						

<sup>1</sup> The table must list all buildings owned by the Government Organization

<sup>2</sup> Needed from those entities who complete the walk through energy audits in 2016

<sup>3</sup> Needed from those entities who complete the walk through energy audits in 2017

