



## Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

# Estidama Program

Region	Middle East and North Africa
Award Scheme	Guangzhou Award
Start Year	2014
Sustainable Development Goals	Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

## Summary

In one of the world's most rapidly growing cities, a new government-mandated program – Estidama (Arabic for “sustainable”) - aims at making all new buildings in UAE more environmentally responsible and sustainable. The program targets reducing energy usage by 31 percent, water usage by 37 percent, and diverting 65 percent of construction waste from landfill. There will be a mandatory audit procedure for each project.

## Background and Objective

The Emirate of Abu Dhabi has created a vision through its "Plan 2030" urban structure framework. It establishes sustainability principles as the foundation of any new development and is a reflection of the values and ideals of the nation. Estidama is a holistic framework that enables the implementation of these sustainability principles to all scales of development and promotes a new mindset for building a forward thinking global city. Estidama is the symbol of inspired governance and community improvement.

## Actions and Implementation

The ultimate goal of Estidama is to preserve and enrich Abu Dhabi's physical and cultural identity, while improving the lives of its residents on the four equal pillars of sustainability: environment, economy, society, and culture. It touches all aspects of life in Abu Dhabi - the way we build, the way we use our resources, the way we live, the choices we make - all in an effort to attain a sustainable state of living. By working closely with all stakeholders, Estidama has already improved the mind-set and implementation practices of the construction industry and will continually develop to encourage improvement for all of society.

## Outcomes and Impacts

In the past four years, Estidama has evolved from a vision to an accepted sustainability framework. The Pearl Rating System (PRS) provides regulatory guidance on design, construction and operational performance, meanwhile sustainability principals are also embedded in new planning documents through Estidama's continual improvement and participation in policy development. Estidama buildings have been designed to reduce energy by 31 percent and use 37 percent less water. More impressively, 65 percent of construction waste has been diverted from landfill. There are also unquantifiable impacts such as improved health of buildings and quality of life for residents, due to mandatory reduction of unhealthy materials and the encouragement of passive design measures. These and many other improvements occur at all scales from single homes to whole communities through the PRS for villas, buildings and communities. As Estidama becomes more recognized, it is also being implemented in other Emirates and countries in the region including Bahrain and the Seychelles.

## Innovative Initiative

A unique and innovative feature of Estidama is the Construction Audit Protocol, a mandatory element of the PRS. To ensure technical compliance with original design intent during the construction, audits are carried out at five key stages: •Site set-up and substructure •Superstructure and building envelope •Internal fit-out and services •Commissioning & documentation •Final site visit & sign off The technical features of sustainable buildings are increasingly complex and the design and construction process requires verification of systems to ensure the design intent is realized during the operation of buildings. On-site audits of the construction process reduce defects and liability issues and removes instances of non-compliance. This in turn improves the efficiency of the construction process and reduces maintenance and operational costs. The Pearl Operational Rating System (PORS) is another unique element to Estidama and the PRS. It is widely understood that resource use during a buildings operation far outweighs that during the design and construction phases. The continual efficient operation of building systems is critical to ensuring the original design intent is realized, making the resource savings calculated during design empirical numbers, and not just theoretical. The PORS set out policies and procedures for building owners and operators.



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Guidance is also provided for facilities management teams and building users to undertake tasks on a regular basis throughout the lifetime of the building. These include continual monitoring of building performance through mandatory operational maintenance protocols and procedures for remedial works. All building performance data is supplied to Estidama for monitoring purposes and is fed back into the application of the design tools to ensure continual optimization of the design, construction and operation processes.