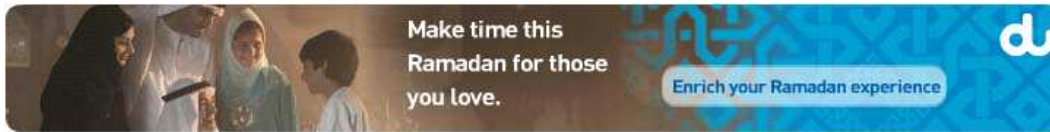


The National



New green quality of capital city life

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Abu Dhabi's new mandatory green building code will change the feel of neighbourhoods, not just the design of the houses in them, architects say.

The Estidama Pearl Rating System is expected to reduce total emissions of greenhouse gases over the next 15 years by more than 35 per cent.

It will require that new buildings absorb less heat and provide more shade to pedestrians, and have landscaping that requires less water.

The 560-page code published by the Urban Planning Council (UPC), which created the system, offers a range of strategies for better sustainability and a more enriching urban experience in new villas and towers.

"A lot of Estidama is about common-sense design," said Sinclair Hutcheson, the director of the Abu Dhabi office for the architectural company Aedas. "The important thing now is about planning a building more from the start. Sustainability is about design as much as it is about systems and materials."

Mr Hutcheson pointed to techniques such as positioning a building so it absorbed less heat at the hottest part of the day.

Many of the techniques used in the Middle East before energy was abundant are relevant, such as having windows set back into buildings and more concrete in the facade.

By planning appropriately, the cost increase for reaching one pearl in the rating system could be negligible. The UPC estimates it will cost between 2 and 3 per cent more to reach one pearl, while the extremely efficient five-pearl rating would cost about 12 per cent more.



The capital's new green building code covers the entire construction life. **Rich-Joseph Facun / The National**



Steve Merridew, an environmental design associate at Building Development Partnership in London, said simple strategies could be found in historic architecture.

"From day one, the concept of a building needs to take into account the prospective energy and water use," Mr Merridew said. "That could mean going back to more traditional forms of architecture.

"People in the Middle East have been dealing with these issues for thousands of years."

The UPC's approach to urban design melds traditional aspects such as the Egyptian mashrabiya – a type of projecting window enclosed with carved latticework – with modern equipment that reduces the flow of water and enhances energy efficiency. The UPC is also hoping to reduce water waste by focusing on landscaping around buildings.

John Madden, a senior planning manager at the UPC, said developers would need to install more modern irrigation systems with moisture sensors. "We want to see more use of drought-resistant plants," Mr Madden said, adding developers could also opt for so-called hardscapes and rockscapes that are "more contextual to this climate and use a lot less water than grass".

The UPC is also regulating public lighting to minimise light pollution and reduce energy consumption.

For pedestrians, Estidama also requires more shading and better walkways near buildings.

"Beyond reducing the carbon footprint, it's about fostering community and transforming the built environment," Mr Madden said.

A crucial distinction in the Estidama system from similar codes in North America and Europe is its oversight for the entire life of

the building. In North America, the Leadership in Energy and Environmental Design standard is only a one-time certification.

Saood al Junaibi, the director of development review and urban design, said certification of Estidama standards would be part of Abu Dhabi Municipality's permit registration process. "It's integrated," Mr al Junaibi said. "This should not add much on to the time it takes to get a building started."

Mr Hutcheson said Abu Dhabi's code could be used elsewhere in the region but it was more likely that different countries would develop their own standards. There are already about 30 different systems in the world for regulating efficiency in buildings.

"A place like Vietnam would have its own set of issues," he said. "Different climates and natural resources require different measures for sustainability."

The next step for the UPC is to come up with a new set of guidelines for retrofitting older buildings so they can reach the one-pearl standard.

Water desalination, which Mr Madden said accounted for 64 per cent of the country's energy consumption, would also have to be looked at.

"We're in the early stages right now but we want to identify what will make the biggest impact on these issues without making it prohibitively expensive," he said. "Part of this is identifying what incentives we will need to offer to encourage these changes."

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