CLIMATE CHANGE LEGISLATION IN

THE UNITED ARAB EMIRATES

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A Review of Climate Change Legislation in 99 Countries

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United Arab Emirates (UAE)

Legislative Process

The United Arab Emirates was established in 1971 as a federation of seven emirates - Dubai, Abu Dhabi, Ajman, Fujairah, Ras Al Khaimah, Sharjah and Umm Al Quwain. They are governed by a Federal Constitution, which was made permanent in 1996.

The Federal Government structure comprises five bodies: the Federal Supreme Council, President, Council of Ministers, Federal National Council and Federal Judiciary.

The Federal Supreme Council (FSC), composed of the rulers of the seven emirates, is the highest legislative, executive, and constitutional authority in the land – it elects the President and the Vice-President, approves nomination of the Prime Minister, and ratifies federal laws and decrees. The Federal National Council serves in an advisory capacity.

The President has a wide range of legislative and executive powers, including signing laws, decrees and decisions approved and sanctioned by the Supreme Council, supervising their implementation through the Council of Ministers, and ratifying treaties and international agreements approved by the Supreme Council and Council of Ministers. The ruler of each emirate also has extensive, near-sovereign regulatory powers within the emirate.

Approach to Climate Change

The UAE acceded to the Kyoto Protocol in 2005 as a non-annex 1 member, and was the only Gulf Co-operation Council[1] country to associate with the Copenhagen Accord in 2010. It was the first country to ratify the Doha Amendment in 2013, defining the second Commitment Period of the Kyoto Protocol. Domestic GHG mitigation is principally addressed through energy efficiency and supply diversification measures, many of which are captured in the UAE's Third National Communication to the UNFCCC, submitted in 2013.

In responding to climate change, the government focused on decarbonisation of its energy/water and building sectors, as well as extensive aid and investment for renewable energy in fellow developing countries. It has additionally become a key advocate of greater ambition in the context of the UNFCCC. Government-funded programmes and projects are generally the vehicles for climate change response, rather than specific legislation.

At the federal level, the UAE is developing two key frameworks for climate change mitigation: the Green Growth Strategy and the Federal Energy Policy. The former seeks to decouple economic growth from GHG and other environmental impacts through policies and targets across seven key sectors. Led by the Ministry of Environment and Water, the Prime Minister's Office, and the Ministry of Foreign Affairs' Directorate of Energy and Climate Change, it was submitted to the Cabinet in mid-2014, and is currently awaiting approval.

The Federal Energy Policy seeks to co-ordinate emirate-level planning and investment on the future energy mix. Helmed by the Ministry of Energy, the policy development process was launched in 2014, and GHG emissions will be a criterion.

Given the institutional set-up of the UAE, emirate-level frameworks are the primary drivers for mitigations, particularly in Abu Dhabi and Dubai, where population and economic activity are

[1] United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar and Kuwait

highest. In Abu Dhabi, mitigation programmes are guided variously by the Executive Affairs Authority, Abu Dhabi Water and Electricity Authority, Environment Agency Abu Dhabi, Urban Planning Council, Regulation and Service Bureau, and Municipality.

In Dubai, sustainability policy is set by the Supreme Council of Energy, a policymaking body comprised of the emirate's largest energy producers and consumers, which has set a regional benchmark with its co-ordinated clean energy initiative under the Dubai Integrated Energy Strategy. It has also formed the Dubai Carbon Centre for Excellence to provide thought leadership on mitigation.

For adaptation, the Ministry of Environment and Water leads on adaptation measures federally, with Environment Agency Abu Dhabi notably involved on the emirate-level. UAE climate impact studies show an extensive risk of coastal inundation, severe water supply shortages and biodiversity reduction.

The UAE has partnered with two world-class technical universities to bring low-carbon energy and sustainability education to the UAE and the region, establishing the Masdar Institute in Abu Dhabi in partnership with Massachusetts Institute of Technology, as well as the Middle Eastern campus of the L'École Polytechnique Fédérale de Lausanne. Masdar Institute is the foremost producer of clean technology intellectual property in the region.

The UAE has also begun reforming school curriculums to improve science training, including around climate change. UAE government entities have also launched public awareness campaigns to encourage energy and water efficiency. Emirate Wildlife Society's "Heroes of the UAE" and Environment Agency Abu Dhabi's Sustainable Schools programme are notable examples.

Energy Supply

Diversification into renewable and nuclear energy, as well as improvements in fossil fuel supply, are the UAE's main mitigation activity. Abu Dhabi and Dubai established the first renewable energy target in the region, calling for 7% generation capacity by 2020 and 5% consumption by 2030, respectively.

Masdar in 2013 brought online the first 100MW of capacity in the Shams 1 project, at the time the world's largest concentrated solar plant. Dubai in 2013 also commissioned the first 13MW of an eventual 1,000MW of solar power at the Sheikh Mohammed bin Rashid Al Maktoum Solar Park, and tendered an additional 100MW in mid-2014. Additionally, a 100MW waste-to-energy plant is planned in Abu Dhabi by Taqa, and a 53MW waste-to-energy plant has been tendered in 2014 by Bee'ah in Sharjah. Small landfill gas recovery projects are operational in Dubai and Ras Al Khaimah, and Masdar and Environment Agency Abu Dhabi are piloting solar-powered desalination to address the emirate's large gas expenditure to supply water.

On the nuclear side, Abu Dhabi's 5.6GW will eliminate nearly 20% of the national power sector's carbon footprint. The USD40bn project is under construction and expected to be completed by 2020.

The UAE is also decarbonising traditional fuel supplies. The UAE was the first country in the region to ban gas flaring. In 2013, a contract was signed for the region's first commercial-scale carbon capture and storage project, one of the few proceeding globally. A partnership between Masdar and ADNOC, the project will re-inject 800,000 tonnes of industrial carbon emissions annually.

Since 2013, the UAE has allocated over USD500m in grants and soft loans for solar PV and wind projects in fellow developing countries, ranging from Morocco to the Seychelles to Samoa. UAE development assistance is untied, and projects are typically managed by the Abu Dhabi Fund for

Development, Masdar, and the UAE Ministry of Foreign Affairs, Directorate of Energy and Climate Change.

The UAE is also a major commercial investor in renewable energy globally through its sovereign wealth funds and state-backed companies. Masdar has brought online the London Array (the world's largest offshore wind farm) and Gemsolar in Spain (a solar plant with advanced storage technology), and is a partner in the forthcoming 117MW Tafila wind farm in Jordan and the 420MW Dudgeon offshore wind farm in the UK. Masdar Capital has invested USD540m of venture capital in next-generation clean energy technologies. Outside Masdar, the UAE's Taqa and IPIC have growing renewable energy holdings, such as wind farms in the US and Eastern Europe and hydro in India and Brazil.

Through the Ministry of Foreign Affairs, the UAE is also the host and key financial supporter of IRENA, the principal global platform for renewable energy co-operation, with 170 member countries. IRENA is the first major intergovernmental organisation to be headquartered in the Middle East, and also serves as the renewable energy hub of the UN Sustainable Energy for All initiative, seeking to double the global share of renewable energy by 2030.

Energy demand

The UAE's flagship sustainability project, bringing together renewable energy and energy efficiency, is Masdar City, which provides a blueprint for decarbonisation of cities through passive design features, mixed-use zoning, solar power, smart grid features, and electric vehicles, among other technological and design innovations.

The Emirates Standardisation and Metrology Authority has enacted federal performance standards for a growing number of appliances. Air-conditioners were targeted first as cooling can constitute up to 60% of demand, with the new standards eliminating the lowest performing 20% of units in the market.

Reduction of energy demand has focused on the building sector. In 2010 Abu Dhabi enacted Estidama, the first mandatory building performance standards and rating system in the region, administered by the Urban Planning Council. Applied to all new buildings and public landscaping in the emirate, its minimum compliance level yields savings of over 30% on water and energy consumption. Abu Dhabi Municipality has issued specifications for public lighting, with estimated energy savings of 67% and carbon savings toward 80% compared to business as usual.

In Dubai, the Supreme Council of Energy has set a target of reducing energy consumption by 30% by 2030, to be realised through a series of government interventions. In 2011, tariff reform, the most extensive in the region, set cost-reflective prices, and in April 2014, green building codes have become mandatory. In 2013 Dubai established the first policy framework for ESCOs (energy service companies) and began a retrofitting programme targeting 2,000 buildings per year.

Transportation

The UAE has invested significantly in public transportation networks to address the transport sector's carbon footprint. Federally, a freight rail network, crossing all seven emirates and integrated into the GCC network, is planned to be in place by 2017. Investment is expected to total roughly USD11bn.

In 2009 Dubai opened a multi-billion dollar light-rail/metro system and continues to construct new lines. Today, ridership exceeds 145,000 passengers a day. In late 2014, Dubai will also open 'Dubai Tram', a 14.5km tram project. In Abu Dhabi, the city bus network has expanded its scope and ridership rapidly. In addition, Abu Dhabi's taxi fleets are being diversified to include natural gas – almost 25% of the emirate's fleet now runs on natural gas.

Both Etihad and Emirates airlines have committed to achieving the International Air Transport Association target of reducing the aviation industry's net CO2 emissions 50% by 2050 compared to 2005. Etihad, Boeing, Takreer, Total, and Masdar Institute have additionally launched a bio-jet fuel pilot programme.

Adaptation

Owing to the extremely low rainfall (<120mm/yr) and the increasing scarcity and salinity of groundwater resources, almost all water supplied into the distribution system is produced through gas-fired cogeneration power and desalination plants, with attendant repercussions for water security, cost, and carbon emissions. The UAE government has consequently set water efficiency as a leading priority.

In 2011, the Abu Dhabi government phased out subsidies for certain livestock feed crops that consume 60% of water used for agriculture and up to 33% of total water consumption. Pilot programmes have been running for several years to confirm climatically appropriate alternatives, and a training and subsidy programme for crop transition is in place.

Water efficiency standards are also inscribed in the new mandatory building codes, including Estidama. Mandatory and government-funded free installation of water-saving devices in homes, offices, and public buildings in Abu Dhabi is estimated to cut up to 20% of non-agricultural water consumption. Additionally, softscapes in building projects will be limited to 30% of surface area, and all plants must meet salinity and drought-resistance standards issued in 2011.

Recycled water will also be increasingly utilised under new policy approaches. Currently, 60% of treated waste water in Abu Dhabi is reused, but a new pipe network will enable 100% utilisation.
The Dubai Integrated Energy Strategy 2030 has similarly set targets for use of efficient water dispensers in households, irrigation, and commercial buildings to reduce water demand. Re-use of grey water is being assessed to reduce reliance on desalinated water.

UAE: Legislative Portfolio

Name of law	**UAE Energy Efficiency Standardization and Labelling Scheme**
Date	April 2013
Summary	The regulation introduces a mandatory efficiency labelling and star rating to domestic appliances. Air conditioners were the first to enter the labelling scheme; washing machines followed after legislation in April 2013. The legislation should soon include cooling and refrigeration products, lights, water heaters, motors and water pumps.

Name of law	**Federal Law No. 6 Regarding the Peaceful Uses of Nuclear Energy**
Date	2009
Summary	The law establishes the independent Federal Authority of Nuclear Regulation (FANR) to oversee the country's nuclear energy sector, and appoints the regulator's board. All regulated activities are prohibited except in accordance with a licence issued by FANR: • nuclear facilities; and • regulated material (radioactive material / radiation generators) The licensees' responsibilities are defined in this manner: "Each Licensee shall be responsible for taking all steps necessary to reduce the risk of an accident to a level that is as low as reasonably achievable."

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