

Policies for Energy Efficiency & GHG Abatement in Buildings: Gulf Region Perspective

Dr. Ahmed Al-Hazmi
GM, Environmental Affairs

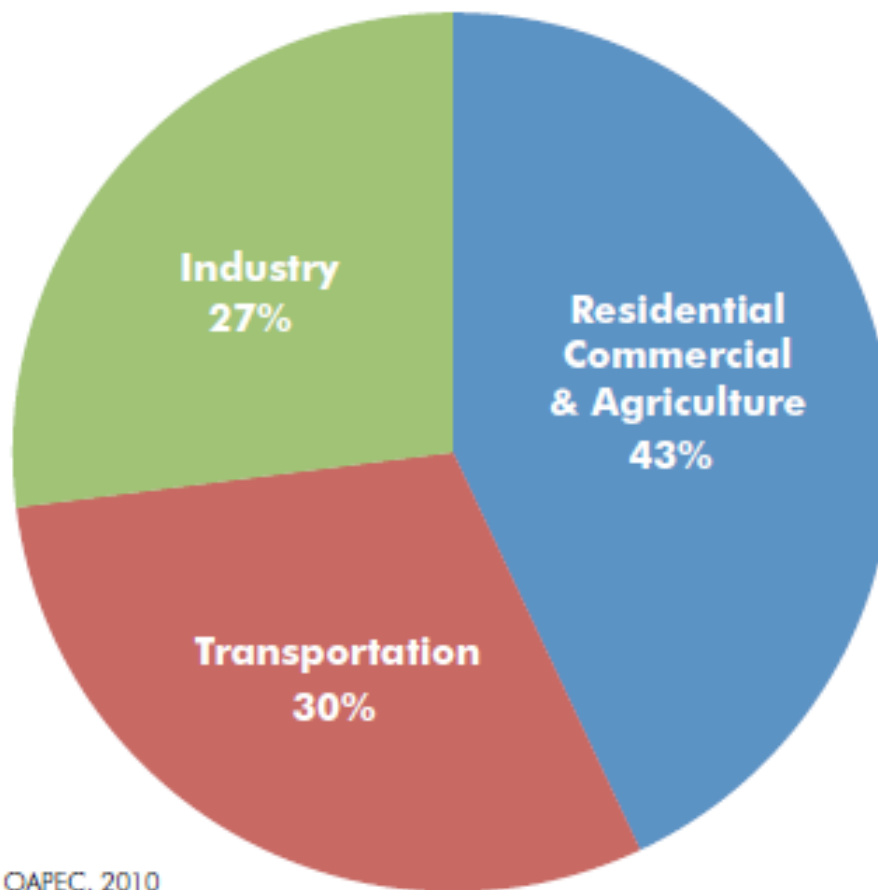
ENERGY CONSUMPTION, MILLION TONS OF OIL EQUIVALENT

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
						(a)	(a)	(a)	(b)	(b)	(b)	(c)	(c)	(c)
Country														
Bahrain	8.6	8.9	9.3	9.6	9.8	10.7	11.4	12.0	12.7	13.2	13.8	14.3	14.9	15.4
Kuwait	21.6	20.9	21.0	22.8	23.9	27.5	26.9	28.1	29.8	30.5	31.7	33.0	34.3	35.6
Oman	8.6	8.7	9.1	9.0	9.6	12.3	14.1	14.5	15.3	16.1	17.1	18.1	19.2	20.3
Qatar	14.6	11.3	11.9	13.2	15.9	19.7	21.1	23.5	26.4	29.2	35.2	41.4	45.3	48.9
Saudi Arabia	114.6	121.3	127.1	133.9	144.2	153.2	160.1	169.0	179.1	187.8	198.0	208.8	220.5	233.0
UAE	42.5	43.1	46.8	47.7	50.3	52.4	55.9	60.5	66.3	67.0	70.1	73.7	77.8	82.2
GCC Total	210.4	214.3	225.3	236.1	253.8	275.8	289.6	307.6	329.6	343.9	365.8	389.3	412.0	435.4

(a) actual (b) estimate (c) forecast

Source: Economist Intelligence Unit

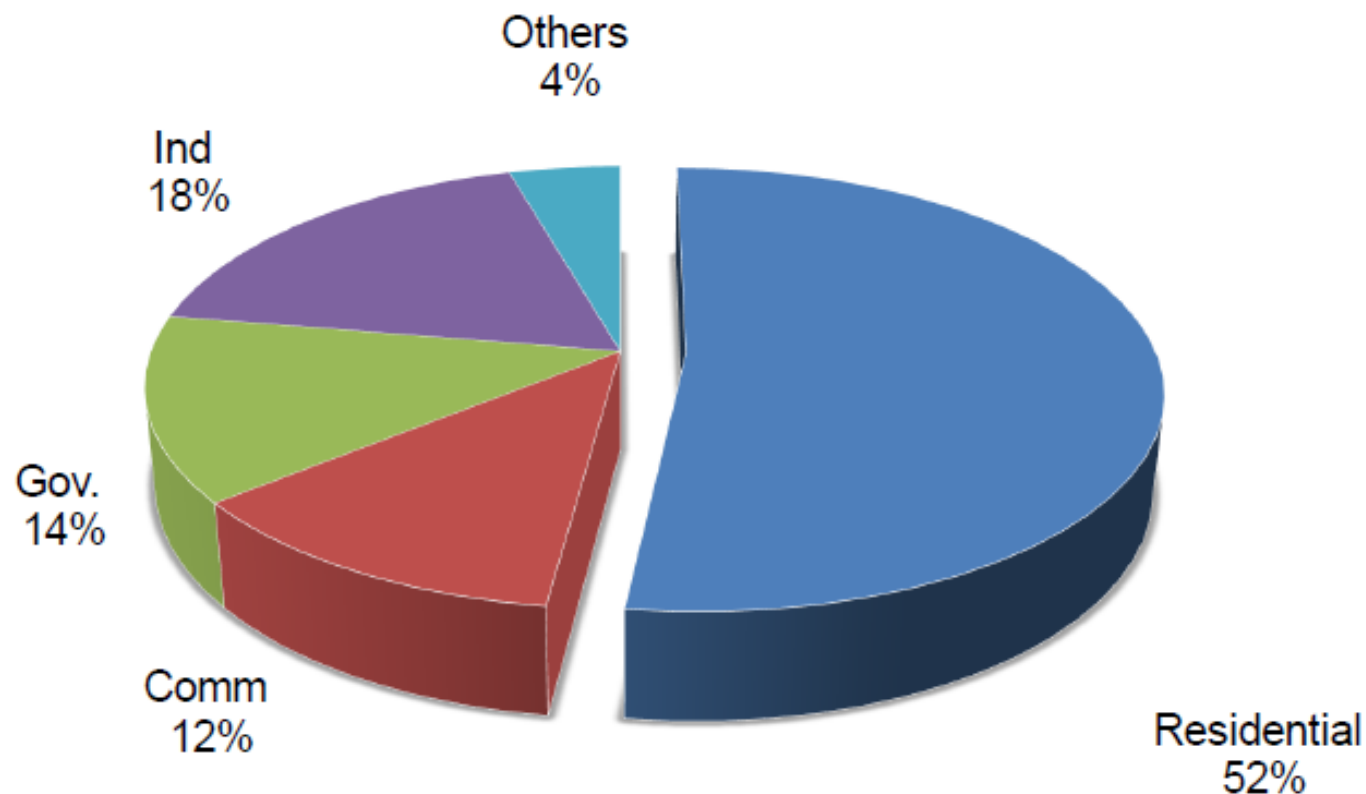
ENERGY CONSUMPTION IN ARAB WORLD



Source: O.APEC, 2010

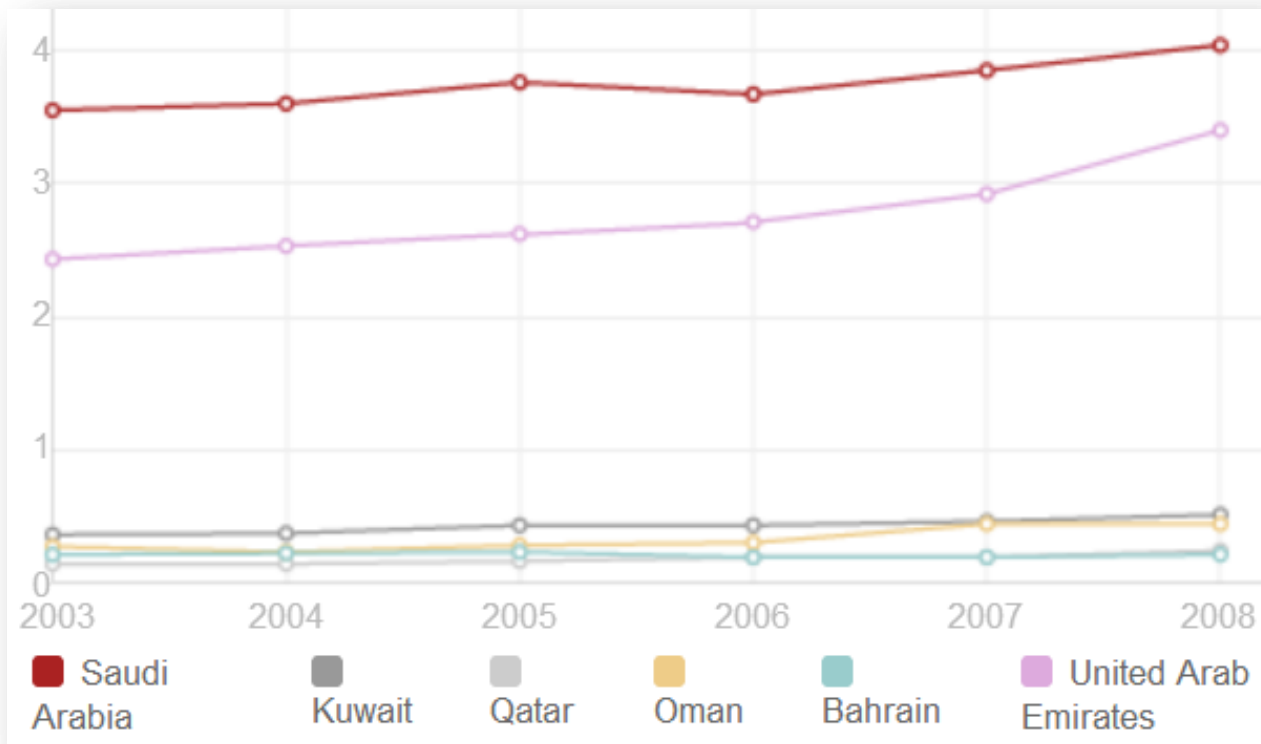
Source: O.APEC 2010

BUILDING ENERGY CONSUMPTION IN KSA



Source: Electricity & Cogeneration Regulatory Authority, KSA

BUILDING CARBON EMISSIONS IN REGION (MILLION MT)



Population: KSA 28ml; UAE 8ml

Source: World Bank

GCC RESPONSE

1. Regional Policy
2. Local Policies
3. Green Building Councils
4. Market-based Policies

REGIONAL POLICY

Arab Ministerial Declaration on Climate Change by CAMRE

is a Basis for action in region

Mitigation shall focus on (among other measures):

- *efficiency of energy use in all sectors*
- *encouragement of more efficient products*
- *carbon trading and its markets*

LOCAL POLICIES

	2020 Renewable Targets in GW	Large scale projects	Solar Potential	Wind Potential
Bahrain	0.25	Bahrain World Trade Centre	Excellent	Moderate
Oman	1.25 (10% renewables)		Excellent	Moderate
Qatar	1	Energy City	Excellent	Moderate
Kuwait	2.7 (10% renewables)		Excellent	Moderate
KSA	17 (10% renewables)	KAUST (in general, \$100 billion committed in the next 10 years for development of solar and nuclear energy)	Excellent	Limited
UAE – Abu Dhabi	1.63 (7% renewables by 2030)	Masdar (in general, \$25 billion invested in renewables)	Excellent	Limited

Source: Reiche D., Deloitte, Frost & Sullivan

GREEN BUILDING COUNCILS IN GCC



- > 1000 LEED professionals
- > 1,347 LEED Registered Projects
- > 25 LEED Certified Projects



Qatar



UAE



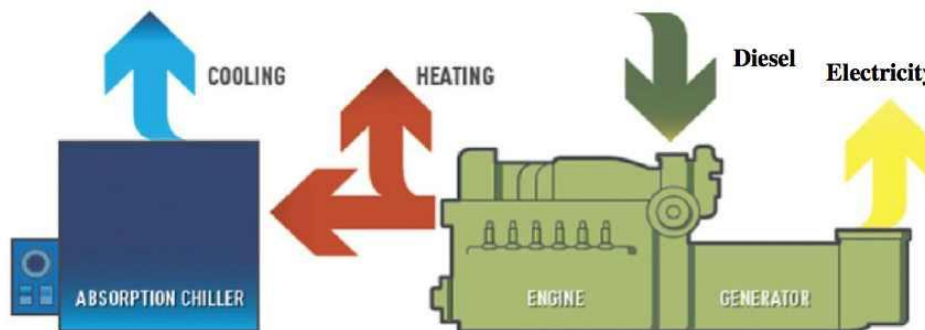
KSA



MARKET-BASED POLICIES

CDM / PoA

- 9 PoA projects are currently under validation in GCC
- 4 in KSA
- Advanced Energy Solutions for Buildings:
Installation of a Tri-Generation system supplying energy to the building in Jeddah



SABIC'S CONTRIBUTION

- Engaged in sustainability activities throughout our history
- Enhancing public awareness
- Member of **Saudi Energy Efficiency Centre (SEEC)**
 - Set up in November 2010 with aim to enhance energy conservation and efficiency programs in KSA and unify all organizations
 - Supervised by KACST
 - Procedures and systems for program execution
 - Standard setting (lighting, appliances etc.)
 - Energy Audit, Database, Public Awareness
 - Investment support, Training

