

توقعات الطلب القصوى على الكهرباء (ميجاوات)

Electricity Peak Demand Forecast (Gross MW)

ADWEC Winter 2009/2010 Electricity Peak Demand Forecast													
Gross Demand (including losses & auxiliaries)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Abu Dhabi Region	3,511	3,953	4,539	5,080	5,471	6,613	7,999	9,256	9,949	10,616	11,187	11,847	12,662
Al Ain Region	1,538	1,653	1,798	1,965	2,131	2,218	2,335	2,422	2,532	2,638	2,745	2,855	2,963
Western Region	634	685	937	1,534	2,170	3,077	3,224	3,875	3,993	4,103	4,213	4,350	4,608
Sub-total Undiversified	5,683	6,291	7,274	8,579	9,772	11,908	13,557	15,552	16,474	17,358	18,144	19,052	20,234
Diversity Factor	98.82%	99.44%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	0.984996	98.50%	98.50%
Emirate of Abu Dhabi	5,616	6,255	7,165	8,450	9,626	11,730	13,354	15,319	16,227	17,098	17871.4	18,766	19,930
Pre-Diversity Factor Sector Totals (including losses)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2,018.00	2019	2020
ADNOC	92	131	328	785	1,320	1,922	1,979	2,540	2,615	2,624	2,629	2,661	2,802
Industry	93	255	409	854	1,276	1,811	2,521	2,869	3,240	3,573	3,802	4,107	4,583
Non-Mega Projects	4,734	5,010	5,449	5,560	5,277	5,377	5,429	5,491	5,581	5,661	5,742	5,818	5,911
Residential / Commercial Mega Projects (including Workers Camps)	75	131	293	574	958	1,661	2,407	3,344	3,693	4,053	4,421	4,815	5,172
Net Demand	4,994	5,527	6,480	7,772	8,831	10,772	12,336	14,245	15,128	15,911	16,594	17,401	18,468
Auxiliaries (Emirate of Abu Dhabi)	689	764	794	807	941	1,136	1,221	1,307	1,346	1,447	1,549	1,651	1,766
Sub-total Undiversified	5,683	6,291	7,274	8,579	9,772	11,908	13,557	15,552	16,474	17,358	18,144	19,052	20,234
Northern Emirates Supply (including auxiliaries, losses & pumping etc)	994	1,415	1,824	2,622	3,595	3,733	3,881	4,038	4,038	4,038	4,038	4,038	4,038
Global Demand (including Diversity Factor)	6,620	7,680	8,988	11,072	13,167	15,406	17,176	19,296	20,204	21,075	21,848	22,743	23,907
ADWEC Supplies to the Northern Emirates	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
FE(C)	0	0	100	300	450	450	450	450	450	450	450	450	450
FEWA	670	830	1,000	1,300	2,066	2,201	2,346	2,500	2,500	2,500	2,500	2,500	2,500
DEWA	0	35	0	0	0	0	0	0	0	0	0	0	0
SEWA	184	410	480	680	680	680	680	680	680	680	680	680	680
Total Northern Emirates Exports (Excluding Auxiliaries, Transmission Losses & Pumping)	854	1,275	1,580	2,280	3,196	3,331	3,476	3,630	3,630	3,630	3,630	3,630	3,630
Total Northern Emirates Transmission Losses 2%	0	0	32	46	64	67	70	73	73	73	72.6	73	73
Total Northern Emirates Supplies + Transmission Losses	854	1,275	1,612	2,326	3,260	3,398	3,546	3,703	3,703	3,703	3702.6	3,703	3,703
Total Northern Emirates Auxiliaries & Pumping	140	140	212	296	335	335	335	335	335	335	335	335	335
Total Northern Emirates Supply (Including Auxiliaries & Pumping)	994	1,415	1,824	2,622	3,595	3,733	3,881	4,038	4,038	4,038	4037.6	4,038	4,038
Abu Dhabi Emirate + Northern Emirates Supplies (Undiversified)	6,620	7,706	9,097	11,200	13,367	15,641	17,438	19,590	20,512	21,396	22181.24	23,090	24,271
Diversity Factor*	100.00%	100.00%	100.00%	100.00%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	0.985	98.50%	98.50%
Global Demand (Winter 2009 / 2010 Demand Forecast)	6,620	7,680	8,988	11,072	13,167	15,406	17,176	19,296	20,204	21,075	21848.42	22,743	23,907

* 2010 - 2011 Abu Dhabi Diversified + NE Supply 100% & 2012 - 2030 Undiversified x Abu Dhabi's Diversity Factor

Electricity Peak Demand Forecast (Gross MW) (continued)

ADWEC Winter 2009 / 2010 Electricity Peak Demand Forecast											2009 - 2030 per annum
Gross Demand (including losses & auxiliaries)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Abu Dhabi Region	12,923	13,457	13,987	14,550	15,130	15,692	16,216	16,755	17,282	17,814	7.4%
Al Ain Region	3,020	3,080	3,142	3,208	3,277	3,349	3,425	3,505	3,574	3,646	3.8%
Western Region	4,642	4,682	4,720	4,759	4,798	4,835	4,871	4,902	4,937	4,968	9.9%
Sub-total Undiversified	20,585	21,218	21,850	22,517	23,205	23,876	24,512	25,162	25,792	26,428	
Diversity Factor	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	
Emirate of Abu Dhabi	20,277	20,900	21,522	22,180	22,857	23,518	24,144	24,785	25,405	26,031	7.0%
Pre-Diversity Factor Sector Totals (including losses)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
ADNOC	2,802	2,802	2,802	2,802	2,802	2,802	2,802	2,802	2,802	2,802	
Industry	4,754	4,930	5,089	5,264	5,436	5,574	5,687	5,795	5,872	5,930	
Non-Mega Projects	5,963	6,017	6,076	6,138	6,203	6,272	6,342	6,417	6,481	6,549	
Residential / Commercial Mega Projects (including Workers Camps)	5,264	5,626	6,000	6,391	6,801	7,228	7,645	8,079	8,533	9,009	
Net Demand	18,783	19,375	19,967	20,595	21,242	21,876	22,476	23,093	23,689	24,291	
Auxiliaries (Emirate of Abu Dhabi)	1,802	1,844	1,883	1,923	1,962	2,000	2,035	2,069	2,103	2,137	
Sub-total Undiversified	20,585	21,218	21,850	22,517	23,205	23,876	24,512	25,162	25,792	26,428	
Northern Emirates Supply (including auxiliaries, losses & pumping etc)	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	
Global Demand (including Diversity Factor)	24,254	24,877	25,499	26,157	26,834	27,495	28,121	28,762	29,382	30,008	6.7%
ADWEC Supplies to the Northern Emirates	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
FE(C)	450	450	450	450	450	450	450	450	450	450	
FEWA	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	
DEWA	0	0	0	0	0	0	0	0	0	0	
SEWA	680	680	680	680	680	680	680	680	680	680	
Total Northern Emirates Exports (Excluding Auxiliaries, Transmission Losses & Pumping)	3,630	3,630	3,630	3,630	3,630	3,630	3,630	3,630	3,630	3,630	
Total Northern Emirates Transmission Losses 2%	73	73	73	73	73	73	73	73	73	73	
Total Northern Emirates Supplies + Transmission Losses	3,703	3,703	3,703	3,703	3,703	3,703	3,703	3,703	3,703	3,703	
Total Northern Emirates Auxiliaries & Pumping	335	335	335	335	335	335	335	335	335	335	
Total Northern Emirates Supply (Including Auxiliaries & Pumping)	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	
Abu Dhabi Emirate + Northern Emirates Supplies (Undiversified)	24,623	25,256	25,887	26,555	27,242	27,914	28,549	29,200	29,830	30,465	
Diversity Factor*	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%	
Global Demand (Winter 2009 / 2010 Demand Forecast)	24,254	24,877	25,499	26,157	26,834	27,495	28,121	28,762	29,382	30,008	6.7%

* 2010 - 2011 Abu Dhabi Diversified + NE Supply 100% & 2012 - 2030 Undiversified x Abu Dhabi's Diversity Factor

توقعات الطلب القصوى على الماء (مليون جالون / يوم)

Water Peak Demand Forecast (Gross MGD)

ADWEC Constrained Winter 2009 / 2010 Peak Water Demand Forecast													
Diversified Gross Demand (including losses & auxiliaries)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Abu Dhabi Region **	370	407	416	425	479	503	528	551	568	592	615	634	658
Al Ain Region*	163	163	205	232	243	324	326	323	320	318	319	321	323
Western Region*	54	67	82	90	122	145	151	167	169	172	175	178	181
	(actuals)	(actuals)											
Emirate of Abu Dhabi (excluding Auxiliaries)	587	637	704	747	844	973	1,005	1,041	1,056	1,081	1,109	1,133	1,162
Emirate of Abu Dhabi (Including Auxiliaries)	595	643	710	754	852	982	1,014	1,051	1,066	1,092	1,119	1,144	1,173
Pre-Diversity Factor Sector Totals (including losses)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Domestic	119	127	140	140	135	135	130	124	118	116	114	115	117
Villas	68	73	80	80	77	73	65	57	49	45	44	42	43
Shabiat / Town house	34	37	41	40	38	35	32	28	24	22	22	21	21
Bulk & Other	220	245	270	295	316	386	395	404	411	418	424	430	434
Agricultural / Farms	40	42	47	45	43	40	37	34	33	33	32	31	30
Residential / Commercial Mega Projects	76	82	90	105	184	248	286	316	338	361	383	399	418
Industrial (including ADNOC)	30	32	35	41	51	56	59	77	82	86	90	94	98
Total Sectoral Demands	587	637	704	747	844	973	1,004	1,041	1,056	1,081	1,109	1,133	1,162
Auxiliaries (Emirate of Abu Dhabi)	8	6	6.61	7.02	7.94	9.15	9.44	9.79	9.93	10.17	10.42	10.65	10.92
<i>Sub-total of Sectoral Demands + Auxiliaries</i>	595	643	710	754	852	982	1,014	1,051	1,066	1,091	1,119	1,143	1,172
Northern Emirates Supply (Excluding auxiliaries & Losses)	19	22	38	49	55	60	62	62	62	62	62	62	62
Global Demand = Emirate of Abu Dhabi + Northern Emirates	614	664	748	804	908	1,042	1,077	1,114	1,129	1,154	1,182	1,206	1,236
ADWEC Supplies to the Northern Emirates	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total FEWA	15	16	26	28	29	29	29	29	29	29	29	29	29
Total SEWA	5	5	7	12	16	21	23	23	23	23	23	23	23
Total FE	0	0	5	10	10	10	10	10	10	10	10	10	10
Total DEWA	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Northern Emirates Exports Including Losses (Excluding Auxiliaries)	19.19	21.33	37.90	49.15	55.15	59.65	62.15	62.15	62.15	62.15	62.15	62.15	62.15
Total Northern Emirates Auxiliaries	0.26	0.19	0.36	0.46	0.52	0.56	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Total Northern Emirates Supply (Including Auxiliaries & Losses)	19.45	22	38	50	56	60	63	63	63	63	63	63	63
Total Auxiliaries	8.34	5.92	6.97	7.48	8.45	9.71	10.03	10.37	10.51	10.75	11.01	11.23	11.51
Global Demand (Winter 2009 / 2010 Demand Forecast)	614	664	748	803	907	1,042	1,076	1,113	1,129	1,154	1,182	1,206	1,235
* Al-Ain & Western Region's Demand is network constrained until end-2012.													
**Abu Dhabi Region's Demand is network constrained until end-2011.													

توقعات الطلب القصوى على الماء (مليون جالون / يوم) (تابع)
Water Peak Demand Forecast (Gross MGD) (continued)

ADWEC Constrained Winter 2009 / 2010 Peak Water Demand Forecast											2009 - 2030 per annum
Diversified Gross Demand (including losses & auxiliaries)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Abu Dhabi Region **	677	693	709	723	736	748	759	768	777	786	3.2%
Al Ain Region*	325	328	330	333	336	339	342	346	349	353	3.7%
Western Region*	184	187	189	192	194	196	198	200	203	205	5.4%
Emirate of Abu Dhabi (excluding Auxiliaries)	1,186	1,208	1,228	1,247	1,266	1,283	1,299	1,314	1,329	1,344	
Emirate of Abu Dhabi (Including Auxiliaries)	1,198	1,219	1,240	1,259	1,278	1,295	1,311	1,326	1,341	1,357	3.6%
Pre-Diversity Factor Sector Totals (including losses)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Domestic	120	122	125	128	131	134	138	142	146	151	
Villas	44	44	45	46	47	47	48	49	49	50	
Shabiat/town house	22	22	22	22	23	23	23	24	24	24	
Bulk & Other	438	442	445	449	451	454	456	459	460	462	
Agricultural/Farms	30	31	31	31	31	31	31	31	32	32	
Residential / Commercial Mega Projects	431	442	451	460	469	476	482	486	491	496	
Industrial (including ADNOC)	102	105	108	111	114	117	120	123	126	129	
Total Sectoral Demands	1,186	1,208	1,228	1,247	1,266	1,282	1,299	1,314	1,329	1,344	
Auxiliaries (Emirate of Abu Dhabi)	11.15	11.35	11.54	11.72	11.90	12.06	12.21	12.35	12.49	12.63	
Sub-total of Sectoral Demands + Auxiliaries	1,197	1,219	1,239	1,259	1,277	1,295	1,311	1,326	1,341	1,356	
Northern Emirates Supply (Excluding auxiliaries & Losses)	62	62	62	62	62	62	62	62	62	62	
Global Demand = Emirate of Abu Dhabi + Northern Emirates	1,260	1,282	1,302	1,322	1,341	1,358	1,374	1,389	1,404	1,419	3.7%
ADWEC Supplies to the Northern Emirates	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Total FEWA	29	29	29	29	29	29	29	29	29	29	
Total SEWA	23	23	23	23	23	23	23	23	23	23	
Total FE	10	10	10	10	10	10	10	10	10	10	
Total DEWA	0	0	0	0	0	0	0	0	0	0	
Total Northern Emirates Exports Including Losses (Excluding Auxiliaries)	62.15	62.15	62.15	62.15	62.15	62.15	62.15	62.15	62.15	62.15	
Total Northern Emirates Auxiliaries	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	
Total Northern Emirates Supply (Including Auxiliaries & Losses)	63	63	63	63	63	63	63	63	63	63	
Total Auxiliaries	11.74	11.94	12.13	12.31	12.48	12.64	12.79	12.94	13.08	13.22	
Global Demand (Winter 2009 / 2010 Demand Forecast)	1,260	1,282	1,302	1,321	1,340	1,357	1,374	1,389	1,404	1,419	3.7%
* Al Ain & Western Region's Demand is network constrained until end-2012. ** Abu Dhabi Region's Demand is network constrained until end-2011.											

توقعات إحتياجات الوقود السنويه مابين ٢٠١٠ - ٢٠٢٠

Annual Fuel Demand Forecast 2010 - 2020

ADWEC Volumetric Gas Demand Forecast

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Global Yearly Consumption	BSCFT	676	761	895	1032	1132	1299	1338	1248	1154	1072	1013
Average Daily Consumption	BSCFTD	1.852	2.085	2.452	2.827	3.101	3.559	3.666	3.419	3.163	2.938	2.775
Peak Daily Consumption	BSCFTD	2.167	2.439	2.869	3.308	3.628	4.164	4.289	4.000	3.700	3.438	3.247

Notes:

1. All power generation based on fossil fuels
2. Gas gross heating value HHV=1045 BTU/SCFT
3. BSCFT = Billion Standard Cubic Feet
4. MSCFTD = Million Standard Cubic Feet per Day

ADWEC Fuel Inputs (Energy) Demand Forecast (BTUs)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Global Yearly Consumption	Million MBTUs	706	795	935	1078	1183	1357	1398	1304	1206	1121	1058
Average Daily Consumption	Million MBTUs	1.935	2.179	2.562	2.955	3.241	3.719	3.831	3.573	3.305	3.070	2.900
Peak Daily Consumption	Million MBTUs	2.264	2.549	2.998	3.457	3.792	4.351	4.482	4.18	3.867	3.592	3.393

Source: ADWEC 2010 Statement of Future Capacity Requirements 2010-2030 (Chapter 8)

Note: 2017 onwards fuel forecast decline due to ENEC's Nuclear Station(s) introduction.