الشركة العمانية لشراء الطاقة والمياه (ش.م.ع.م)
OMAN POWER AND WATER PROCUREMENT CO. (SAOC)

OPWP's 7-YEAR STATEMENT

For The Years (2007 – 2013)

Approved by the Authority for Electricity Regulation, Oman

December 2006

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Glossary

DPC	Dhofar Power Company
GJ	gigajoule(s)
GWh	gigawatt hour(s) = million (10^6) kWh
IWPP	independent water and power project
kWh	kilowatt hour(s)
LOLH	loss of load hours
m^3	cubic meter(s)
MEDC	Muscat Electricity Distribution Company
MHEW	Ministry of Housing Electricity and Water
MIS	Main Interconnected System
MISC	Majis Industrial Services Company
MJEC	Majan Electricity Company
MW	megawatt(s)
MZEC	Mazoon Electricity Company
OETC	Oman Electricity Transmission Company
OPWP	Oman Power and Water Procurement Company
Sm^3	standard cubic meter(s)
TCF	trillion (10^12) (standard) cubic feet
TWh	terawatt hour(s) = billion (10^9) kWh

SUMMARY

Overview

This statement provides a 7-year outlook (for 2007 to 2013) on the demands for electricity and desalinated water, and the power generation and desalination resources required to meet those demands, in the two main systems in Oman, the Main Interconnected System and the Salalah System[1].

The statement has been prepared and published in accordance with condition 5 of OPWP's license. The next statement (for 2008 to 2014) will be published in December 2007.

The highlights of this statement under the base case assumptions are as follows:

- The maximum power demand in the Main Interconnected System is expected to grow from 2544 MW in 2006 to 4634 MW by 2013, an annual average increase of around 9% or 300 MW per year. Annual energy demand is expected to grow at a similar rate, from 11.8 TWh in 2006 to 21.8 TWh in 2013;

- The maximum power demand in the Salalah System is expected to grow from 232 MW in 2006 to 567 MW by 2013, an average increase of around 14 % or 50 MW per year. Annual energy demand is expected to increase at a similar rate, from 1.3 TWh in 2006 to 3.2 TWh in 2013;

- The combined demand for electricity on the Main Interconnected System and the Salalah System is expected to grow at an average 10% per year, from 13 TWh in 2006 to 25 TWh in 2013.

- At least 1570 MW additional power generation capacity is required from 2009 to 2013, 1200 MW for the Main Interconnected System and 370 MW for the Salalah System.

- Overall demand for desalinated water expected to increase from 86 million m^3 in 2006 to 221 million m^3 per year by 2013.

- Up to 201,000 m^3 per day additional desalination capacity will be required from 2009 to 2013, 133,000 m^3 per day for the regions covered by the Main Interconnected System and 68,000 m^3 per day for Salalah.

- Procurement process for at least 700 MW / 85,000 m^3 per day additional capacity for the Main Interconnected System, most likely to be located at Al-Ghubrah and/or Barka, to be launched during 2007.

- Competition for 350-400 MW / 68,000 m^3 per day from a Salalah IWPP will be launched in the first quarter of 2007.

- The aggregate fuel requirement of production facilities connected to the Main Interconnected System is expected to increase from 163 million GJ in 2006 to 231 million GJ in 2013. In terms of quantities of natural gas, this equates to an increase from around 4460 million Sm^3 in 2006 to around 6326 million Sm^3 per year in 2013 and a cumulative 7-year requirement of 1.43 TCF.

- The aggregate fuel requirement of production facilities on the Salalah System under the base case is expected to increase from 14 million GJ in 2006 to 31 million GJ in 2013. In terms of quantities

[1] See page [22] for details of the geographic areas covered by each system.

of natural gas, this equates to an increase from around 394,000,000 Sm^3 per year in 2006 to around 848,000,000 Sm^3 per year in 2013 and a cumulative 7-year requirement of 0.17 TCF.

Further details in respect of each of the Main Interconnected System and the Salalah System are set out below. Additional background in relation to the electricity and desalinated water requirements is provided in sections 1 and 2. More information is available on the web at www.omanpwp.co.om

Main Interconnected System

Demand for Electricity

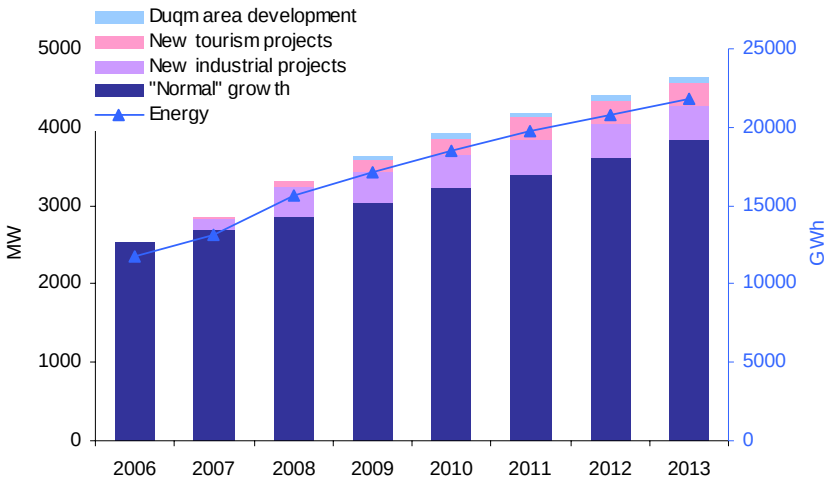
The maximum power demand in the Main Interconnected System (MIS) is expected to grow from 2544 MW in 2006 to 4634 MW by 2013, an average increase of around 9% or 300 MW per year. Annual energy demand is expected to grow similarly, from 11.8 TWh in 2006 to 21.8 TWh in 2013.

This growth is the product of:

- continuing underlying "normal" growth from increasing population and number of households, rising personal incomes and general economic development;
- a major increase in demand from new industrial projects, concentrated in particular around the Sohar Industrial Port Area;
- a major increase in demand from new tourism related developments; and
- Expansion of the system to the Duqm area in Al-Wusta region.

The annual build up of expected power and energy demands to 2013, and the contribution to the growth of each of the main drivers identified above, are shown in Figure 1.

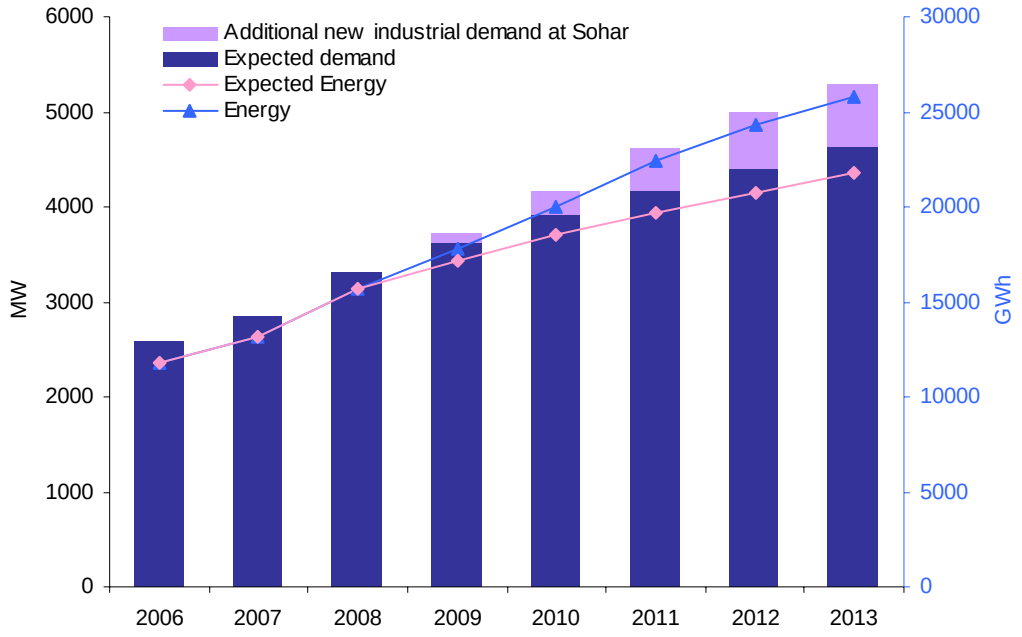
Figure 1: Expected Power and Energy Demand – MIS



	2006	2007	2008	2009	2010	2011	2012	2013
Demand (MW), including:	2544	2846	3307	3623	3918	4179	4408	4634
"Normal" growth	2544	2697	2859	3031	3213	3405	3610	3826
New industrial projects		132	384	404	437	437	439	442
New tourism projects		16	63	147	220	279	294	294
Duqm area				42	49	57	65	72
Energy (GWh)	11757	13170	15668	17140	18538	19725	20770	21806

Although the projection shown in Figure 1 reflects the currently expected development of demand, OPWP is cognizant of the possibility of a significant further industrial expansion at the Sohar Industrial Port Area. This could add an additional 654 MW of demand by 2013, as shown in Figure 2 as a “high case” demand scenario.

Figure 2: "High Case" Power and Energy Demand – MIS



	2006	2007	2008	2009	2010	2011	2012	2013
Demand (MW), including:	2544	2846	3307	3726	4163	4611	4993	5288
Expected Demand	2581	2846	3307	3623	3918	4179	4408	4634
Additional New Industrial Demand in Sohar				103	245	432	585	654
Energy (GWh), including Additional New Industrial Demand in Sohar	11757	13170	15668	17769	20038	22375	24359	25815

OPWP is required in developing demand projections to consider the possibility of exports of power outside of Oman. Although the MIS will be interconnected with Abu Dhabi from 2007, the scope for significant commercial export of power over this interconnector is presently considered to be limited. Accordingly the current demand projections include power needs within Oman only.

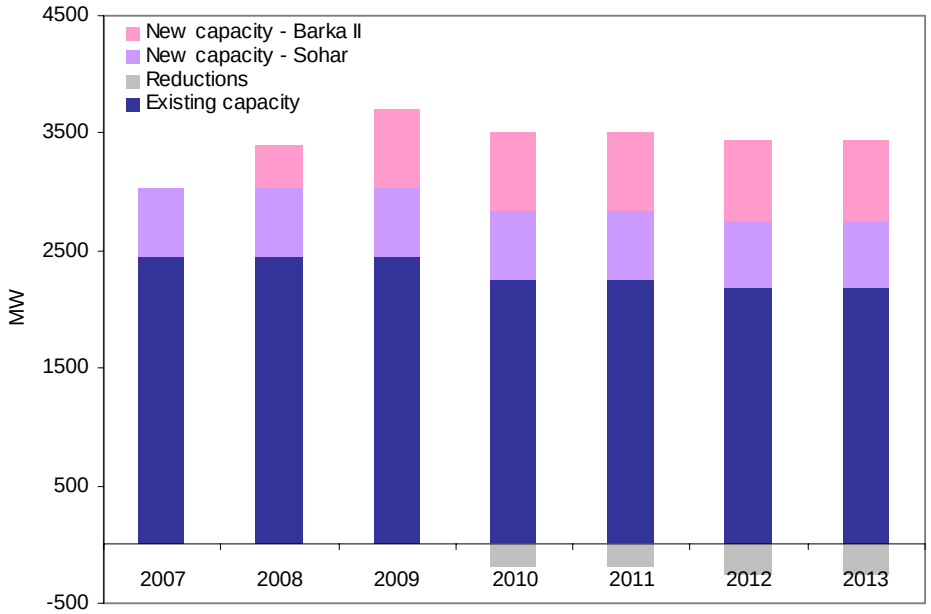
Power Generation Capacity

OPWP's present portfolio of contracted generation capacity in the Main Interconnected System is expected to provide around 3028 MW of firm capacity in 2007, rising to 3442 MW by 2013.

This reflects the addition of 585 MW at Sohar in 2007 and 677 MW at Barka II (to be commissioned in two phases in 2008 and 2009), offset in part by 263 MW of capacity at Al-Ghubrah and Wadi Al-Jizzi falling out of contract in 2010 and 2012.

A summary of the contracted generation capacity is provided in Figure 3.

Figure 3: Contracted Generation Capacity – MIS



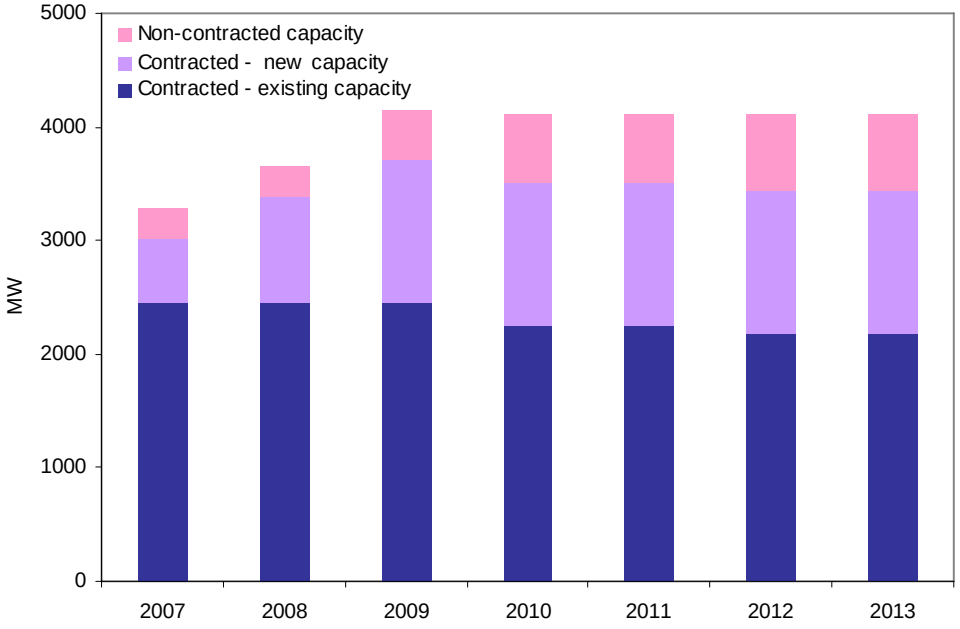
In MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Existing capacity, including:							
Al-Ghubrah Power & Desalination Plant	475	475	475	282	282	282	282
Rusail Power Plant	684	684	684	684	684	684	684
Wadi Al-Jizzi Power Plant	288	288	288	288	288	219	219
Manah Power Plant	279	279	279	279	279	279	279
Al Kamil Power Plant	282	282	282	282	282	282	282
Barka I Power & Desalination Plant	434	434	434	434	434	434	434
Total	2443	2443	2443	2249	2249	2180	2180
Reductions (cumulative)				-193	-193	-263	-263
New capacity, including:							
Sohar Power & Desalination Plant	585	585	585	585	585	585	585
Barka II Power & Desalination Plant		363	677	677	677	677	677
Total	585	948	1262	1262	1262	1262	1262
Total contracted capacity	**3028**	**3391**	**3705**	**3511**	**3511**	**3442**	**3442**

In addition to the contracted capacity identified above, there are a number of other generation resources, either existing or under development, which are likely to be available to the MIS during 2007-2013. These include:

- surplus capacity of several industries with captive generation (including most significantly the aluminum smelter currently under construction at Sohar)
- power imported from Abu Dhabi over the new 220kV interconnector,
- availability in excess of contracted levels at some plants;
- Life extension and continued availability of some out of contract capacity at Al-Ghubrah and Wadi Al-Jizzi.

These resources are expected to add up to around 663 MW, and increase the total capacity base to 4105 MW by 2013. The annual build up of non-contracted resources is shown in Figure 4.

Figure 4: Non-Contracted Generation Capacity – MIS



in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Oman Mining Co.	20	20	20	20	20	20	20
Additional from contracted plants	5	5	5	5	5	5	5
Sohar Refinery Co.	35	35	35	35	35	35	35
Abu Dhabi Interconnector	200	200	200	200	200	200	200
Sohar Aluminum			180	180	180	180	180
Al-Ghubrah (Out of Contract Capacity)				154	154	154	154
Wadi Jizzi (Out of Contract Capacity)						69	69
Total non-contracted capacity	**260**	**260**	**440**	**594**	**594**	**663**	**663**

Additional Power Generation Capacity Requirements

OPWP is required to ensure the adequacy of generation resources to meet future power demands. This requires as a minimum that sufficient capacity is installed on the MIS to cover each year's expected peak demand. Further, the Authority for Electricity Regulation, Oman has stipulated a generation security standard for the MIS which takes into account the expected reliability and dispatchability of generation resources. This is expressed in terms of the expected loss of load hours (known as "LOLH"), which in any year must not exceed 24 hours.

OPWP's intention is to ensure that these requirements are met on the basis of firm, contracted capacity (non-contracted capacity will however contribute to the overall reserve margin and provide additional security against contingencies).

Based on the demand projections and considering the presently contracted capacity, shortfalls in contracted capacity and excesses in LOLH (above the 24 hour limit) are expected to open up during 2009-2013, as shown in Figure 5.

Figure 5: Potential Generation Capacity Shortfall and LOLH – MIS

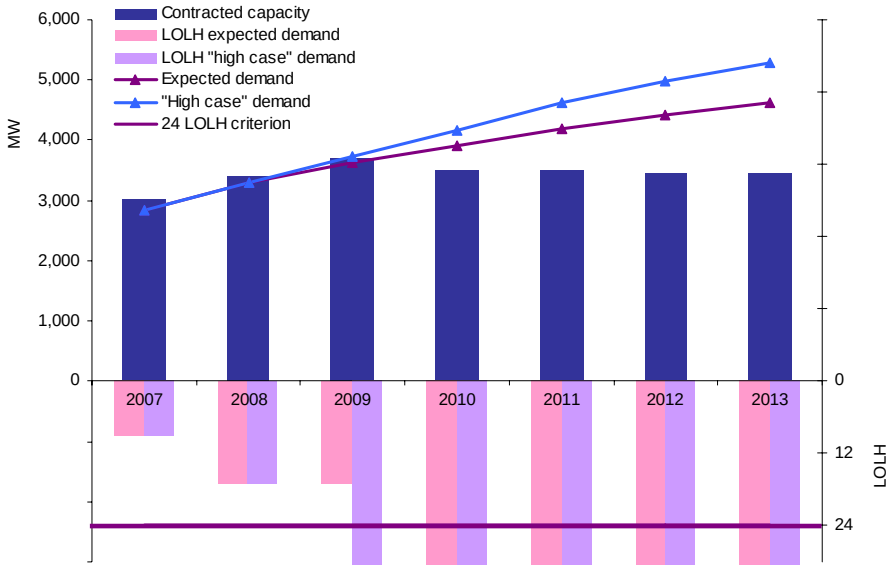
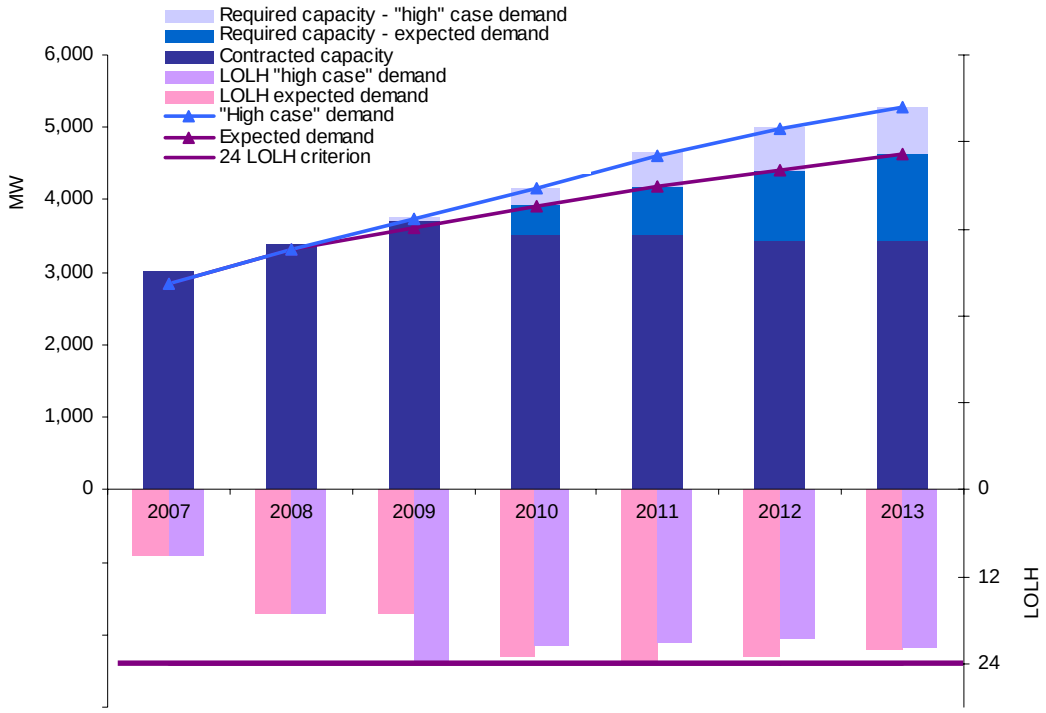


Figure 5 illustrates the need for additional contracted generation capacity. OPWP has calculated that it expects to need a minimum of around 1200 MW of additional contracted capacity by 2013, and a further 645 MW in the "high case" demand scenario. This will need to be available as shown in Figure 6.

Figure 6: Additional Generation Capacity Required – MIS



in MW	2007	2008	2009	2010	2011	2012	2013
Minimum Additional Capacity							
Expected Demand				425	680	970	1200
"High Case" Demand			60	660	1140	1570	1845
Total Required Capacity							
Expected Demand	3028	3391	3705	3936	4191	4412	4642
"High Case" Demand	3028	3391	3765	4171	4651	5012	5287

These needs for additional contracted capacity could be met by contracting for some of the non-contracted capacity identified above and/or by procuring the construction of new capacity. OPWP expects most of the additional contracted capacity to be new-build capacity.

Demand for Desalinated Water

The total demand for desalinated water in the regions covered by the Main Interconnected System is expected to grow from around 86 million m^3 per year in 2006 to 197 million m^3 per year in 2013, an average increase of around 12.5% per year.

This increase reflects a major policy drive away from reliance on groundwater resources in most regions, as well as the effects on demand of population growth and economic development.

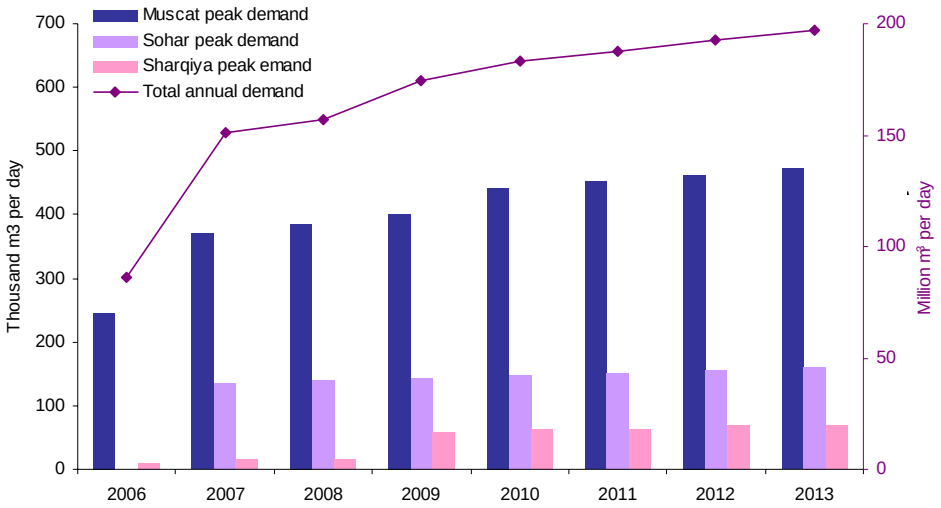
Detailed demand projections have been provided to OPWP by responsible Water Departments, and these have been organized into three separate zones, reflecting the general configuration of the water supply infrastructure and the likely sources of supply. The “Muscat” zone covers the Governorate of

Muscat and the South Batinah and Dakhilyah regions. The "Sohar" zone covers the North Batinah and Dhahirah regions. And the "Sharqiya" zone covers the Sharqiya region, but excluding Masirah island.

Peak daily demands (which determine the need for desalination capacity) are projected reach 472,000 m^3 per day, 160,000 m^3 per day and 70,000 m^3 per day in the Muscat, Sohar and Sharqiya zones respectively.

The expected build up of the total demand and the peak demands in the three zones is summarized in Figure 7.

Figure 7: Expected Desalinated Water Demand – MIS Regions



	2006	2007	2008	2009	2010	2011	2012	2013
Peak demand (*thousand m^3 per day*) by zone:								
Muscat	244	371	387	400	441	452	462	472
Sohar		136	140	144	148	152	156	160
Sharqiya	11	15	16	60	63	65	68	70
Total annual demand (*million m^3 per year*)	**86**	**151**	**157**	**174**	**183**	**188**	**192**	**197**

Although the projection shown in Figure 7 reflects the currently expected development of demand, OPWP is cognizant of two potentially significant alternative scenarios.

Firstly, OPWP has been advised of potential plans to utilize water resources from Wadi Dayqah, located near Quriyat, to serve Muscat and thus reduce the desalinated water demands of the Muscat zone. It is understood that the contribution of such water could be in the order of 10 to 20 million m^3 per year, starting from 2009. This could reduce the peak demands for the Muscat zone by perhaps as much as 30,000 to 60,000 m^3 per day.

Secondly, OPWP is presently in discussions with Majis Industrial Services Company (MISC) regarding needs for process water by industries in the Sohar Industrial Port Area. This could add a significant future demand for desalinated water, of perhaps as much as 50,000 m^3 per day, in the Sohar zone.

Water Desalination Capacity

The Muscat zone is currently served by the Al-Ghubrah Power and Desalination Plant, with a capacity of around 165,000 m^3 per day (de-rated from a nominal capacity of 191,000 m3 per day) and the Barka I Power and Desalination Plant, with a capacity of around 91,000 m3 per day.

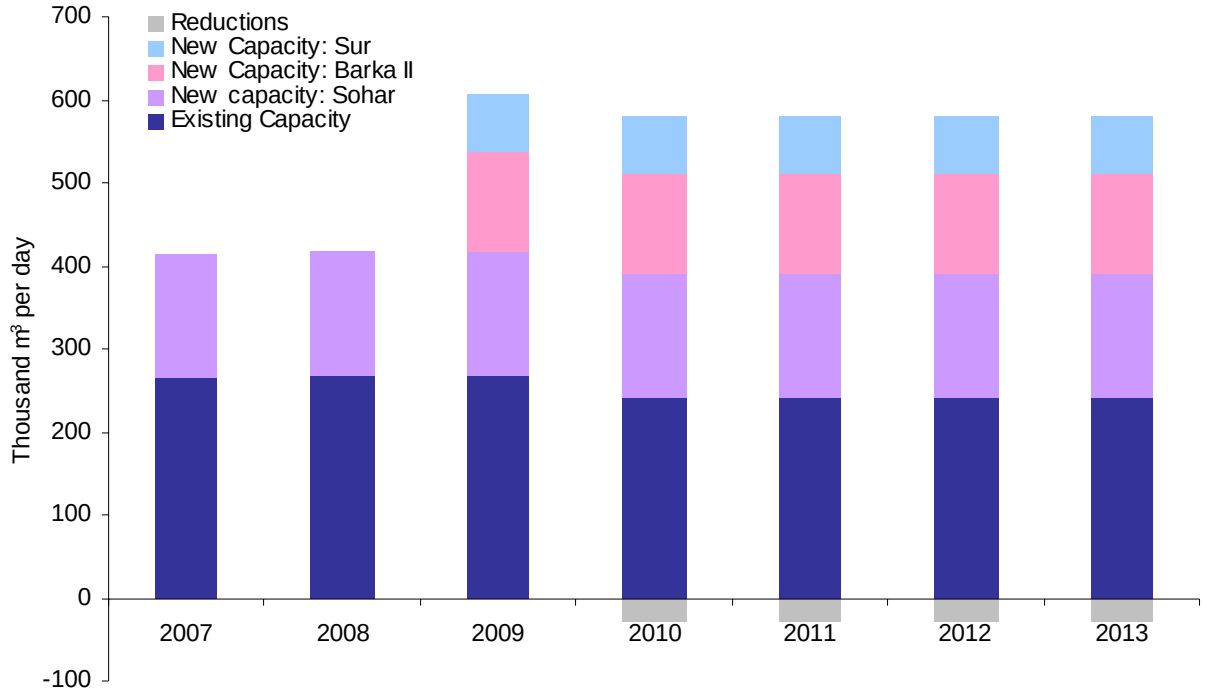
This capacity will be supplemented in 2009 with the commissioning of the Barka II Power and Desalination Plant, with a capacity of 120,000 m3 per day. This will bring the total capacity in the Muscat zone to around 376,000 m^3 per day. The total capacity will fall to 349,000 m3 per day after 2009, however, with an anticipated retirement of capacity at Al-Ghubrah. This capacity is all contracted to OPWP and the water purchased is sold by OPWP to MHEW.

The Sohar Power and Desalination Plant, with a capacity of 150,000 m^3 per day, is due to come on-line in early 2007, and will provide significant quantities of desalinated water for the first time in the Sohar zone. This capacity is contracted to OPWP and the water purchased will be sold by OPWP to MHEW and MISC.

The Sharqiya zone is presently served by the Sur Desalination Plant, with a capacity of 12,000 m3 per day. This will be supplemented in 2009 with the commissioning of the new 68,000 m^3 per day Sur Desalination plant, bringing the total desalination capacity for the Sharqiya zone to 80,000 m^3 per day. This capacity, being desalination only, is contracted directly to MHEW not OPWP.

The existing and new desalination capacity of the three zones is summarized in Figure 8

Figure 8: Desalination Capacity – MIS Regions



in thousand m3 per day	2007	2008	2009	2010	2011	2012	2013
Muscat Zone							
Existing capacity, including:							
Al-Ghubrah Power & Desalination Plant	165	165	165	138	138	138	138
Barka I Power & Desalination Plant	91	91	91	91	91	91	91
New capacity, including:							
Barka II Power & Desalination Plant			120	120	120	120	120
Total	**256**	**256**	**376**	**349**	**349**	**349**	**349**
Reductions (cumulative)				(27)	(27)	(27)	(27)
Sohar Zone							
New capacity, including:							
Sohar Power & Desalination Plant	**150**	**150**	**150**	**150**	**150**	**150**	**150**
Sharqiya Zone							
Existing capacity, including:							
Sur desalination plant	12	12	12	12	12	12	12
New capacity, including:							
Sur new desalination plant			68	68	68	68	68
Total	**12**	**12**	**80**	**80**	**80**	**80**	**80**
Total Capacity	**418**	**418**	**606**	**579**	**579**	**579**	**579**

Additional Desalination Capacity Requirements

OPWP understands that Water Departments' present planning philosophy is to aim to match installed desalination capacity with the peak demand for desalinated water (and to rely on groundwater resources to provide any required reserve margin for contingencies).

Comparison of the annual peak demands and desalination capacities for the Muscat zone indicates that:

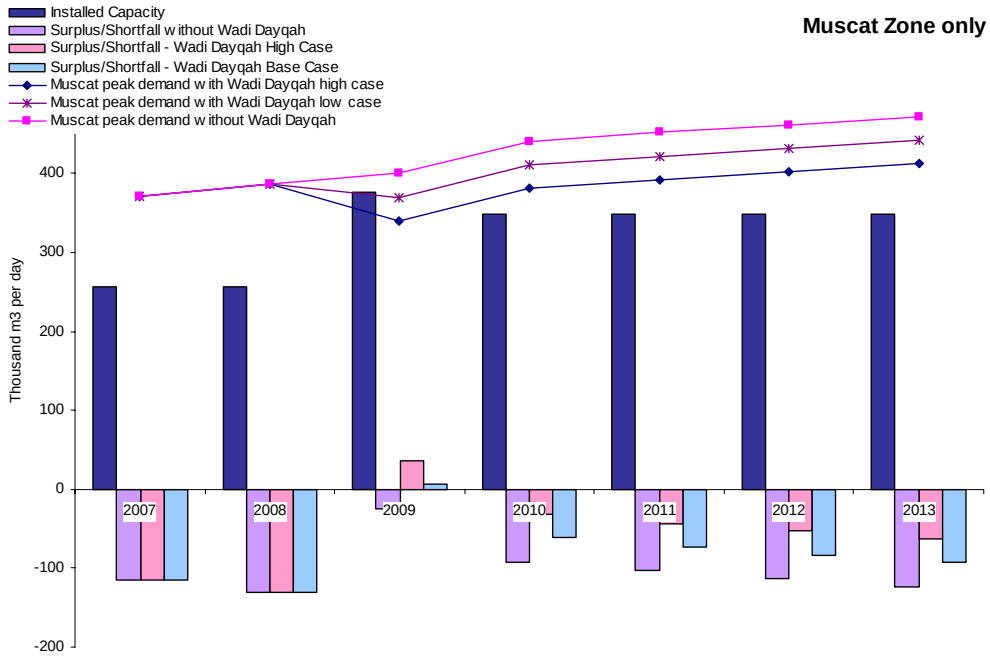
- significant capacity shortfalls are expected in 2007 and 2008 – clearly continued heavy utilization of local groundwater resources will be required in these years;
- the addition of the Barka II capacity in 2009 will reduce the shortfall to 24,000 m3 per day, which shortfall could be eliminated if the Wadi Dayqah scheme is implemented;
- Without additional capacity, the reduction at Ghubrah after 2009 will result in significant shortfalls, of up to 123,000 m3 per day, by 2013 – though these could be reduced somewhat with the implementation of the Wadi Dayqah scheme.

The potential capacity shortfalls in the Muscat zone, with and without Wadi Dayqah, are shown in Figure 9.

Following the installation of the new desalination capacity at Sohar in 2007, the Sohar zone shows a surplus capacity up to 2010 and relatively minor shortfalls, of no more than 10,000 m3 per day, in subsequent years, though more significant shortfalls could emerge with the process water requirements of MISC.

Following the installation of the new desalination capacity at Sur in 2009, the Sharqiya zone shows a surplus capacity out to 2013 (and beyond).

Figure 9: Desalination Capacity Surplus (Shortfall) - MIS Regions



Muscat Zone, *in thousand m3 per day*	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Capacity	256	256	376	349	349	349	349
Peak Demand	371	387	400	441	452	462	472
Peak Demand – Wadi Dayqah low case	371	387	370	411	422	432	442
Peak Demand – Wadi Dayqah high case	371	387	340	381	392	402	412
Surplus / (Shortfall)	**(115)**	**(131)**	**(24)**	**(92)**	**(103)**	**(113)**	**(123)**
Surplus / (Shortfall) - Wadi Dayqah low case	(115)	(131)	6	(62)	(73)	(83)	(93)
Surplus / (Shortfall) - Wadi Dayqah high case	(115)	(131)	36	(32)	(43)	(53)	(63)

Sohar Zone, *in thousand m3 per day*	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Available Capacity							
Sohar Power & Desalination Plant	150	150	150	150	150	150	150
Peak Demand	136	140	144	148	152	156	160
Surplus / (Shortfall)	**14**	**10**	**6**	**2**	**(2)**	**(6)**	**(10)**

Sharqiya Zone, *in thousand m3 per day*	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Available Capacity							
Sur Desalination plant	12	12	12	12	12	12	12
Sur New Desalination plant			68	68	68	68	68
Total Available Capacity	12	12	80	80	80	80	80
Peak Demand	15	16	60	63	65	68	70
Surplus / (Shortfall)	**(3)**	**(4)**	**20**	**17**	**15**	**12**	**10**

In response to the potential shortfall in the Muscat zone, MHEW has determined a requirement for at least 85,000 m^3 per day of additional capacity, to be available by 2009/2010, and has indicated a preference for this capacity to be located at Al-Ghubrah and/or Barka.

MHEW is also understood to be taking steps to install an interconnection between the water transmission networks in the Muscat and Sohar zones. This could allow capacity surpluses in the Sohar zone in the near term to assist in offsetting shortfalls in the Muscat zone.

Opportunity for Combining Power Generation and Desalination Capacity

In developing plans for procuring power generation capacity OPWP is required to consider the opportunity for combining power generation and desalination capacity so as to benefit from economies of co-location and co-procurement. Given the need for additional generation capacity in the MIS from 2010 and the requirements of MHEW for additional desalination capacity within a similar timeframe there is clearly an opportunity for procuring the capacity together. Further, the locations identified by MHEW for additional desalination capacity are both potentially suitable sites for additional power generation capacity, due to proximity to demand, availability of land and infrastructure (fuel supply, power transmission etc.). These factors are particularly relevant at Al-Ghubrah where a significant amount of existing generation capacity at Al-Ghubrah falls out of contract in 2009.

If additional demand for desalinated water emerges at Sohar as a result of ongoing discussions with MISC regarding process water requirements then there could be an opportunity for combining the necessary desalination capacity with power generation capacity at Sohar. Sohar is also a potentially suitable site for additional power generation capacity due to availability of land and infrastructure, and would become particularly suitable in the “high case” demand scenario involving significant additional power demand around the Sohar Industrial Port Area.

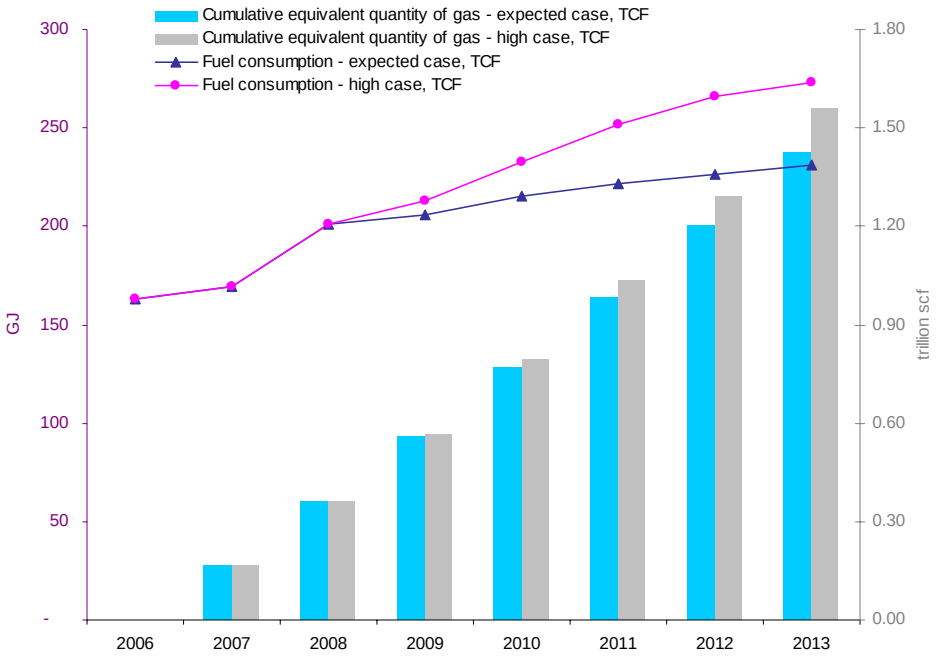
Fuel Requirements

The primary fuel resource for the Main Interconnected System is natural gas, supplied by the Ministry of Oil & Gas from domestic gas fields. Essentially all energy generation and desalinated water production in 2006 was fueled by domestic natural gas.

Based on the demand projections for energy and desalinated water set out above, the aggregate fuel requirement of generators on the Main Interconnected System is expected to increase from 163 million GJ in 2006 to 231 million GJ in 2013. In terms of quantities of natural gas, this equates to an increase from around 4460 million Sm^3 per year in 2006 to around 6326 million Sm^3 per year in 2013 and a cumulative 7-year requirement of 1.43 TCF. These requirements, and the higher requirements associated with the ‘high case” demand scenario are shown in Figure 10.

The Ministry of Oil & Gas has committed to supply natural gas to all contracted generation and desalination capacity. OPWP is presently in discussions with the Ministry of Oil & Gas on reserving natural gas for the additional capacity requirements identified in this statement.

Figure 10: Fuel Requirements – MIS



	2006	2007	2008	2009	2010	2011	2012	2013
Expected								
Energy, GWh	11757	13170	15668	17140	18538	19725	20770	21806
Water, million m^3 per annum	86	151	157	174	183	188	192	197
Fuel Consumption, million GJ	**163**	**169**	**201**	**206**	**215**	**222**	**227**	**231**
Equivalent quantity of gas, million Sm^3	4460	4639	5519	5635	5898	6080	6208	6326
Equivalent quantity of gas, TCF	0.16	0.16	0.20	0.20	0.21	0.22	0.22	0.22
Cumulative equivalent quantity of gas, TCF		0.16	0.36	0.56	0.77	0.98	1.20	1.43
"High case"								
Energy, GWh	11757	13170	15668	17769	20038	22375	24359	25815
Water, million m^3 per annum	86	151	157	174	183	188	192	197
Fuel Consumption, million GJ	**163**	**169**	**201**	**213**	**233**	**252**	**266**	**273**
Equivalent quantity of gas, million Sm^3	4460	4639	5519	5842	6375	6896	7280	7489
Equivalent quantity of gas, TCF	0.16	0.16	0.20	0.21	0.23	0.24	0.26	0.26
Cumulative equivalent quantity of gas, TCF		0.16	0.36	0.57	0.79	1.04	1.29	1.56

Capacity Procurement Strategy

Based on the needs for power generation and desalination capacity identified above, OPWP plans to commence, during 2007, a procurement process for additional capacity for the MIS. This is expected to involve the procurement of at least 700 MW, consistent with the expected minimum additional requirement of 2011, though before finally proceeding OPWP intends to review the likelihood of the "high demand" scenario, which could necessitate a higher capacity requirement.

As indicated above, there is a strong case for including in this process the requirements of MHEW for additional desalination capacity for the Muscat zone. Accordingly, OPWP's current expectation would be to proceed with a procurement process for at least 700 MW / 85,000 m^3 per day additional co-located capacity, most likely at Al-Ghubrah and/or Barka. Final details of the procurement strategy to be followed, consistent with the requirements of the Sector Law and OPWP's license, will be formulated and announced early in 2007.

Salalah System

Demand for Electricity

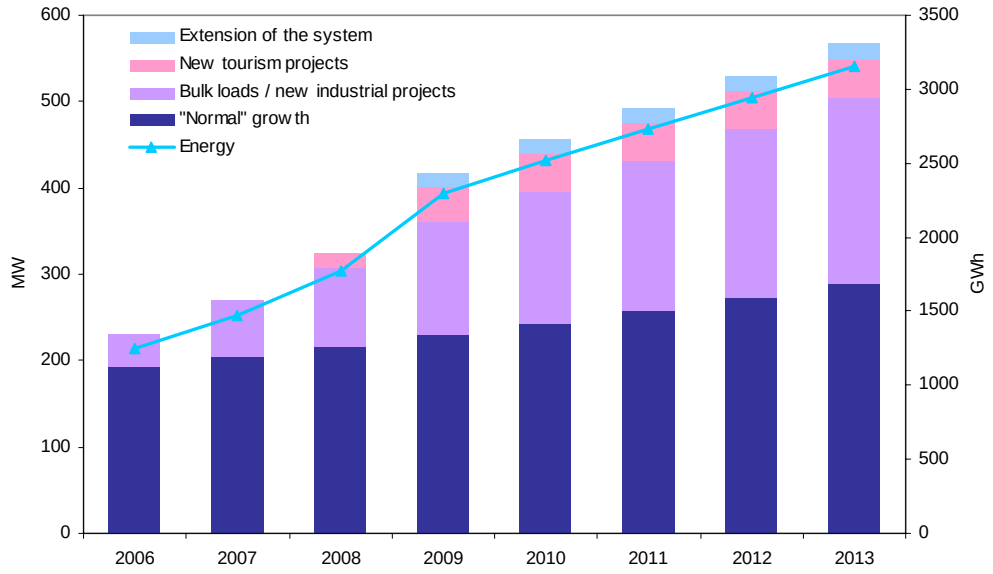
The maximum power demand in the Salalah System is expected to grow from 232 MW in 2006 to 567 MW by 2013, an average increase of around 14 % or 50 MW per year. Annual energy demand is expected to grow similarly, from 1.3 TWh in 2006 to 3.2 TWh in 2013.

As for the Main Interconnected System, this growth is the product of:

- continuing underlying "normal" growth from increasing population and number of households, rising personal incomes and general economic development;
- a major increase in demand from new industrial projects, in the case of the Salalah System concentrated in particular around the new Salalah Free Zone;
- a major increase in demand from new tourism related developments; and
- Expansion of the system to new areas.

The annual build up of expected power and energy demands to 2013, and the contribution to the growth of each of the main drivers identified above, are shown in Figure 11.

Figure 11: Expected Power and Energy Demand – Salalah System



	2006	2007	2008	2009	2010	2011	2012	2013
Demand (MW), including:	232	270	324	416	456	493	530	567
"Normal" growth	192	204	216	229	243	257	273	289
Bulk loads / new industrial projects	39	66	91	133	153	175	195	214
New tourism projects			17	40	44	44	44	44
Extension of the system				15	16	17	18	19
Energy (GWh)	1246	1471	1777	2296	2520	2734	2943	3153

Power Generation Capacity

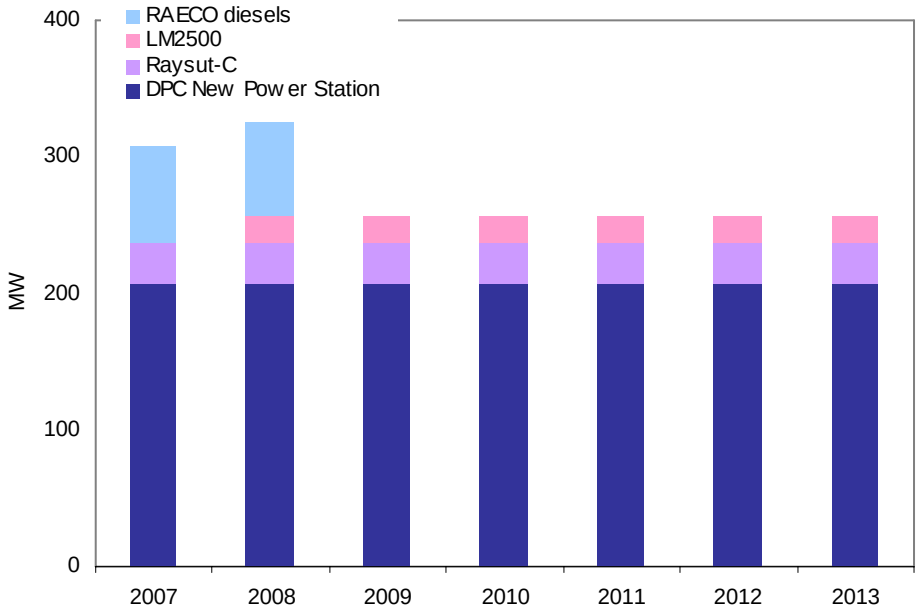
Power generation capacity in the Salalah System currently comprises the new gas-fired power station commissioned in 2003 by Dhofar Power Company (DPC), with a capacity of 207 MW, and the old Raysut A&B diesel stations owned by Rural Areas Electricity Co (RAECo), with a capacity of around 70 MW.

This will be supplemented by around 31 MW in 2007 with the re-commissioning by DPC of the Raysut-C gas turbine, which was acquired from the Government as part of the privatization of the Salalah System. The capacity will be further supplemented in 2008 with the re-commissioning of a second gas turbine acquired from the Government, an LM2500 unit with a capacity of 18 MW. These additions will bring the total capacity to around 308 MW and 326 MW in 2007 and 2008 respectively.

It is anticipated that the RAECo diesels will not be available after 2008, resulting in a decrease in total capacity to 256 MW in 2009.

A summary of this generation capacity is provided in Figure 12.

Figure 12: Generation Capacity – Salalah System



in MW	2007	2008	2009	2010	2011	2012	2013
DPC New Power Station	207	207	207	207	207	207	207
Raysut-C	31	31	31	31	31	31	31
LM2500		18	18	18	18	18	18
RAECO diesels	70	70					
Total Capacity	**308**	**326**	**256**	**256**	**256**	**256**	**256**

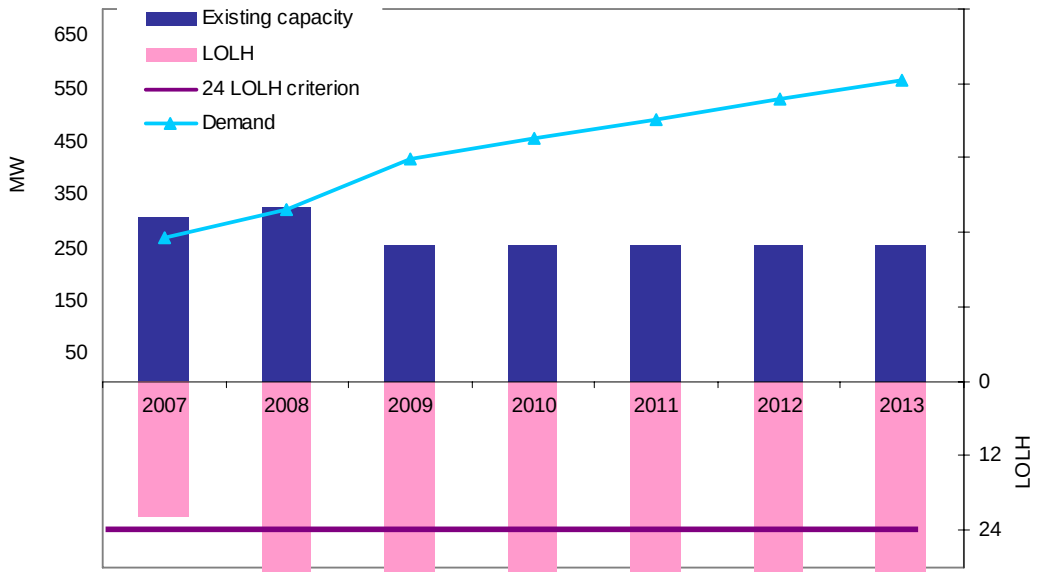
Additional Power Generation Capacity Requirements

As for the MIS, OPWP is required to ensure the adequacy of generation resources to meet future power demands and, further, to ensure that electricity customers in the Salalah System receive services generally of equivalent quality as those received by customers in the MIS.

This requires, as a minimum, that sufficient capacity is installed on the Salalah System to cover each year's expected peak demand and that the 24 hour LOLH criterion stipulated by the Authority for Electricity Regulation, Oman in respect of the MIS be similarly complied with in the Salalah System.

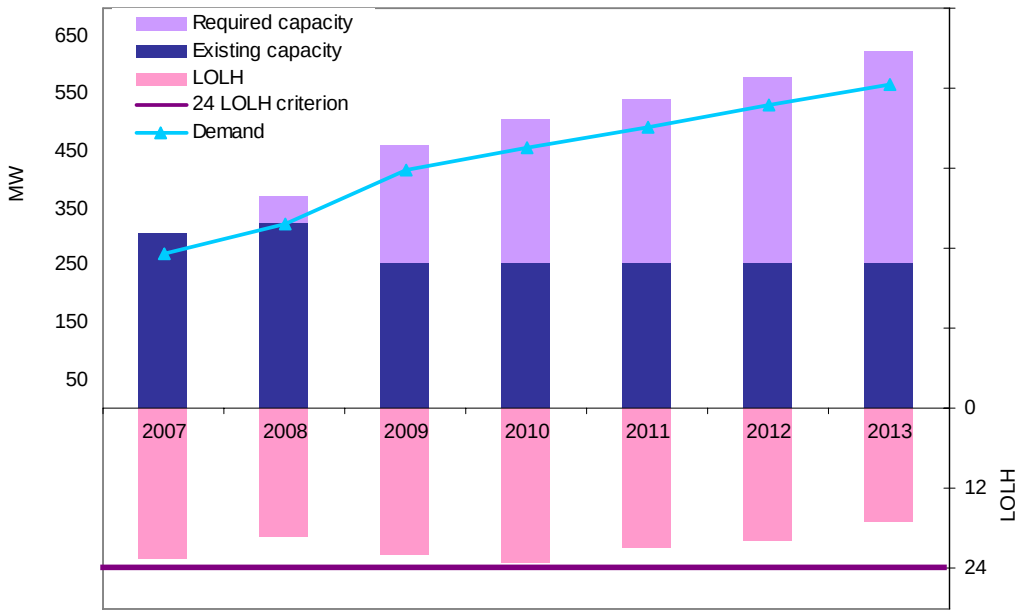
Based on the demand projection and generation capacities identified above, an LOLH excess (above the 24 hour limit) is expected in 2008 and, without additional capacity, significant capacity shortfalls and LOLH excesses are expected from 2009, as shown in Figure 13.

Figure 13: Potential Generation Capacity Shortfall and LOLH – Salalah System



In order to prevent the expected capacity shortfalls and breaches of the planning standard, OPWP has calculated a need for a minimum of around 370 MW of additional capacity by 2013. This will need to be available as shown in Figure 13.

Figure 14: Additional Power Generation Capacity Requirements – Salalah System

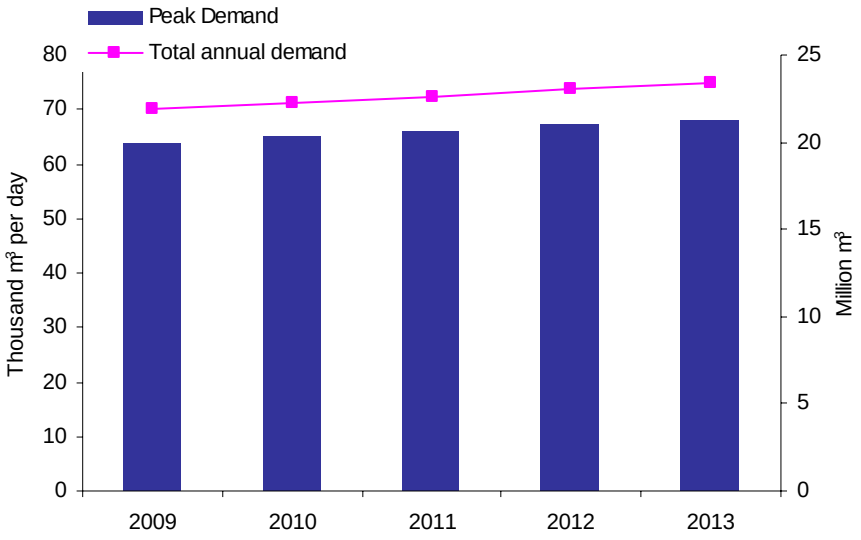


in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Minimum required additional capacity		45	205	250	285	325	370
Total required capacity	**308**	**371**	**461**	**506**	**541**	**581**	**626**

Demand for Desalinated Water

The responsible Water Department in the Dhofar region, The Directorate General of Water in the Office of the Minister of State & Governor of Dhofar, has identified a demand for desalinated water starting in 2009 and rising to 23 million m^3 per year by 2013 with an annual peak daily demand of 68,000 m^3 per day, as shown in Figure 15.

Figure 15: Expected Desalinated Water Demand – Salalah



	2009	2010	2011	2012	2013
Peak Demand, thousand m^3 per day	64	65	66	67	68
Total annual demand, million m^3	21.9	22.3	22.6	23.0	23.4

Water Desalination Capacity / Additional Water Capacity Requirements

There is presently no desalination capacity in the Salalah area and all of the demands for desalinated water identified above will need to be met by new capacity.

Opportunity for Combining Power Generation and Water Desalination Capacity

Based on the additional capacity requirements for both power generation and water desalination identified above, OPWP has determined, in consultation with the responsible Water Department, that it will be economically advantageous to combine the required capacity in a single plant and to procure the same via a single competitive process. This decision was based on anticipated benefits in terms of:

- sharing of common infrastructure, in particular sea-water intake and outfall facilities, required by both power generation and water desalination;
- potential techno-economic advantages from combined power generation and desalination processes; and
- General economies of scale in development, financing and construction costs.

A location suitable for both power generation and desalination capacity has been identified at Taqah.

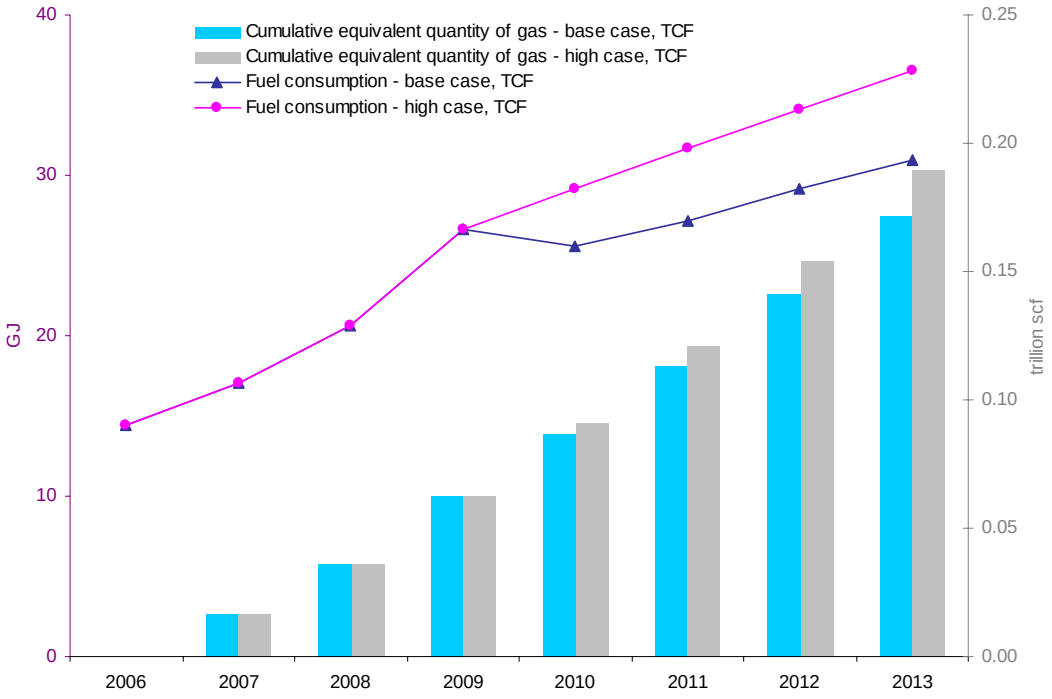
Fuel Requirements

Based on the demand projections for energy and desalinated water set out above, the aggregate fuel requirement of generators on the Salalah System under the base case is expected to increase from 14 million GJ in 2006 to 31 million GJ in 2013. In terms of quantities of natural gas, this equates to an

increase from around 394,000,000 Sm^3 per year in 2006 to around 848,000,000 Sm^3 per year in 2013 and a cumulative 7-year requirement of 0.17 TCF. These requirements, and the higher requirements associated with the 'high case" demand scenario are shown in Figure 16.

The Low case scenario is based on an assumption the additional required capacity will be based on a combined cycle technology and under the "high case scenario it will be based on open cycle.

Figure 16: Fuel Requirements – Salalah



	2006	2007	2008	2009	2010	2011	2012	2013
Low Case								
Energy, GWh	1246	1471	1777	2296	2520	2734	2943	3153
Water, million m^3 per annum				22	22	23	23	23
Fuel Consumption, million GJ	**14**	**17**	**21**	**27**	**26**	**27**	**29**	**31**
Equivalent quantity of gas, million sm^3	394	467	564	728	700	745	798	848
Equivalent quantity of gas, TCF	0.01	0.02	0.02	0.03	0.02	0.03	0.03	0.03
Cumulative equivalent quantity of gas, TCF	0.00	0.02	0.04	0.06	0.09	0.11	0.14	0.17
High Case								
Energy, GWh	1246	1471	1777	2296	2520	2734	2943	3153
Water, million m^3 per annum				22	22	23	23	23
Fuel Consumption, million GJ	**14**	**17**	**21**	**27**	**29**	**32**	**34**	**37**
Equivalent quantity of gas, million sm^3	394	467	564	728	799	867	934	1000
Equivalent quantity of gas, TCF	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.04
Cumulative equivalent quantity of gas, TCF	0.00	0.02	0.04	0.06	0.09	0.12	0.15	0.19

Capacity Procurement Strategy

Based on the needs for additional power generation and water desalination capacity, OPWP intends to launch a competition for a new IWPP (the "Salalah IWPP"), to be located at Taqah.

It is intended that the Salalah IWPP will cover all or most of the additional generation capacity required up to 2013 and therefore is likely to have a capacity of around 350-400 MW. Phased commissioning of this capacity, consistent with the minimum requirements identified above, is anticipated, with a minimum 2009 capacity of around 200 MW. The desalination capacity will be 68,000 m3 per day, to cover the demand up to 2013.

OPWP expects the first stage of the competition process to commence during the first quarter of 2007. The competition will be conducted in accordance with the requirements of the Sector Law and OPWP's license.

1 Electricity

1.1 Overview

Over the last two decades there has been considerable development in the domestic and commercial sectors and more recently in the industrial and tourism sectors in the Sultanate driving a growth of power demand and a need for new generation capacity. The demand in the Sultanate is supplied by the following main systems:

- The Main Interconnected System (MIS) covers the Governorate of Muscat and most of the South Batinah, Dakhliyah, Sharqiya, North Batinah and Dhahirah regions, serving almost 500,000 customers. The system interconnects seven main power plants with around 3000 MW of net generation capacity and transmits power over 220kV and 132kV lines stepping down to 33kV for distribution. All the electricity on the system is being procured by a single buyer Oman Power and Water Procurement company (OPWP). Power transmission is under the responsibility of the Oman Electricity Transmission Company (OETC) and the distribution is undertaken by Muscat Electricity Distribution Company, Majan Electricity Company and Mazoon Electricity Company.

- The Salalah System covers Salalah and surrounding areas in the Dhofar region, serving around 50,000 customers. It is operated by Dhofar Power Company (DPC). The current generation capacity is around 200 MW. Transmission is at 132kV.

- Rural Areas Electricity Company (RAECO) system is providing power produced by diesel generators to areas of the Sultanate which are not covered by the MIS or Salalah System. It has an installed capacity of 52 MW in Musandam, 17 MW in Al Wusta, 183 MW in Sharquiya and 195 MW in Dhofar regions. Around 70 MW this capacity is available to supply the Salalah System. Also the generating facilities in Sharqiya region are connected to the MIS; however, they have not been used in 2006 and are not expected to be used in future. The company also undertakes electrification of rural areas with some of the load centers served by RAECO being gradually connected to the main systems.

- Petroleum Development Oman dedicated system of 618 MW capacity is operating in the interior of Oman.

- In additional to the generation capacities of the main systems, several other entities also produce generation for their own needs; they include Oman Mining Company, Oman Cement Company, Sohar Refinery Company and the Ministry of Defense.

- Also, in future there would be possibilities of exchange of power with UAE through an interconnector linking the MIS and Abu Dhabi grid, which is currently in the final stage of construction. This will open opportunities for import and export of power.

OPWP is responsible for power generation and desalination resource planning in the MIS and the Salalah System.

As per sector law and license conditions, while planning for procurement of new capacity, OPWP is also required to consult and co-ordinate with RAECO regarding the requirement of additional generation capacity for supplying RAECO's authorized areas.

The following sections provide further details of the demand and capacity requirements of these systems.

Main Interconnected System

1.1.1 Historical Demand

(i) Historical Growth

The peak demand of the MIS reached 2.5 GW in 2006, growing from just 1 GW in 1990. The growth was driven predominantly by the increase in population, income growth and economic development in the Sultanate and the integration of demand areas to the system. The growth accelerated in recent years to an average annual rate of 6.1 % for peak demand and 7.4% for energy during 1999-2006, as shown in Table 1 and Figure 17:. The load factor (the ratio between average demand and peak demand) averaged 52% with an annual increase of one percent in the last three years.

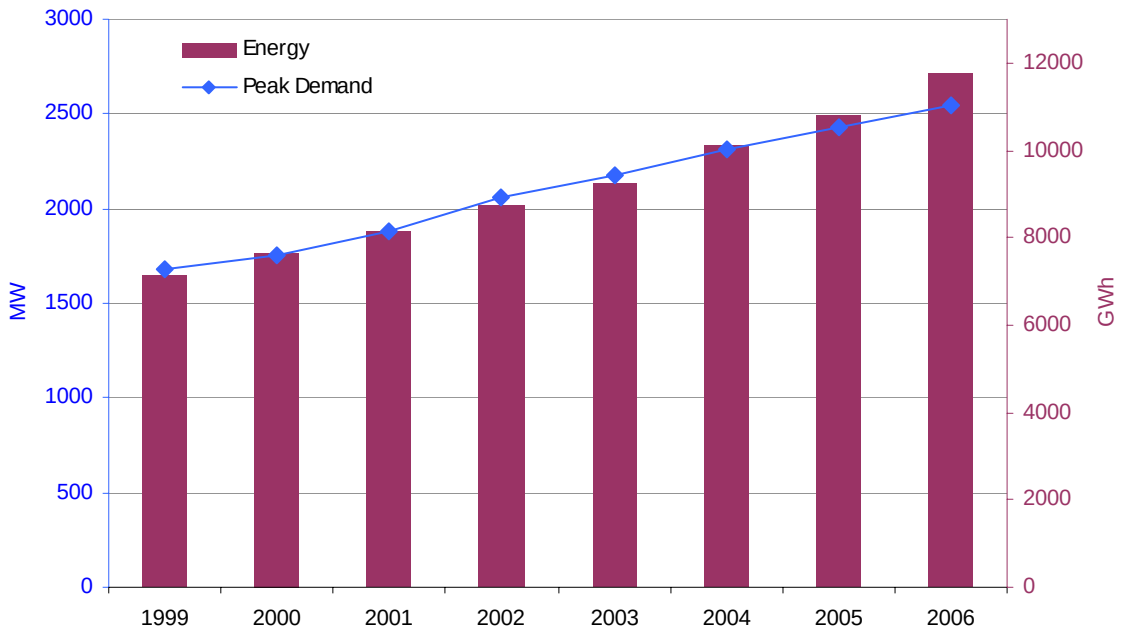
Table 1: Historical Peak Demand and Energy -MIS

Year	Peak Demand, MW	Annual Growth Rate	Energy, GWh	Annual Growth Rate	Load Factor
1999	1,676		7,140		49%
2000	1,749	4.4%	7,646	7.1%	50%
2001	1,885	7.8%	8,152	6.6%	49%
2002	2,058	9.2%	8,762	7.5%	49%
2003	2,176	5.7%	9,259	5.7%	49%
2004	2,314	6.3%	10,116	9.3%	50%
2005	2,435	5.2%	10,794	6.7%	51%
2006	2,544	4.5%	11,757[1]	8.9%[1]	53%[1]
Average growth rate, %		**6.1%**		**7.4%**	

Notes: values are at system entry point.

[1]- Estimated

Figure 17: Historical Peak Demand Growth - MIS



(ii) Categories of Consumers

The residential sector is the largest consumer category with its consumption taking more than half of the total system energy. However, during the period of 2000-2005 its share has been gradually reducing while the share of such sectors as Industrial and Commercial has increased, as shown in Table 2 and Figure 18.

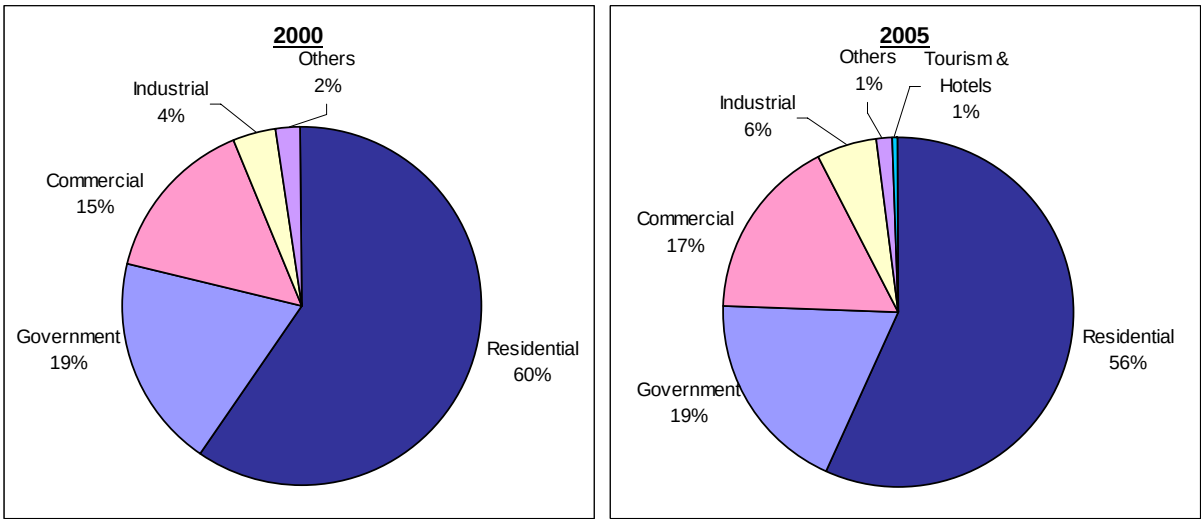
The Industrial sector is the fastest growing category with an annual average growth rate of 14.4% in comparison to the non-industrial sectors' growth of 6.3%. Such increase in industrial sector consumption contributed 1% of the 6.7% annual average total system consumption growth during 2000-2005.

Table 2: Energy Consumption Growth by Consumer Category - MIS

in GWh	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Average growth rate**
Residential	3622	3859	4033	4190	4468	4759	5.6%
Government	1153	1224	1304	1256	1433	1594	6.7%
Commercial	941	1051	1097	1144	1271	1417	8.5%
Industrial	236	267	336	384	427	463	14.4%
Others	131	141	149	144	163	116	-2.5%
Tourism & Hotels						53	
Total	**6083**	**6541**	**6919**	**7118**	**7762**	**8402**	**6.7%**
Total Non-industrial sectors	5848	6275	6583	6734	7335	7939	6.3%

Note: Values are at consumer-end

Figure 18: Energy Consumption Structure by Consumer Category - MIS



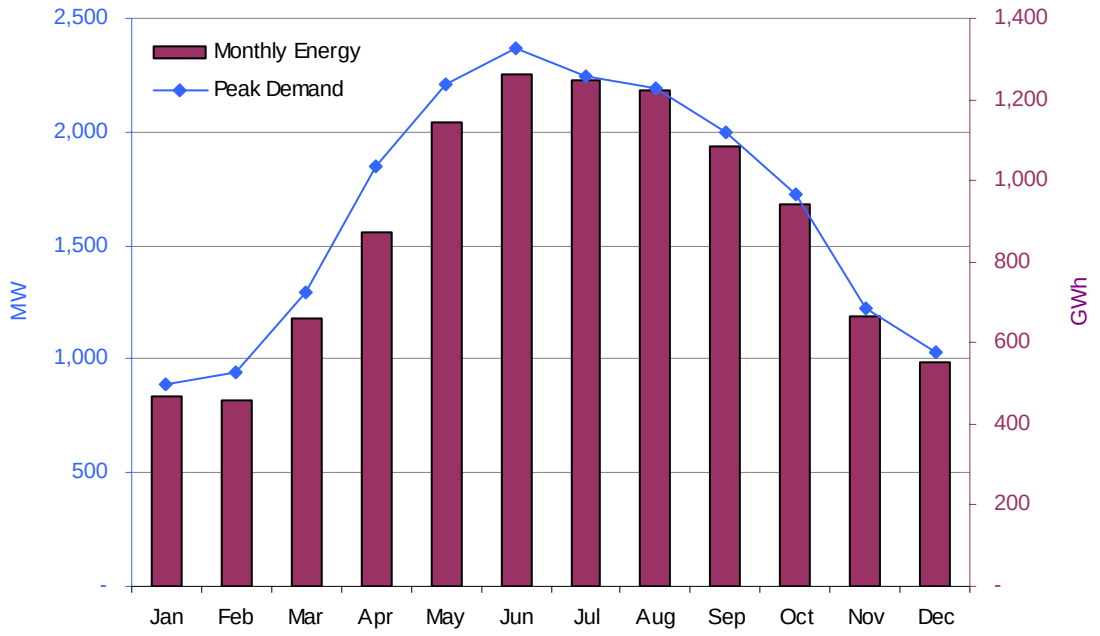
(iii) Seasonal Variations

The annual demand profile reflects the climate in the Sultanate and is highly seasonal. The average summer demand is more than double the average winter demand, reflecting a three times increase in domestic demand in summer over its winter level. The demand peaks typically in June or July

reflecting the highest temperatures and intensive use of air-conditioning. In future, with new large industrial loads coming on-line, the seasonality of the demand is expected to reduce.

The annual energy consumption curve closely follows the peak demand profile. Figure 19 shows electricity consumption and peak demand annual profiles derived as an average of the 2003, 2004 and 2005 profiles.

Figure 19: Electricity Consumption and Peak Demand Annual Profiles - MIS



Note: values are average of 2003, 2004 and 2005

(iv) Geographical Distribution of Demand

The power supplied through the transmission network of OETC is distributed to three distribution systems, which cover the following geographical areas:

- Muscat Governorate supplied by Muscat Electricity Distribution Company ("Muscat")
- North Batinah and Dhahirah regions supplied by Majan Electricity Company ("Majan")
- South Batinah, Dakhliyah and Sharqiyah (excluding Masirah island) supplied by Mazoon Electricity Company ("Mazoon")

The Muscat system accounts for almost half of the peak demand and energy of the total system and the shares of Majan and Mazoon amount to around 20% and 30% respectively, as shown in Table 3.

Table 3: Distribution of Peak Demand and Energy - MIS

	Peak Demand	Energy[1]
Muscat	46%	50%
Majan	21%	20%
Mazoon	33%	30%

Note: Energy values are estimates

1.1.2 Demand Projections

Following consultations with the three distribution companies demand projections for the period 2007-2013 have been built-up considering:

(i) "normal" demand growth reflecting underlying trend in demand from increase in population, number of households, rising personal incomes and general economic development;

(ii) major new industrial and tourism developments, which are expected to result in unprecedented levels of growth in these areas;

(iii) Expansion of the MIS to include Duqm area in the Al-Wusta region.

Two projections have been prepared, a base case reflecting the expected level of demand and a high case, which considers the possibility of further industrial development at Sohar.

(i) "Normal" Demand Growth

The observed historical growth of demand, or "normal" growth, reflecting growth in the domestic and related commercial, industrial and government sectors is expected to continue in future consistent with the expectation of the continuing population increase and economic growth in the Sultanate.

The projections of the "normal" demand are estimated by escalation of the 2006 actual simultaneous peak demands of each distribution company's system by the rate of 6%, as shown in Table 4.

Table 4: "Normal" Peak Demand Forecast by Distribution Company

in MW	**2006 (actual)**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Annual growth rate**
Muscat	1147	1216	1289	1366	1448	1535	1627	1724	6%
Mazoon	833	883	936	992	1052	1115	1182	1253	6%
Majan	527	559	592	628	665	705	748	793	6%
Total	**2507**	**2657**	**2817**	**2986**	**3165**	**3355**	**3556**	**3770**	

Note: The peak demand values are net of transmission losses

(ii) Large Industrial and Tourism Developments

The Government's policy for diversification of the country's economy has resulted in new large industrial and tourism projects being planned and developed in the Sultanate. A range of new industries is expected to come on-line concentrated mainly at the Sohar Industrial Port Area and Industrial Estate (in the Majan Area), where large iron and steel facilities, several petrochemical plants and other industrial projects are being developed. In addition a number of tourism projects are being developed mainly in the Muscat and Mazoon areas. Once commissioned, these new industrial and tourism projects are expected to make a significant contribution to the power demand requirements and are considered to be exceptional to the "normal" growth trend.

The information on these projects has been collected with cooperation of the relevant distribution companies to assess project's size, timing of commissioning and their contribution to the simultaneous system peak demand. By 2013 the new tourism projects are expected to contribute up the 300 MW and the new industrial projects up to 435 MW, as detailed in Table 5.

Table 5: Demand of New Projects – Base Case - MIS

in MW	2007	2008	2009	2010	2011	2012	2013
Industrial Projects							
Muscat	5	43	50	50	50	50	50
Mazoon	7	33	40	41	42	44	46
Majan	119	302	307	339	339	339	339
Total	**130**	**378**	**397**	**430**	**431**	**433**	**435**
Tourism Projects							
Muscat	8	46	111	164	190	205	205
Mazoon	8	17	26	46	74	74	74
Majan	-	-	8	8	11	11	11
Total	**16**	**62**	**145**	**217**	**275**	**289**	**289**

A separate "high case" demand forecast case is developed for Majan area, where a range of industrial developments with a demand requirement reaching an additional 644 MW by 2013 are planned to be developed in the longer term. These projects hold a higher degree of uncertainty in comparison to the projects currently being under development. The build-up of the potential additional demand in Sohar is shown in Table 6.

Table 6: Majan Base and High Case New Industrial Demand

in MW	2007	2008	2009	2010	2011	2012	2013
Included in the Base Case	119	302	307	339	339	339	339
Included in the High Case	119	302	408	580	764	915	983
Additional New Industrial Demand			101	241	425	576	644

(iii) Expansion of the MIS

It is expected that the process of connecting additional load centers to the MIS will continue with Duqm area being connected by 2009. The demand related to the Duqm area, where a major economic development is planned, is expected to add up to 71 MW to the MIS total demand by 2013, as shown in Table 7.

Table 7: Additional Demand from Expansion of the MIS

in MW	2007	2008	2009	2010	2011	2012	2013
Duqm area development			41	49	56	64	71

(iv) Transmission Losses

The transmission losses observed in the past amounted to around 1.5%. This is factored in the peak demand forecast.

(v) Total System Demand Projections

The sum of the "normal" demand growth, the demand from the large industrial and tourism developments, additional demand from the expansion of the MIS to Duqm and transmission losses add up to the total system peak demand, the details of which are shown in Table 8 and Figure 18.

The expected demand is projected to grow from 2544MW in 2006 to 4634 MW with an average annual growth rate of 8.9% and under the "high case", the demand will additionally increase by 101 MW in 2009 to 644 MW in 2013 resulting in 5288 MW peak demand in 2013 with an average annual growth rate being 11%.

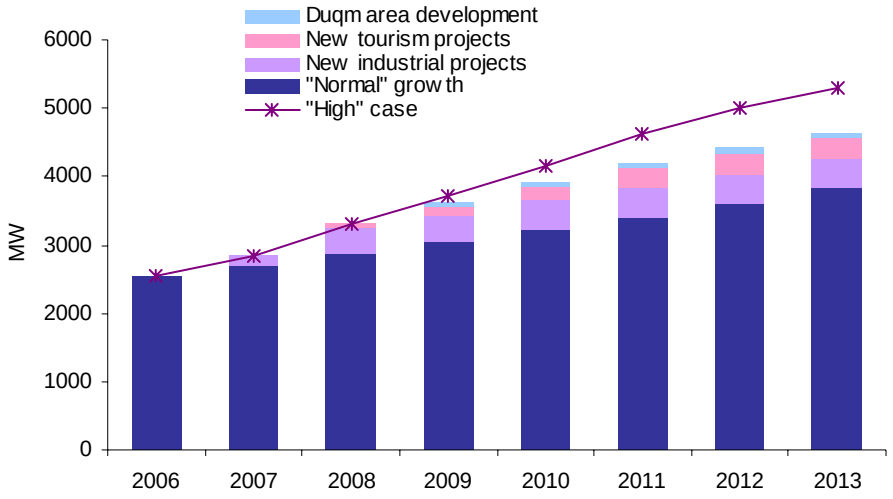
The distribution of demand between the distribution areas is expected to change with Majan taking a bigger share of around 30% under the expected demand projections and almost 50% under the "high case". The contributions from Muscat and Majan are expected to reduce accordingly.

Table 8: Expected and "High" Case Demand Forecast - MIS

in MW	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Annual growth**
Expected Demand									
"Normal" growth	2507	2657	2817	2986	3165	3355	3556	3770	
New Industrial Projects		130	378	398	430	431	433	436	
New Tourism Projects		16	62	145	217	275	289	289	
Duqm Area Development				41	49	56	64	71	
Transmission Losses	37	42	49	54	58	62	65	68	
Total	**2544**	**2846**	**3307**	**3623**	**3918**	**4179**	**4408**	**4634**	**8.9%**
"High Case" Demand									
Additional New Industrial Projects[1]				103	245	432	585	654	
Total	**2544**	**2846**	**3307**	**3726**	**4163**	**4611**	**4993**	**5288**	**11.0%**

Note: [1] –values include transmission losses

Figure 20: Expected and "High" Case Demand Forecast - MIS



1.1.3 Energy Projections

The projections of the energy requirements are based on the expected and "high" demand forecast scenarios and load factors of 52% for the "normal" and tourism demand, reflecting an average of the last three years, and 70% load factor for industrial demand reflecting a typical industrial load factor level. The energy estimates, provided in Table 9, result in an increase of a total annual energy from 12 TWh in 2006 to 22 TWh in 2013 under the expected demand case and to 26 TWh under the "high" case with an average growth rate of 9% and 11.9% under the expected and "high" cases respectively. As a result a load factor is expected to increase to 54% under the expected demand projections and to 56% under the "high case".

Table 9: Energy Projections - MIS

	2006	2007	2008	2009	2010	2011	2012	2013	Annual growth
Expected Energy									
GWh	11,757	13,171	15,668	17,140	18,538	19,725	20,770	21,806	9.2%
Load Factor		53%	54%	54%	54%	54%	54%	54%	
"High" Case Energy									
GWh	11,757	13,171	15,668	17,769	20,038	22,375	24,359	25,815	11.9%
Load Factor		53%	54%	54%	55%	55%	56%	56%	

1.1.4 Generation Resources

The resources which are anticipated to be available to OPWP for 2007-2013 comprise of contracted capacity, existing and new, and non-contracted capacity resources.

(i) Existing Contracted Capacity

Existing contracted capacity is capacity which generating companies have committed to make available to OPWP adjusted to the latest performance test results to take into account any performance reductions from the initially contracted amounts. OPWP presently has power purchase agreements in place with existing plants at Al Ghubrah, Rusail, Wadi Al Jizzi, Manah I and Manah II, Al Kamil and Barka. The existing contracted capacities of each generating plant are provided in Table 10. The capacities are shown on a net basis, after making allowance for plant consumption and at an ambient temperature of 45^0C.

The total existing firm capacity of the MIS is expected to amount to 3,028 MW during 2007-2009; it will reduce to 2,834 MW in 2010 and 2,765 MW in 2012 due to some of the units of Al Ghubrah and Wadi Jizzi plants falling out of contract and possibly being retired. Some of these units could potentially continue to operate and they accounted for as "non-contracted", but potential additional capacity sources.

Table 10: Committed Existing Capacity - MIS

in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Al-Ghubrah Power & Desalination Plant	**475**	**475**	**475**	**282**	**282**	**282**	**282**
ST 3	8.3	8.3	8.3				
ST 4	39.2	39.2	39.2				
ST 5	31.6	31.6	31.6	31.6	31.6	31.6	31.6
ST 6	30.2	30.2	30.2	30.2	30.2	30.2	30.2
GT1	17.2	17.2	17.2				
GT2	16.6	16.6	16.6				
GT3	17.2	17.2	17.2				
GT4	16.5	16.5	16.5				
GT5	16.0	16.0	16.0				
GT6	17.4	17.4	17.4				
GT7	18.0	18.0	18.0				
GT8	17.9	17.9	17.9				
GT9	17.1	17.1	17.1				
GT10	27.7	27.7	27.7	27.7	27.7	27.7	27.7
GT11	27.1	27.1	27.1	27.1	27.1	27.1	27.1
GT12	93.0	93.0	93.0	93.0	93.0	93.0	93.0
GT13	92.1	92.1	92.1	92.1	92.1	92.1	92.1
Desalination Load	(28.0)	(28.0)	(28.0)	(28.0)	(20.0)	(20.0)	(20.0)
Rusail Power Plant	**684**	**684**	**684**	**684**	**684**	**684**	**684**
GT 1	81.1	81.1	81.1	81.1	81.1	81.1	81.1
GT 2	81.5	81.5	81.5	81.5	81.5	81.5	81.5
GT 3	81.5	81.5	81.5	81.5	81.5	81.5	81.5
GT 4	83.2	83.2	83.2	83.2	83.2	83.2	83.2
GT 5	83.6	83.6	83.6	83.6	83.6	83.6	83.6
GT 6	83.9	83.9	83.9	83.9	83.9	83.9	83.9
GT 7	95.8	95.8	95.8	95.8	95.8	95.8	95.8
GT 8	94.1	94.1	94.1	94.1	94.1	94.1	94.1
Wadi Al-Jizzi Power Plant	**288**	**288**	**288**	**288**	**288**	**219**	**219**
GT3	17.3	17.3	17.3	17.3	17.3		
GT4	27.5	27.5	27.5	27.5	27.5	27.5	27.5
GT5	26.4	26.4	26.4	26.4	26.4	26.4	26.4
GT6	26.2	26.2	26.2	26.2	26.2		
GT7	25.8	25.8	25.8	25.8	25.8		
GT8	25.6	25.6	25.6	25.6	25.6	25.6	25.6
GT9	25.3	25.3	25.3	25.3	25.3	25.3	25.3
GT10	27.2	27.2	27.2	27.2	27.2	27.2	27.2
GT11	28.3	28.3	28.3	28.3	28.3	28.3	28.3
GT12	28.7	28.7	28.7	28.7	28.7	28.7	28.7
GT13	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Manah Power Plant	**279**	**279**	**279**	**279**	**279**	**279**	**279**
GT1A	29.1	29.1	29.1	29.1	29.1	29.1	29.1
GT1B	29.2	29.2	29.2	29.2	29.2	29.2	29.2
GT1C	28.9	28.9	28.9	28.9	28.9	28.9	28.9
GT2A	97.0	97.0	97.0	97.0	97.0	97.0	97.0
GT2B	95.0	95.0	95.0	95.0	95.0	95.0	95.0
Al Kamil Power Plant	**282**	**282**	**282**	**282**	**282**	**282**	**282**
GT 1A	94.1	94.1	94.1	94.1	94.1	94.1	94.1
GT 1B	94.1	94.1	94.1	94.1	94.1	94.1	94.1
GT 1C	94.1	94.1	94.1	94.1	94.1	94.1	94.1
Barka I Power & Desalination Plant	**434**	**434**	**434**	**434**	**434**	**434**	**434**
GT 1	119.5	119.5	119.5	119.5	119.5	119.5	119.5
GT 2	119.5	119.5	119.5	119.5	119.5	119.5	119.5
ST	220.0	220.0	220.0	220.0	220.0	220.0	220.0
Desalination Load	(25.0)	(25.0)	(25.0)	(25.0)	(25.0)	(25.0)	(25.0)
Total	**2442**	**2442**	**2442**	**2449**	**2249**	**2180**	**2180**

(ii) New Contracted Capacity

Another 1262 MW of new contracted capacity will be added to the MIS by 2010 from Sohar and Barka II plants. The Sohar plant is currently under commissioning and will add 585 MW in April 2007. Also, OPWP recently entered into an agreement for the development of a Barka II Power and Desalination Plant. The new capacity from Barka II is to be commissioned in two phases from 2008 reaching 677MW by 2009. The build-up of the new contracted capacity is provided in Table 11.

Table 11: New Contracted Capacity – MIS

in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Sohar Power & Desalination Plant	**585**	**585**	**585**	**585**	**585**	**585**	**585**
GT 1	132.0	132.0	132.0	132.0	132.0	132.0	132.0
GT 2	132.0	132.0	132.0	132.0	132.0	132.0	132.0
GT 3	132.0	132.0	132.0	132.0	132.0	132.0	132.0
ST	220.0	220.0	220.0	220.0	220.0	220.0	220.0
Desalination Load	(31.0)	(31.0)	(31.0)	(31.0)	(31.0)	(31.0)	(31.0)
Barka I Power & Desalination Plant			**363**	**677**	**677**	**677**	**677**
Phase 1			363				
Phase 2				677	677	677	677
Total New Contracted Capacity	**585**	**585**	**948**	**1262**	**1262**	**1262**	**1262**

The composition of the total contracted capacity is shown in Figure 21. The new capacity shown includes additions from Sohar Power plant and Barka II Power and Desalination plants. Figure 22 provides details of cumulative reductions of the existing plants and additions from new plants.

Figure 21: Composition of Total Contracted Capacity - MIS

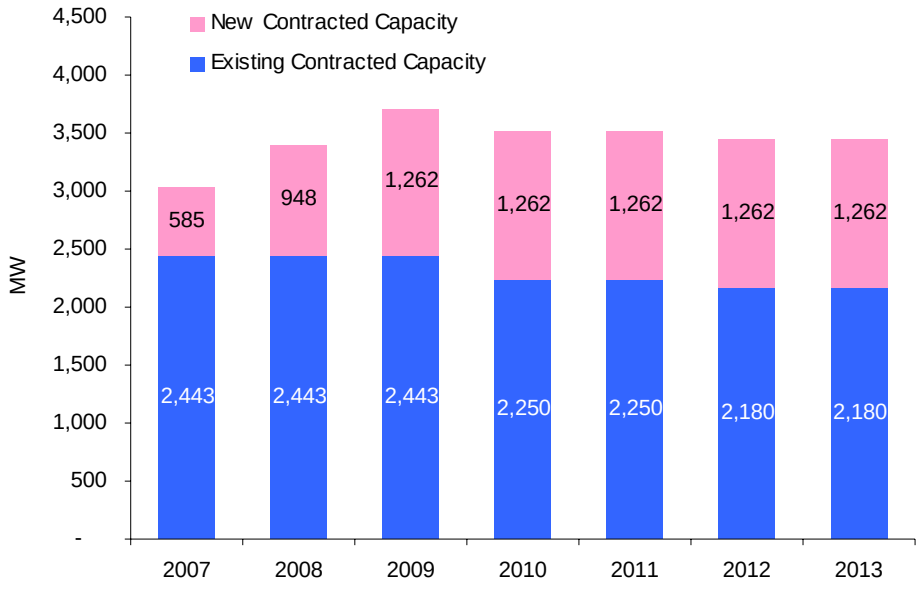
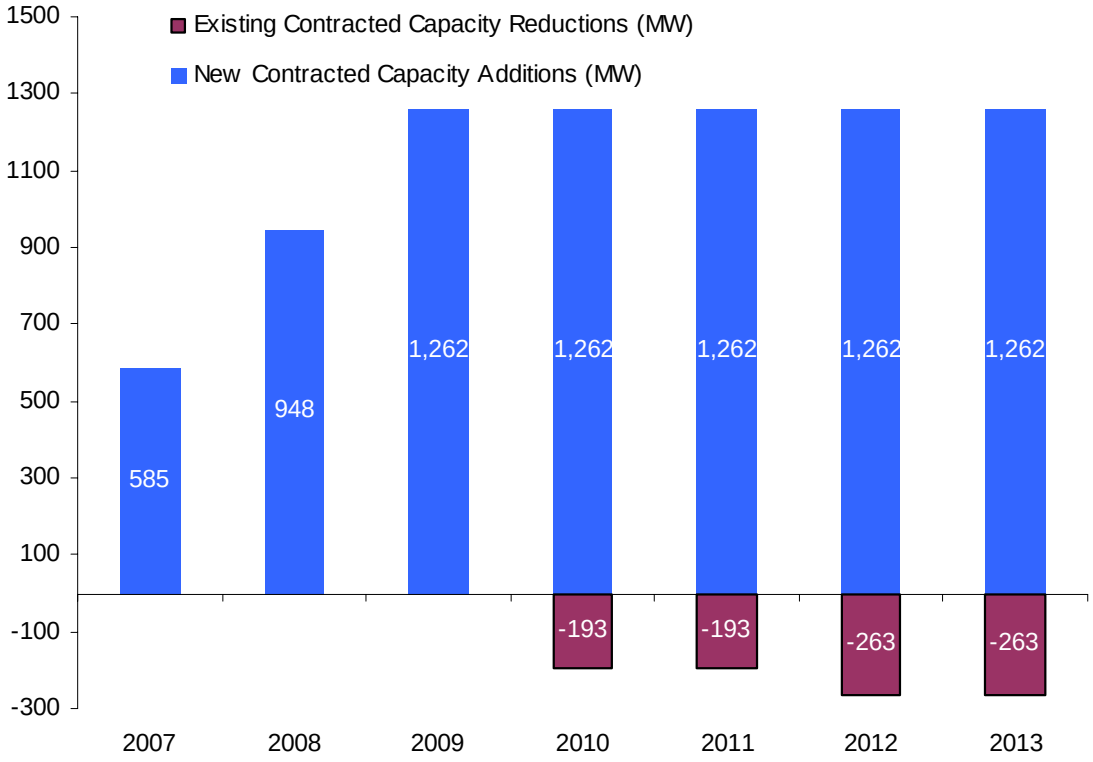


Figure 22: Cumulative Capacity Retirements and Additions - MIS



(iii) Non-contracted Capacity

There is a number of other generation resources that could potentially be available to OPWP during 2007-2013, shown in Table 12. These include Abu Dhabi Interconnector, Sohar Aluminum generation facilities and a potential capacity coming from continued availability of out of contract Al Ghubrah and Wadi Jizzi units. The total amount of potential additional sources of capacity could reach 663 MW by 2013. If required, these could be contracted by OPWP in case of the need for additional capacity.

Table 12: Non-contracted Generation Capacity - MIS

in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Oman Mining Co.	20	20	20	20	20	20	20
Additional from contracted plants	5	5	5	5	5	5	5
Sohar Refinery Co.	35	35	35	35	35	35	35
Abu Dhabi Interconnector	200	200	200	200	200	200	200
Sohar Aluminum			180	180	180	180	180
Al-Ghubrah (Out of Contract Capacity)				154	154	154	154
Wadi Jizzi (Out of Contract Capacity)						69	69
Total non-contracted capacity	**260**	**260**	**440**	**594**	**594**	**663**	**663**

1.1.5 New Capacity Requirements

(i) Supply/Demand Balance

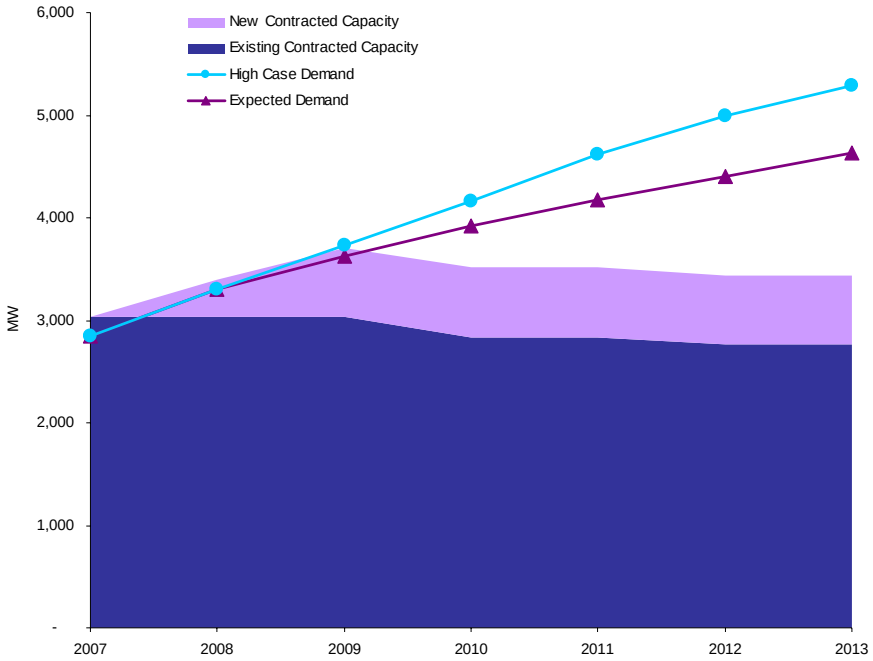
A Supply/Demand balance is derived on the basis of the contracted capacity and the expected and "high" case demand forecast scenarios, as shown in Table 13 and illustrated in Figure 23. The balance shows a shortfall in capacity starting from 2009 under the "high" case and from 2010 under the expected case. The shortfall is increasing by 350 MW on average per annum.

Table 13: Projected Supply/Demand Balance, MIS

	2007	2008	2009	2010	2011	2012	2013
Committed Capacity	3028	3391	3705	3511	3511	3442	3442
Demand							
Expected Demand	2846	3307	3623	3919	4179	4408	4634
"High" Case Demand	2846	3307	3726	4163	4611	4993	5288
Capacity Shortfall:							
Expected Demand				(407)	(667)	(966)	(1192)
"High" Case Demand			(21)	(652)	(1,100)	(1,551)	(1,846)

A more detailed analysis to estimate the necessary additional capacity, taking into account a system security criterion, is described in the following section.

Figure 23: Capacity vs. Peak Demand - MIS



(ii) Planning Criterion and Approach

For system planning purposes, the assessment of the minimum new capacity requirements is based on the "24 LOLH (expected loss of load hours)" criterion. It is a minimum resource adequacy standard

stipulated by the Authority for Electricity Regulation, Oman and it reflects the expectation of there being insufficient production capacity available to meet total system demand.

To asses the amount of required capacity to meet the "24 LOLH" criterion, the generation availability is simulated and compared to the demand hour by hour for each year using a computer model. The model calculations are based on the following assumptions:

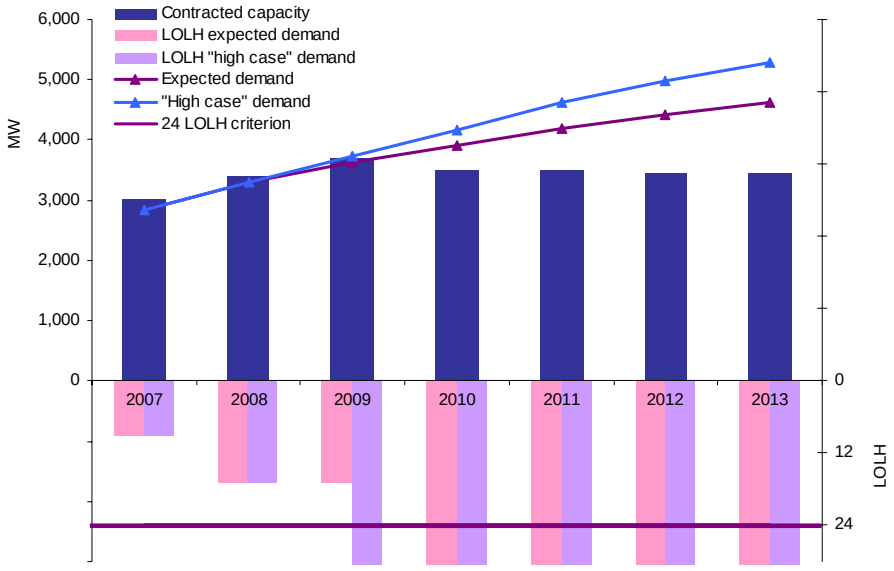
- existing contracted generation and planned capacities/configurations adjusted to hourly temperatures (using actual profiles of 2003/2004/2005)
- established annual peak demand forecast and hourly demand profiles (using actual profiles of 2003/2004/2005)
- Generation unit forced outages modeled using Monte Carlo method to randomly select cases based on assumed probability characteristics. The unit outage rates are assumed at 2 % for "new" power stations, Al Kamil, Barka I and Manah, Sohar and Barka II and 10% for the "old" plants, Ghubrah, Rusail & Wadi Jizzi, reflecting the observation of the units' outage rates in 2005.

The non-contracted capacity resources are not considered as firm capacity and therefore are not included in the LOLH analysis.

(iii) Additional Capacity Requirements

The results of the LOLH model analysis, illustrated in Figure 24, show that the 24 LOLH criterion will be met with current committed capacity only until 2009, and an additional capacity will be required to meet the criterion from 2010 onwards.

Figure 24: Potential Generation Capacity Shortfall and LOLH – MIS



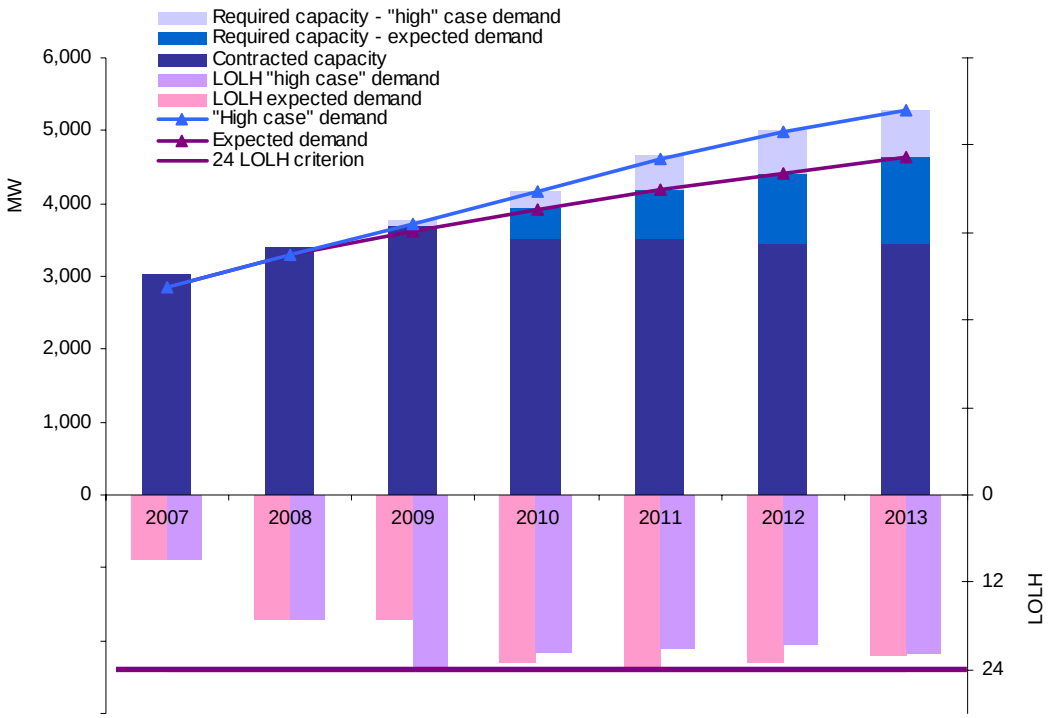
The required additional capacity amounts to 425 MW in 2010 increasing to 1200 MW in 2013 under the expected demand case and up to 1845 MW in 2013 under the "high" case, as shown in Table 14 and Figure 25. These needs for additional contracted capacity could be met by contracting for some of

the non-contracted capacity identified above and/or by procuring the construction of new capacity. OPWP expects most of the additional contracted capacity to be new-build capacity.

Table 14: Additional Capacity Requirements - MIS

in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Minimum Additional Capacity							
Expected Demand				425	680	970	1200
"High Case" Demand			60	660	1140	1570	1845
Total Required Capacity							
Expected Demand	3028	3391	3705	3936	4191	4412	4642
"High Case" Demand	3028	3391	3765	4171	4651	5012	5287

Figure 25: Additional Generation Capacity Requirements – MIS



1.2 Salalah System

1.2.1 Historical Demand

(i) Historical Growth

The peak demand in the Salalah system grew at an average rate of 9.2% per year between 2003 and 2006 reaching 232 MW in 2006, as shown in Table 15. This rapid growth in recent years occurred largely due to system expansion and increase in the demand of bulk loads.

The energy generation increased by an average of 9.5% per year during 2003-2006 and it is expected to reach to 1246 MWh in 2006 with a load factor of 61%, as shown in Table 15.

Table 15: Historical Peak Demand and Energy - Salalah

Year	Peak Demand, MW	Annual Growth Rate	Energy [1], GWh	Annual Growth Rate	Load Factor
2003	178		948		61%
2004	181	1.4%	988	4.2%	62%
2005	199	10.2%	1060	7.3%	61%
2006	232	16.6%	1246[2]	17.6%	61%
Average growth rate, %		**9.2%**		**9.5%**	

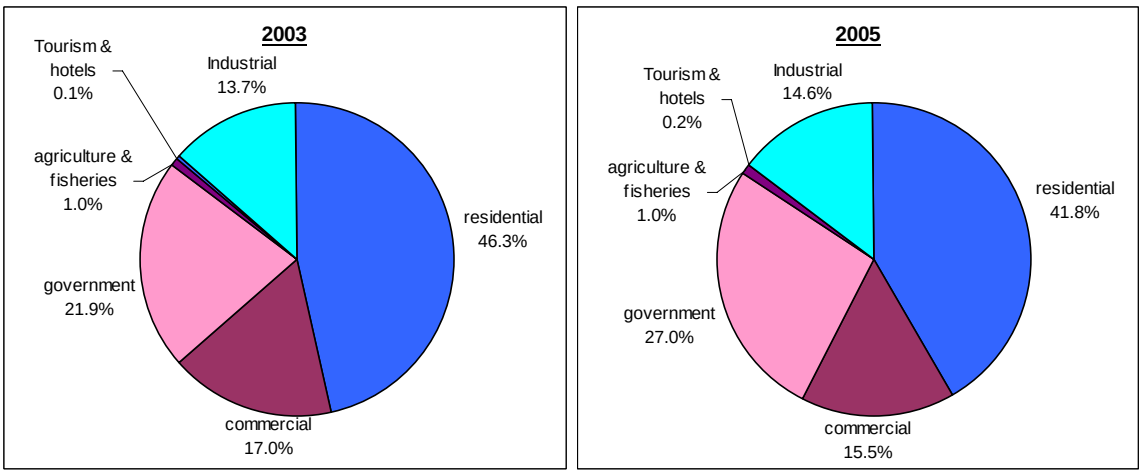
Notes: [1]*- estimated from gross values,*

[2]*-sum of actual values for Jan-06 toNov-06 and an estimated value for Dec-06*

(ii) Categories of Consumers

Residential sector consumption, being the largest consumer category, has been declining in its share in the total consumption, while the share from such sectors as industrial, government and tourism and hotels has been increasing, as shown in Figure 26.

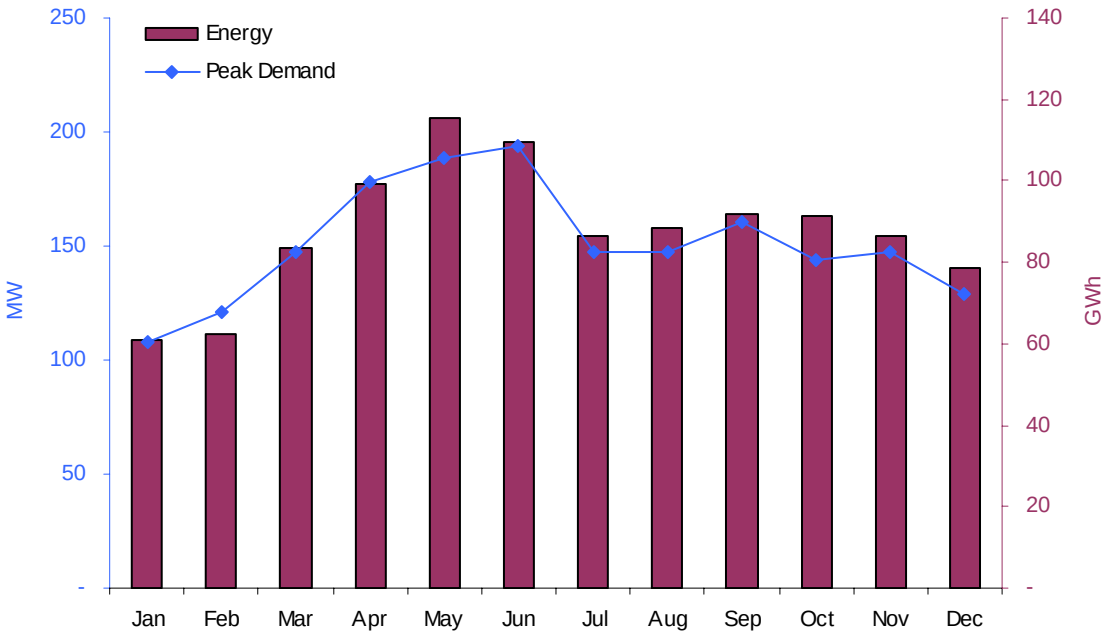
Figure 26: Energy Consumption Structure by Consumer Category - Salalah



(iii) Seasonal Variations

The difference between the peak and off-peak seasons demand in Salalah is not as significant it is in the MIS due to unique climate in the region. The peak demand typically occurs in May or June, as illustrated in Figure 27.

Figure 27: Peak Demand and Energy Profiles - Salalah



Note: 2005 values

1.2.2 Demand Projections

The maximum power demand in the Salalah System is expected to grow from 232 MW in 2006 to 567 MW by 2013, an average increase of around 13.6 % or 48 MW per year. As for the Main Interconnected System, this growth is the product of:

- continuing underlying "normal" growth from increasing population and number of households, rising personal incomes and general economic development;
- a major increase in demand from existing bulk loads and new industrial projects, in the case of the Salalah System concentrated in particular around the new Salalah Free Zone;
- a major increase in demand from new tourism related developments; and
- Expansion of the system to new areas.

The annual build up of expected power demands to 2013, and the contribution to the growth of each of the main drivers identified above, are shown in Table 16.

Table 16: Expected Peak Demand Forecast - Salalah

In MW	2006	2007	2008	2009	2010	2011	2012	2013	Annual average
"Normal" growth	190	201	213	226	240	254	269	286	**6.0%**
Industrial/Bulk loads	39	65	90	131	151	172	192	212	
New Tourism Projects			17	39	44	44	44	44	
System Expansion				15	16	17	18	19	
Transmission Losses	3	3	4	5	6	6	7	7	
Total	**232**	**270**	**324**	**416**	**456**	**493**	**530**	**567**	**13.6%**

1.2.3 Energy Projections

The energy projections for Salalah System are developed on the basis of the peak demand forecast and load factors of 60% applied to the "normal" growth, new tourism projects and systems expansion demands, reflecting a historical trend; and 70% factor for industrial/bulk loads, a typical industrial load factor level. Accordingly, the energy is expected to increase to 3,153 GWh in 2013 with an annual average growth rate of 14.2% and a corresponding load factor of 63%, as shown in Table 17.

Table 17: Energy Projections – Salalah

	2006	2007	2008	2009	2010	2011	2012	2013	Average annual growth
Energy,									
GWh	1246	1472	1777	2296	2520	2734	2943	3153	14.2%
Load Factor	61%	62%	63%	63%	63%	63%	63%	63%	

1.2.4 Generation Resources

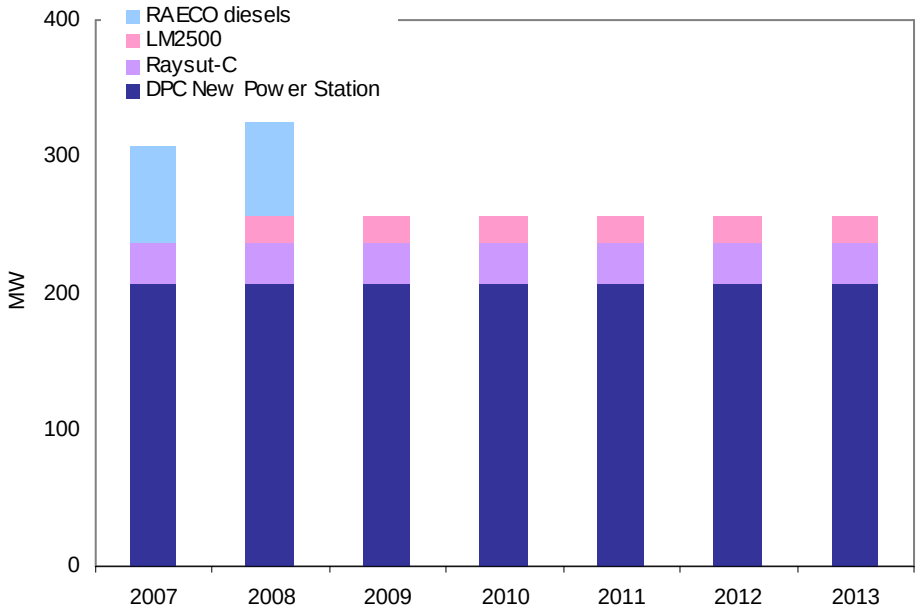
Power generation capacity in the Salalah System currently comprises the new gas-fired power station commissioned in 2003 by DPC, with a capacity of 207 MW, and the old Raysut A&B diesel stations owned by RAECo, with a capacity of around 70 MW.

This will be supplemented by around 31 MW in 2007 with the re-commissioning by DPC of the Raysut-C gas turbine, which was acquired from the Government as part of the privatization of the Salalah System. The capacity will be further supplemented in 2008 with the re-commissioning of a second gas turbine acquired from the Government, an LM2500 unit with a capacity of 18 MW. These additions will bring the total capacity to around 308 MW and 326 MW in 2007 and 2008 respectively.

It is anticipated that the RAECo diesels will not be available after 2008, resulting in a decrease in total capacity to 256 MW in 2009.

A summary of this generation capacity is provided in Figure 28.

Figure 28: Generation Capacity – Salalah



in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
DPC New Power Station	207	207	207	207	207	207	207
Raysut-C	31	31	31	31	31	31	31
LM2500		18	18	18	18	18	18
RAECO diesels	70	70					
Total Capacity	**308**	**326**	**256**	**256**	**256**	**256**	**256**

1.2.5 New Capacity Requirements

As for the MIS, OPWP is required to ensure the adequacy of generation resources to meet future power demands and, further, to ensure that electricity customers in the Salalah System receive services generally of equivalent quality as those received by customers in the MIS.

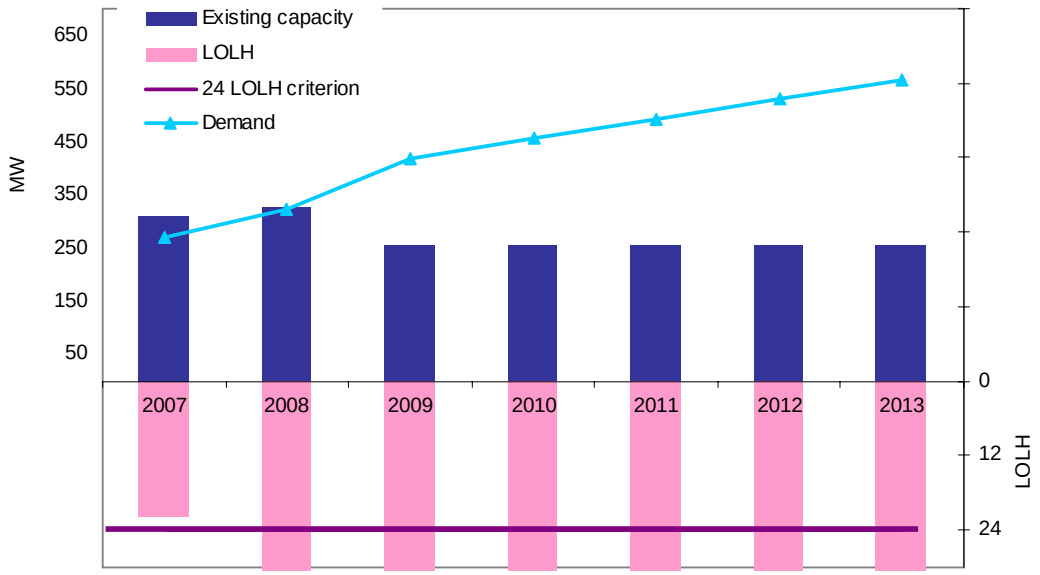
This requires, as a minimum, that sufficient capacity is installed on the Salalah System to cover each year's expected peak demand and that the 24 hour LOLH criterion stipulated by the Authority for Electricity Regulation, Oman in respect of the MIS be similarly complied with in the Salalah System.

Table 18: Supply/Demand Balance - Salalah

	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Total Available (n-1)	274	292	222	222	222	222	222
Demand	270	355	416	456	493	530	567
Capacity Shortfall	8	(64)	(195)	(234)	(272)	(308)	(345)

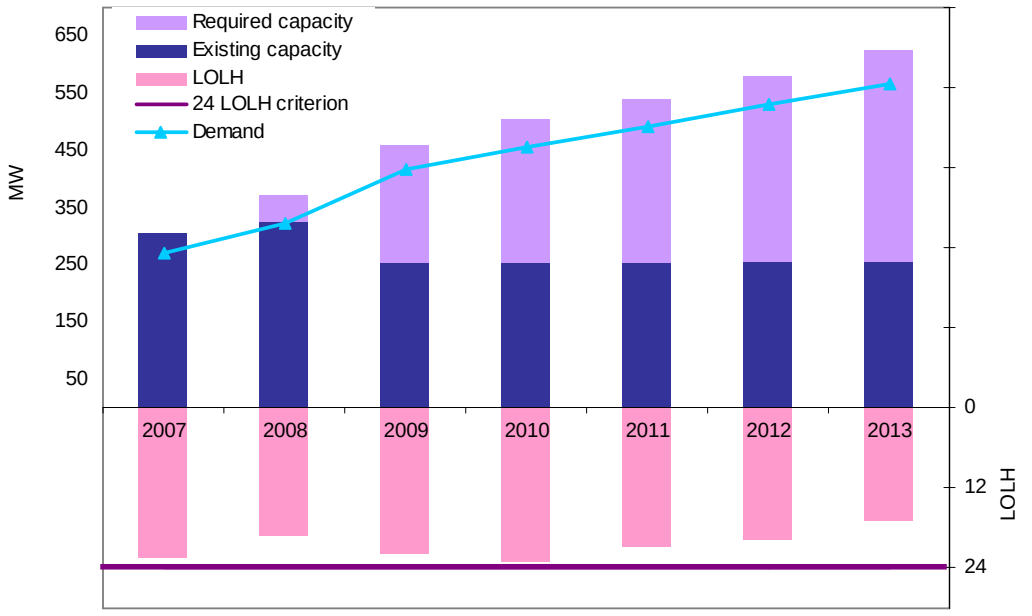
Based on the demand projection and generation capacities identified above, an LOLH excess (above the 24 hour limit) is expected in 2008 and, without additional capacity, significant capacity shortfalls and LOLH excesses are expected from 2009, as shown in Figure 29.

Figure 29: Potential Generation Capacity Shortfall and LOLH – Salalah



OPWP has calculated a need for a minimum of around 370 MW of additional capacity by 2013. This will need to be available as shown in Figure 30.

Figure 30: Additional Power Generation Capacity Requirements - Salalah



in MW	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Minimum required additional capacity		45	205	250	285	325	370
Total required capacity	**308**	**371**	**461**	**506**	**541**	**581**	**626**

2 Desalinated Water

2.1 Overview

The Sultanate has used desalinated water since the 1970's when the Al-Ghubrah Power and Desalination Plant was first established in Muscat. Demand has grown rapidly since that time with total desalinated water production approaching 90 million m^3 in 2006.

Desalinated water use is expected to increase further in the future to meet growing water demand and to reduce the reliance on groundwater resources. New industrial and tourism-related developments in particular are expected to add to the demand.

OPWP is required to consult with responsible Water Departments with regard to their demand projections for desalinated water in the regions covered by the Main Interconnected System and the Salalah System. The demands have been assessed in four zones, reflecting the general configuration of the water supply infrastructure within these regions. The "Muscat" zone covers the Governorate of Muscat and the South Batinah and Dakhilyah regions. The "Sohar" zone covers the North Batinah and Dhahirah regions. The "Sharqiya" zone covers the Sharqiya region, but excluding Masirah island. And the Dhofar zone covers Salalah, Taqah and Mirbat

Table 19 below identifies the responsible Water Department(s) in respect of each zone.

Table 19: Water Departments

Zone	Regions	Water Department
Muscat	Governorate of Muscat, South Batinah & Dakhilyah	Ministry of Housing, Electricity and Water
Sohar	North Batinah & Dhahirah	Ministry of Housing, Electricity and Water
		Majis Industrial Services Company
		Sohar Development Office
Sharqiyah	Sharqiyah excluding Masirah	Ministry of Housing, Electricity and Water
Dhofar	Dhofar: Salalah, Taqah & Mirbat	Office of the Minister of State and Governor of Dhofar

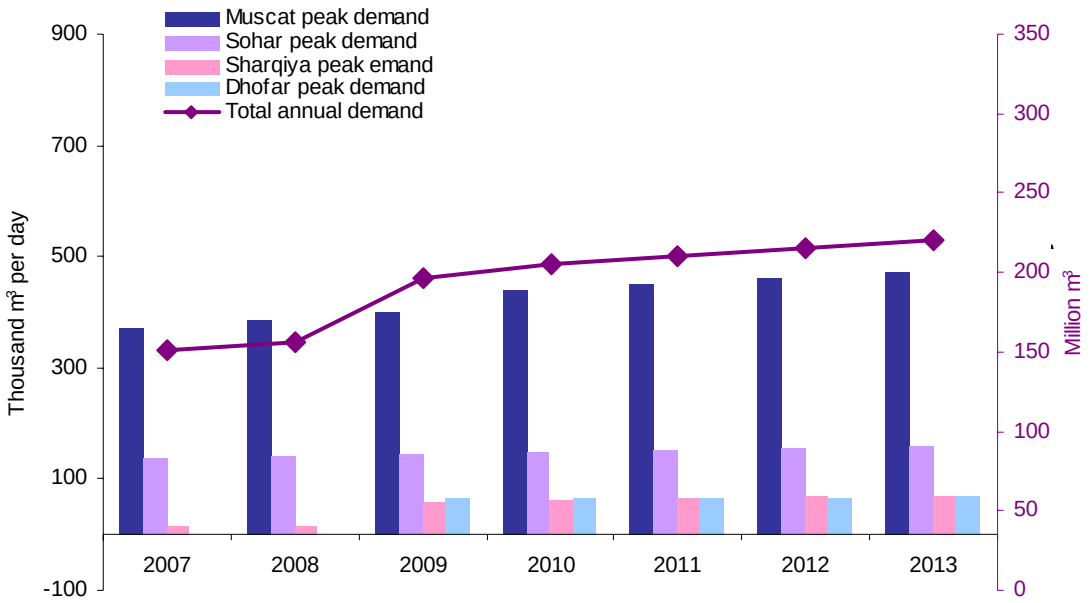
2.2 Water Demand Projections

The demand projections provided by the responsible Water Departments were based primarily on the Water Master Plan prepared for the Ministry of National Economy in 2004.

The projections include the average daily demand (or the total annual demand) and the "peak" daily demand, which is the average daily demand during the month of the year with the highest demand. The peak demand is used as the basis for determining capacity requirements.

The projected peak water demands of the four zones are illustrated in Figure 31.

Figure 31: Expected Desalinated Water Demand by Zones



		2007	2008	2009	2010	2011	2012	2013
Peak demand by zone (thousand m^3 per day)								
	Muscat	371	387	400	441	452	462	472
	Sohar	136	140	144	148	152	156	160
	Sharqiya	15	16	60	63	65	68	70
	Dhofar			64	65	66	67	68
Total annual demand (million m^3)		151	157	196	205	210	215	221

The demands of each zone and the capacities of the related plants are discussed in the following sections.

2.2.1 Muscat Zone

The Muscat zone represents the most significant portion of the Sultanate's desalinated water demand. The peak demand in the Muscat Zone is expected to reach 472,000 m^3 per day by 2013.

However, OPWP has been advised of potential plans to utilize water resources from Wadi Dayqah, located near Quriyat, to serve Muscat and thus reduce the desalinated water demands of the Muscat zone. It is understood that the contribution of such water could be in the order of 10 to 20 million m^3 per year, starting from 2009. This could reduce the peak demands for the Muscat zone by perhaps as much as 30,000 to 60,000 m^3 per day.

This zone is supplied by Al-Ghubrah Power & Desalination Plant and Barka Plants Power & Desalination Plant. The capacities of the Al-Ghubrah and Barka plants as well as the Barka II Power and Desalination Plant for the period 2007 – 2013 are shown in Table 20.

Table 20: Desalinated Water Capacity – Muscat Zone

Capacity in thousand m^3 per day	2007	2008	2009	2010	2011	2012	2013
Existing capacity:							
Al-Ghubrah Power & Desalination Plant	165	165	165	138	138	138	138
Barka I Power & Desalination Plant	91	91	91	91	91	91	91
New capacity							
Barka II Power & Desalination Plant			120	120	120	120	120
Total Capacity	**256**	**256**	**376**	**349**	**349**	**349**	**349**

Comparison of the annual peak demands and desalination capacities for the Muscat zone, provided in Figure 32 and Table 21 indicates that:

- significant capacity shortfalls are expected in 2007 and 2008 – clearly continued heavy utilization of local groundwater resources will be required in these years;
- the addition of the Barka II capacity in 2009 will reduce the shortfall to 24,000 m3 per day, which shortfall could be eliminated if the Wadi Dayqah scheme is implemented;
- Without additional capacity, the reduction at Ghubrah after 2009 will result in significant shortfalls, of up to 123,000 m3 per day, by 2013 – though these could be reduced somewhat with the implementation of the Wadi Dayqah scheme.

Figure 32: Desalinated Water Capacity Shortfall for Muscat Zone

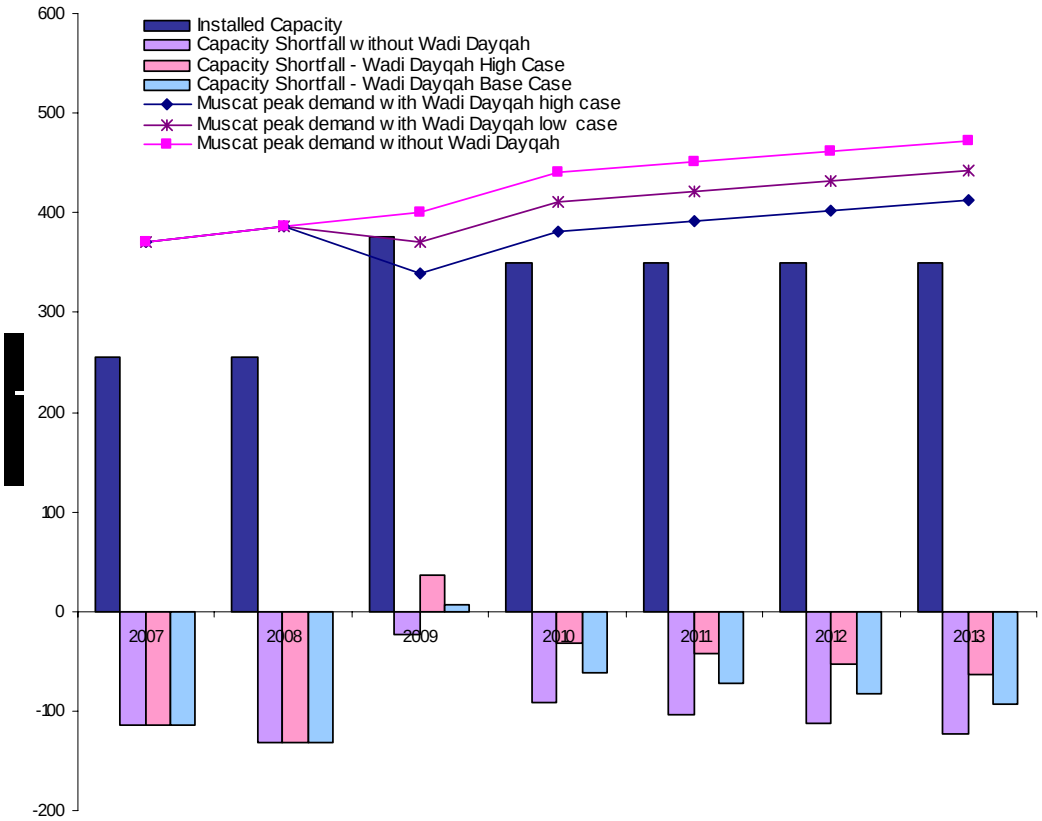


Table 21: Desalinated Water Capacity Shortfall for Muscat Zone

in thousand m3 per day	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Capacity	256	256	376	349	349	349	349
Peak Demand	371	387	400	441	452	462	472
Peak Demand - Wadi Dayqah low case	371	387	370	411	422	432	442
Peak Demand - Wadi Dayqah high case	371	387	340	381	392	402	412
Surplus (Shortfall)	**(115)**	**(131)**	**(24)**	**(92)**	**(103)**	**(113)**	**(123)**
Surplus (Shortfall) - Wadi Dayqah low case	(115)	(131)	6	(62)	(73)	(83)	(93)
Surplus (Shortfall) - Wadi Dayqah high case	(115)	(131)	36	(32)	(43)	(53)	(63)

2.2.2 Sohar Zone

The Sohar zone represents the second most significant demand area within the Sultanate. The peak demand is expected to reach 160,000 m^3 per day by 2013. This zone will be supplied by the Sohar Power and Desalination Plant which is expected to come on-line in early 2007 with a capacity of 150,000 m3 per day.

For the Sohar zone, demand projections are compiled from three sources, the Ministry of Housing, Electricity and Water (MHEW), the Sohar Development Office, and Majis Industrial Services Company (MISC), which is responsible for process, potable, waste water treatment and seawater intake facilities in the Sohar Industrial Area.

The Sohar Power and Desalination Plant is designed to produce 150,000 m3 per day, of which 136,000 m3 per day is dedicated to MHEW and 14,000 m3 per day is dedicated to MISC for the Sohar Industrial Port Area.

On the demand side, the projections provided by MHEW are obtained from the Master Plan; these show a peak demand of 136,000 m3 per day in 2007 rising to 158,000 m3 per day by 2013, as shown in Table 22. These figures reflect the water demands of North Batinah and Al-Buraimi only; the demand for desalinated water form other areas of Dhahirah is considered to be zero since they are served by Al Massarat groundwater scheme.

Table 22: Desalinated Water Capacity and Demand for Sohar Zone

in thousand m3 per day	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Capacity : Sohar Power & Desalination Plant	150	150	150	150	150	150	150
Peak Demand, including	136	140	144	148	152	156	160
MHEW	136	139	143	146	150	154	158
MISC	0	1	2	2	3	3	3
Surplus (Shortfall)	**14**	**10**	**6**	**2**	**(2)**	**(6)**	**(10)**

The projections shown in relation to MISC are based on Sohar Industrial Port Area requirement for potable water only, which does not exceed 3,000 m3 per day. MISC has also identified a potentially significant demand for process water. OPWP is presently consulting with MISC further on the likely requirements in this regard.

On the basis of the demand projections shown in Table 22 the Sohar zone shows a surplus capacity up to 2010 and relatively minor shortfalls, of no more than 10,000 m3 per day, in subsequent years, though more significant shortfalls could emerge with the process water requirements of MISC.

It is understood that MHEW intends to make an interconnection between the Sohar Zone and the Muscat Zone which will allow certain quantities of water to be transported between the zones. OPWP intends to consult further with MHEW on the likely impact of this on capacity requirements in the respective zones.

2.2.3 Sharqiyah Zone

The current desalination plant in Sur has a capacity of around 12,000 m^3 per day. The Sur Desalination Plant will be commissioned in 2009 with a capacity of 68,000 m^3 per day.

The output of those plants is expected to meet the Sharqiyah zone peak demand in the next seven years as shown in Table 23.

Table 23: Desalinated Water Capacity and Demand for Sharqiyah Zone

in thousand m3 per day	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Available Capacity							
Sur Desalination plant	12	12	12	12	12	12	12
Sur New Desalination plant			68	68	68	68	68
Total Available Capacity	12	12	80	80	80	80	80
Peak Demand	15	16	60	63	65	68	70
Surplus (Shortfall)	**(3)**	**(4)**	**20**	**17**	**15**	**12**	**10**

2.2.4 Dhofar Zone

For the Dhofar zone, the demand projections have been provided by the Directorate General of Water of the Office of the Minister of State & Governor of Dhofar.

Salalah IWPP which is expected to be commissioned in 2009 will provide Salalah, Taqah and Mirbat with a capacity of 68,000 m3 per day. The capacity of this plant is expected to cover the desalinated water demand up to 2013 as shown in Table 24. This covers approximately 50% of the total water demand, the rest being covered by groundwater resources.

Table 24: Desalinated Water Capacity and Demand for Dhofar Zone

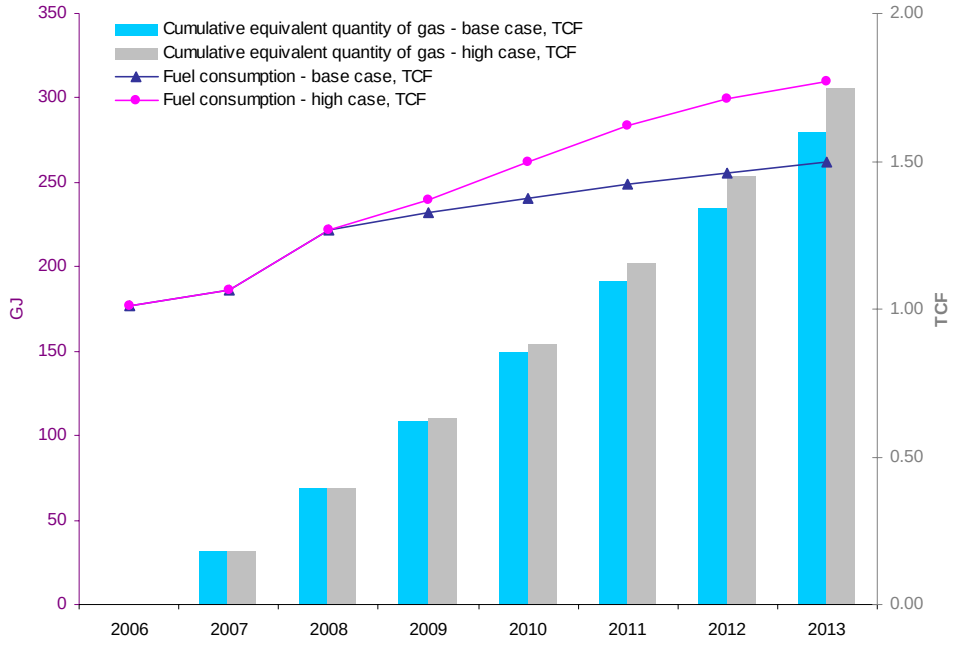
In thousand m^3 per day	**2009**	**2010**	**2011**	**2012**	**2013**
Proposed desalination plant	68	68	68	68	68
Dhofar peak demand	64	65	66	67	68

3 Fuel Requirements

3.1 Total Fuel Requirements

Based on the total demand projections for energy and desalinated water set out above, the total aggregate fuel requirement of generators is expected to increase from 177 million GJ in 2006 to 262 million GJ in 2013. In terms of quantities of natural gas, this equates to an increase from around 4854 million Sm^3 per year in 2006 to around 7174 million Sm^3 per year in 2013 and a cumulative 7-year requirement of 1.6 TCF. These requirements, and the higher requirements associated with the 'high case" demand scenario are shown in Figure 33. The Base case scenario combines the MIS expected scenario and a Salalah low case scenario of fuel requirements. The High case combines "high case" scenarios of MIS and Salalah system.

Figure 33: Total Fuel Requirements



	2006	2007	2008	2009	2010	2011	2012	2013
Base Case								
Energy, GWh	13003	14642	17445	19436	21058	22459	23713	24959
Water, million m^3 per annum	86	151	157	196	205	210	215	220
Fuel consumption, million GJ	**177**	**186**	**222**	**232**	**241**	**249**	**256**	**262**
Equivalent quantity of gas, million sm^3	4854	5106	6083	6363	6598	6825	7005	7174
Equivalent quantity of gas, TCF	0.17	0.18	0.22	0.23	0.23	0.24	0.25	0.25
Cumulative equivalent quantity of gas, TCF	0.00	0.18	0.40	0.62	0.85	1.10	1.34	1.60
High Case								
Energy, GWh	13003	14642	17445	20065	22558	25109	27302	28968
Water, million m^3 per annum	86	151	157	196	205	210	215	220
Fuel consumption, million GJ	**177**	**186**	**222**	**240**	**262**	**283**	**300**	**310**
Equivalent quantity of gas, million sm^3	4854	5106	6083	6570	7175	7764	8214	8489
Equivalent quantity of gas, TCF	0.17	0.18	0.22	0.23	0.25	0.27	0.29	0.30
Cumulative equivalent quantity of gas, TCF	0.00	0.18	0.40	0.63	0.88	1.16	1.45	1.75