المؤسسة العامة لتحلية المياه المالحة
Saline Water Conversion Corporation

THE FUTUR OF DESALINATION SECTOR IN THE KINGDOM

BY

Eng. Abdullah Al Breakeit
Acting Deputy Governor for Projects & Technical Affairs

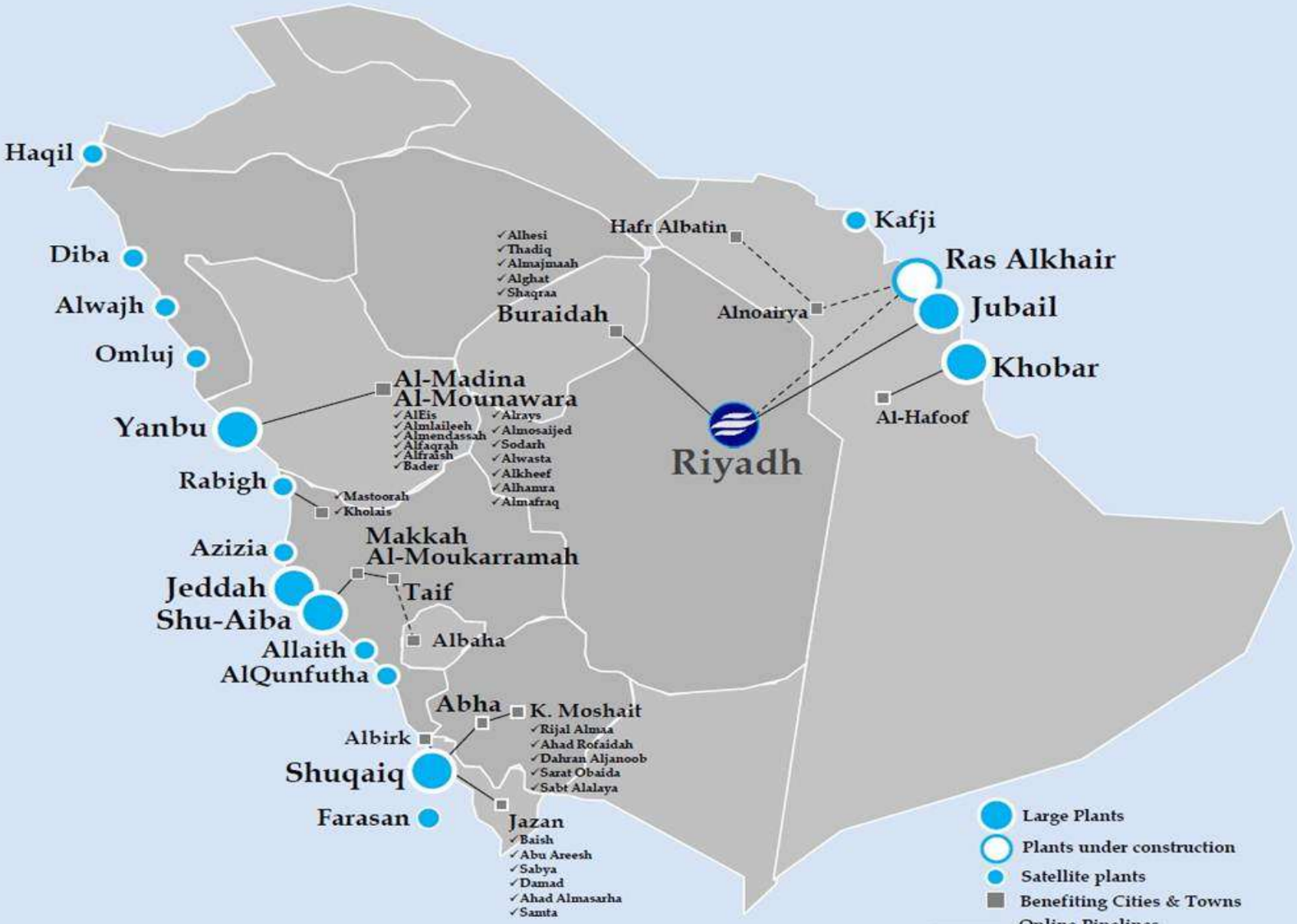
Saline Water Conversion Corporation
Tuesday, 5th Feb 2013

KINGDOM OF SAUDI ARABIA

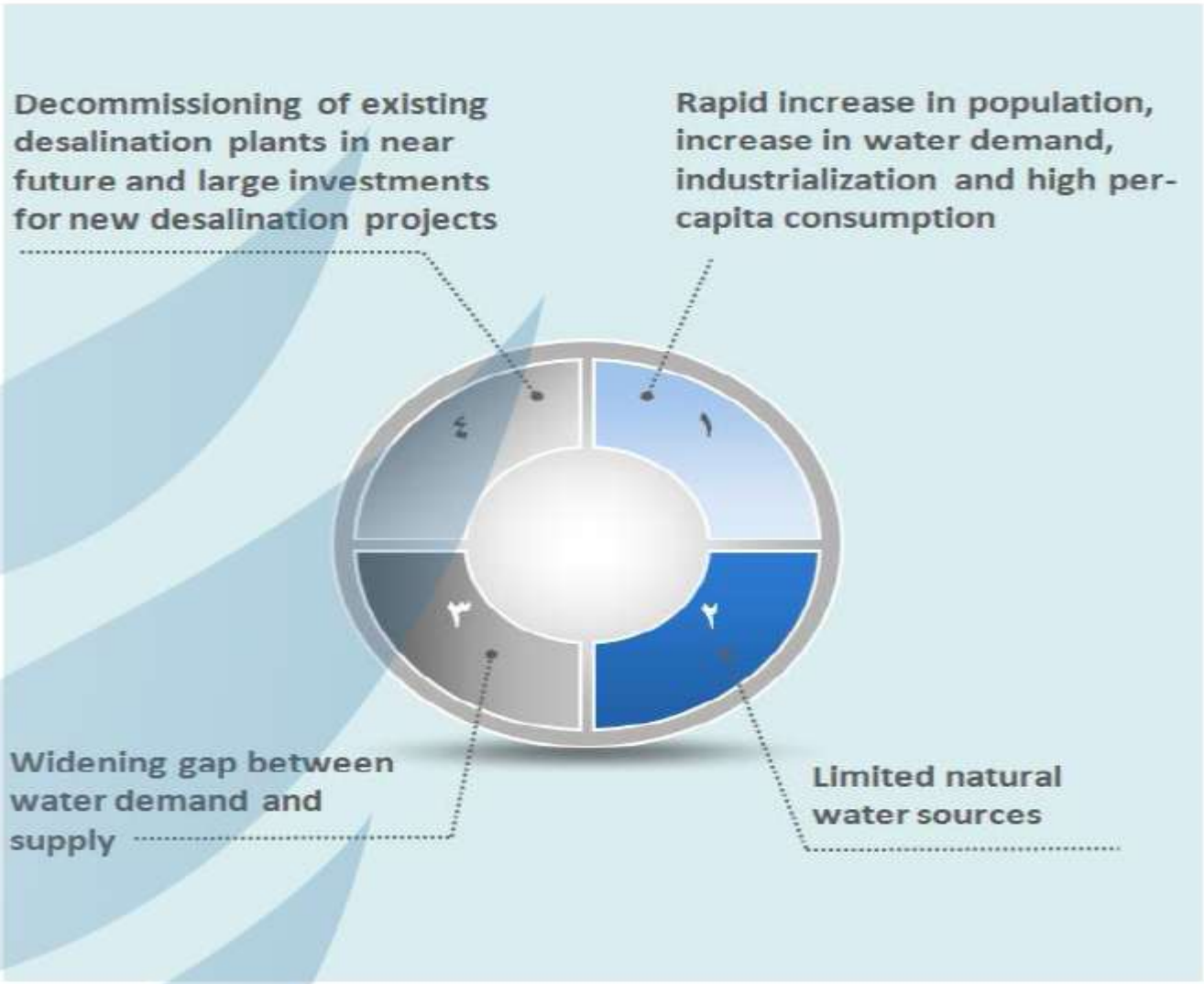
SALINE WATER CONVERSION CORPORATION, SWCC

SOURCE: INTERNAL COMMUNICATIONS & KNOWLEDGE MANAGEMENT

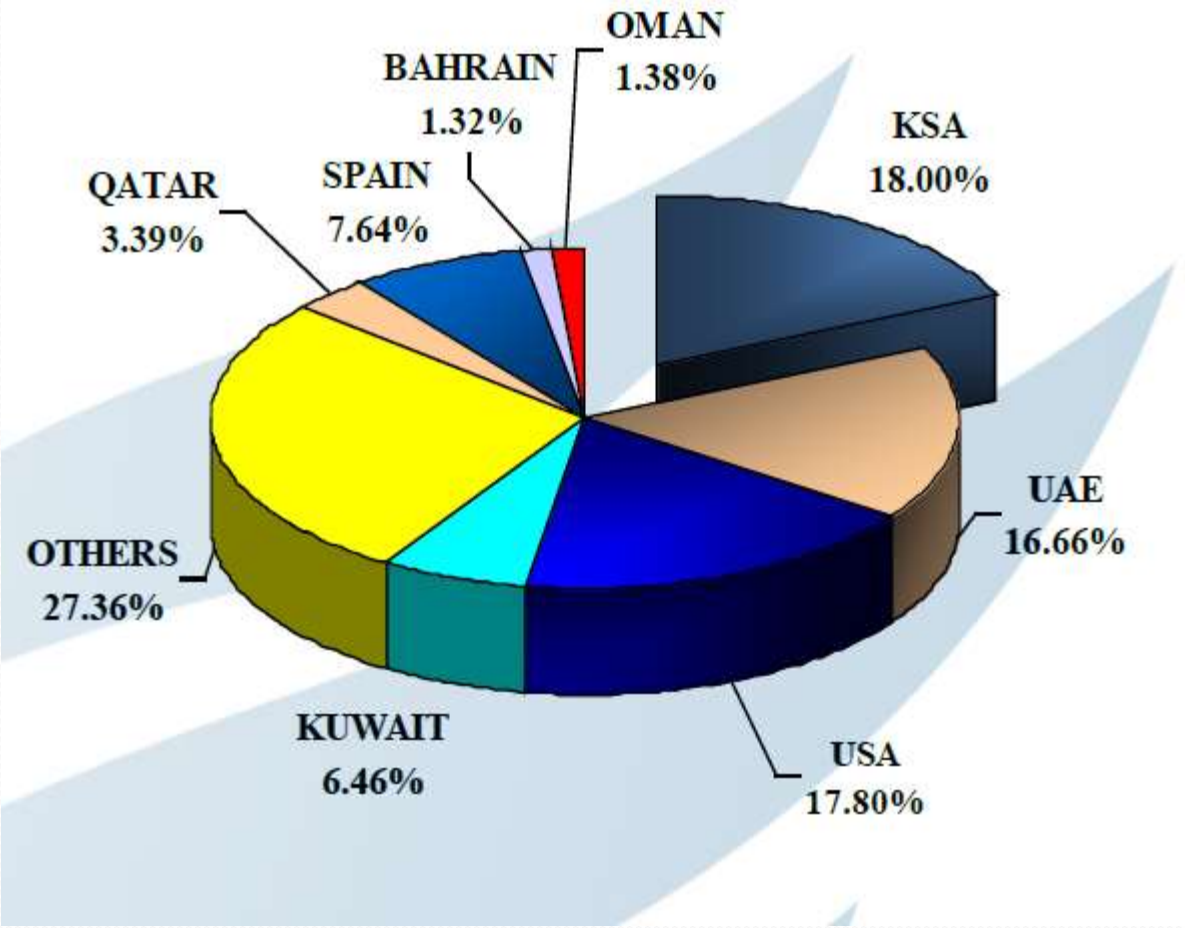
LOCATIONS OF MAIN WATER & POWER GENERATION PLANTS AND TRANSMISSION PIPELINES



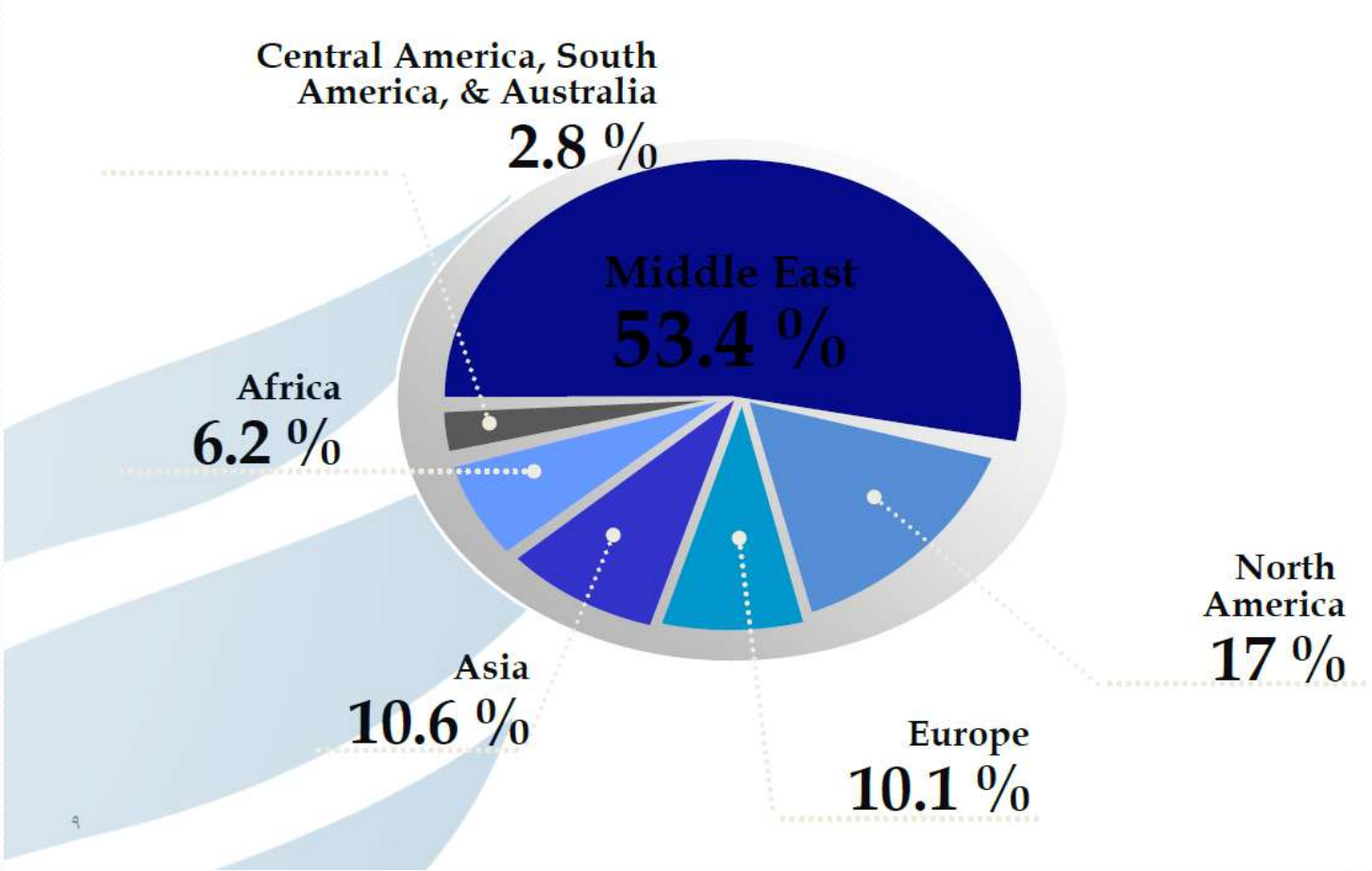
Main Challenges Facing Water and Desalination Sector in the Kingdom of Saudi Arabia



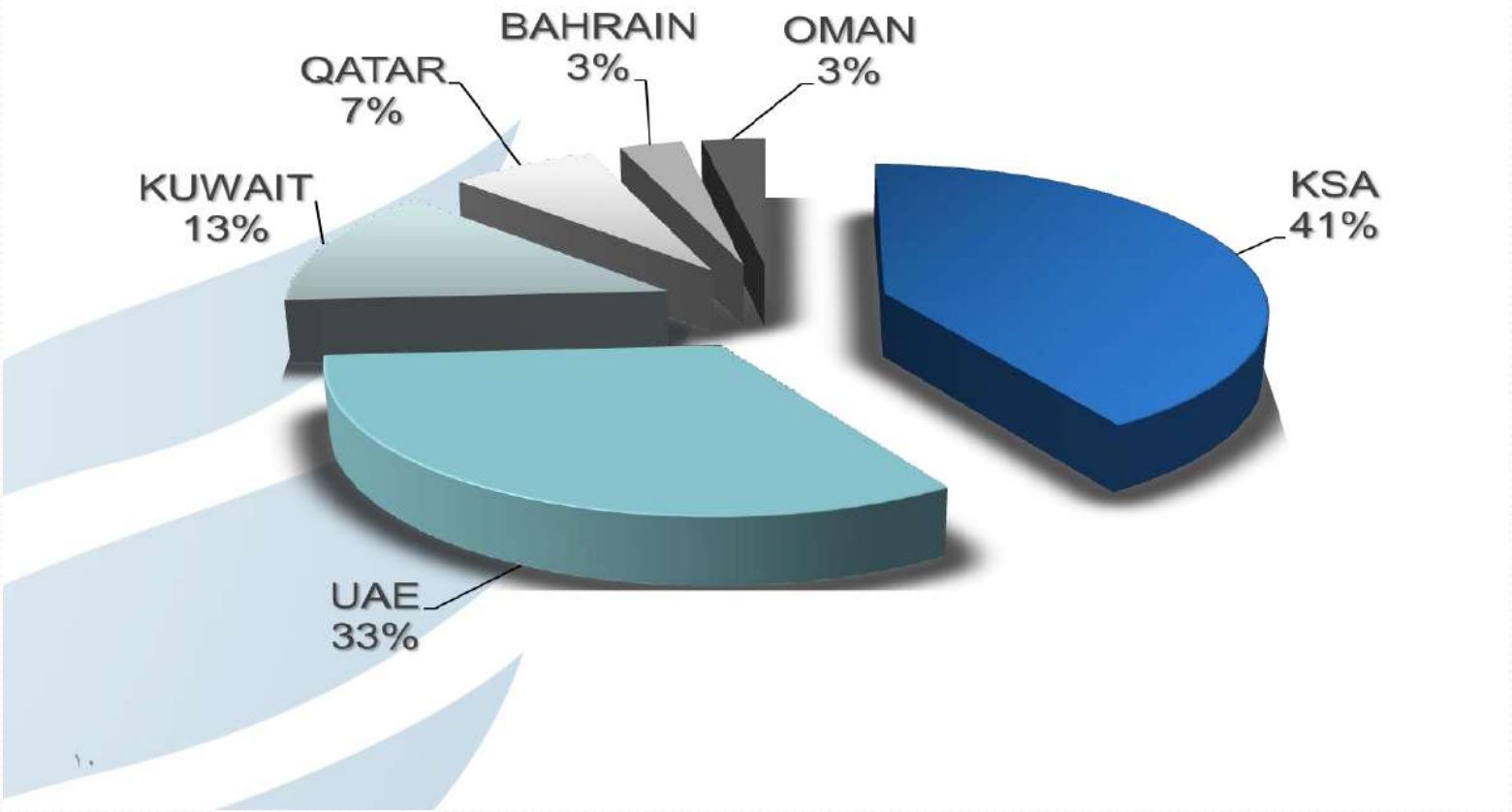
Global desalination and KSA share: 18% of global output



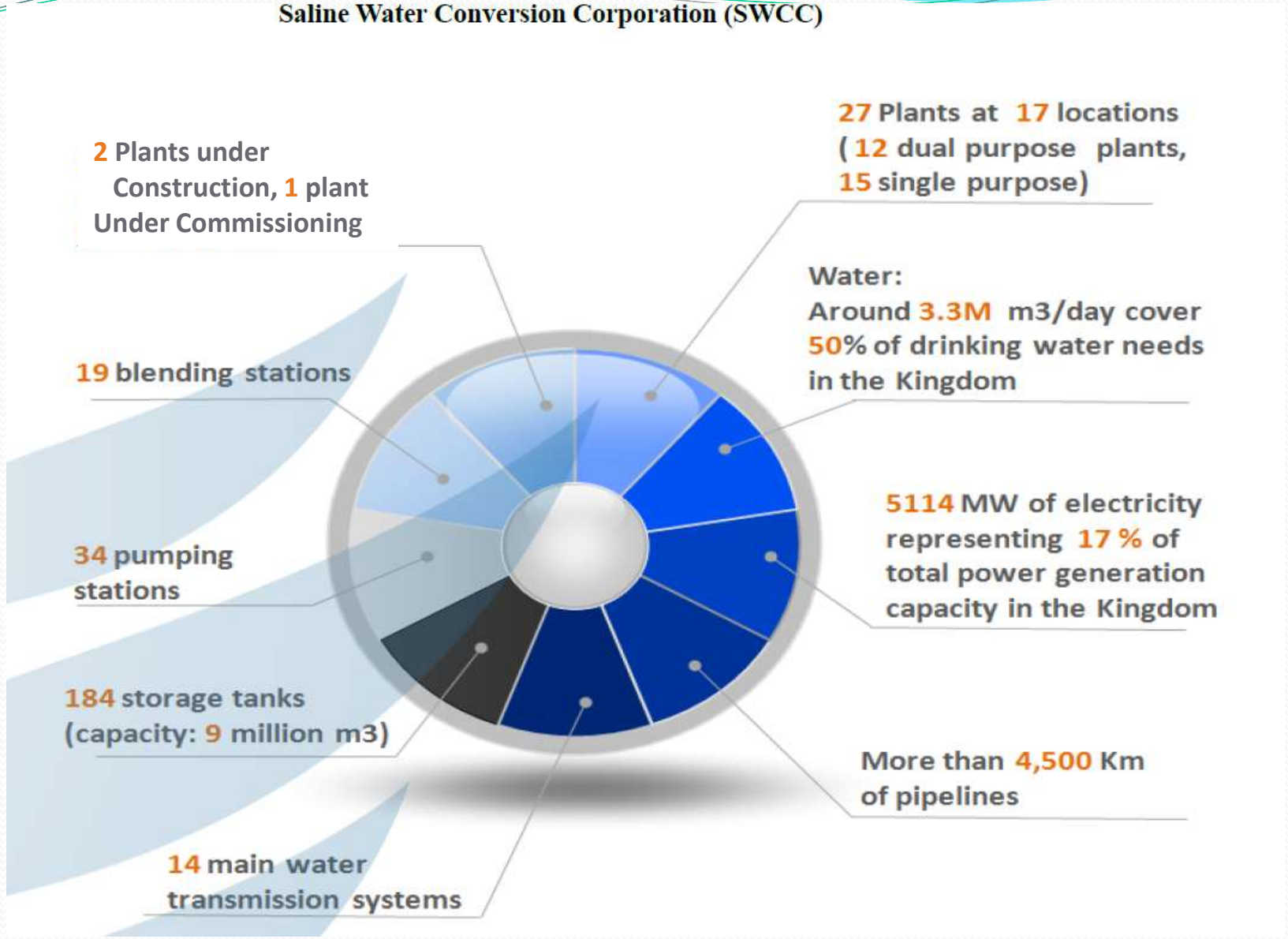
Total Installed Desalination Capacity by Region, Worldwide



KSA Desalination Share in GCC (2011)



Saline Water Conversion Corporation (SWCC)



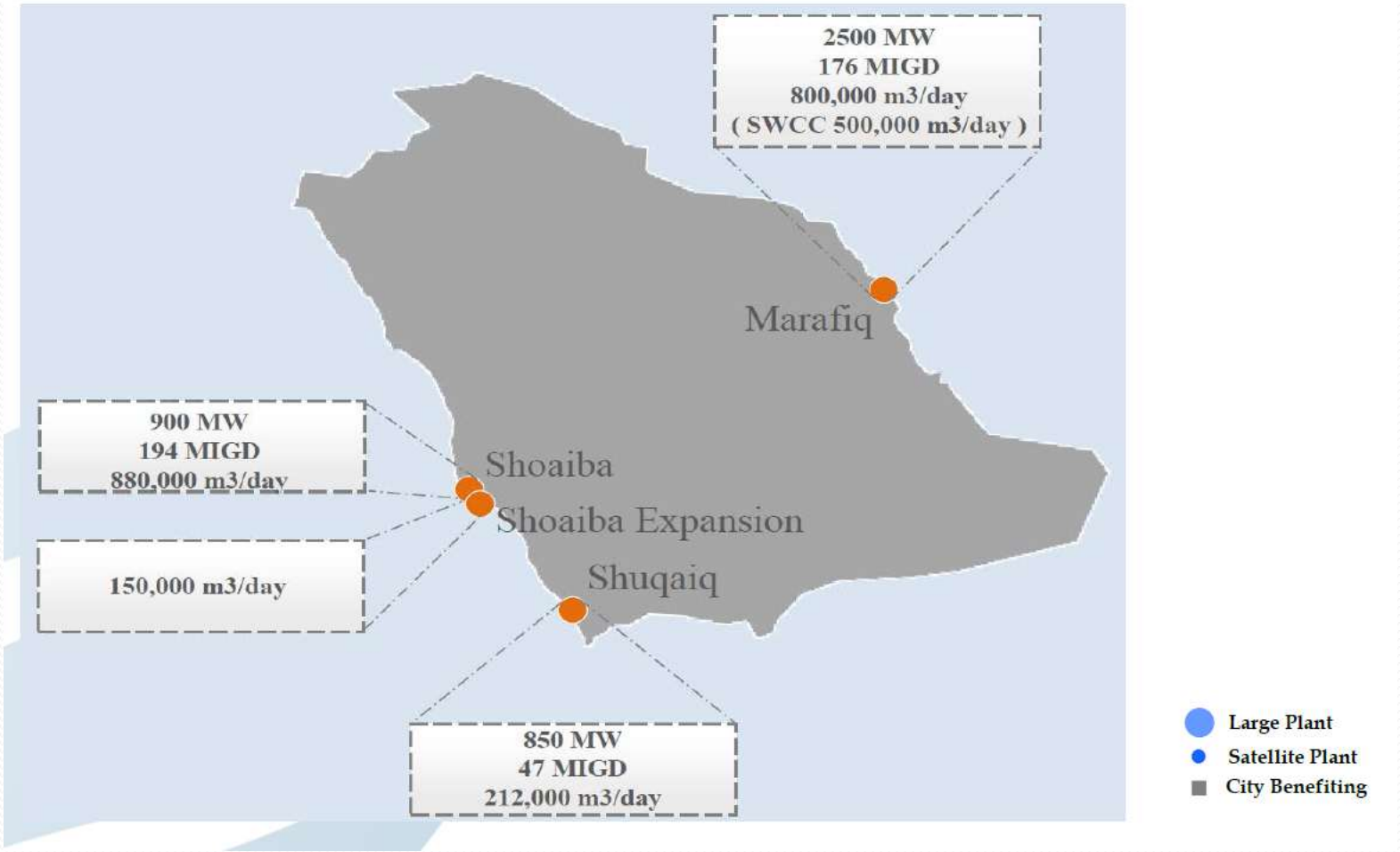
Existing Plants

#	Location	Plant Name	Year of Commission	Installed Capacity (m3/day)	Installed Capacity MW	Type of Technology
1	Alwajih	Alwajih (3)	2009	9,000	-	Single Purpose (MED)
2	Khafji	Khafji (2)	1986	22,886	11	Single Purpose (MSF)
3	Umlujj	Umlujj (2)	1986	4,400	-	Single Purpose (RO)
4		Umlujj (3)	2009	9,000	-	Single Purpose (MED)
5	Farasan	Farasan (2)	2009	9,000	-	Single Purpose (MED)
6	Rabigh	Rabigh (2)	2009	18,000	-	Single Purpose (MED)
7	Duba	Duba (3)	1989	4,400	-	Single Purpose (RO)
8	ALBirk	ALBirk	1983	2,270	-	Single Purpose (MSF)
9	ALAzizih	ALAzizih	1987	4,500	-	Single Purpose (MED)
10	Haql	Haql	1990	4,400	-	Single Purpose (RO)
11	ALQunfutha	ALQunfutha	2008	9,000	-	Single Purpose (MED)
12	ALlith	ALlith	2009	9,000	-	Single Purpose (MED)
13	Khobar	Khobar (2)	1983	223,000	710	Dual Purpose (MSF)
14		Khobar (3)	2000	280,000	479	Dual Purpose (MSF)
15	Jubail	Jubail (1)	1982	137,729	360	Dual Purpose (MSF)
16		Jubail (2)	1983	947,890	1225	Dual Purpose (MSF)
17		Jubail (RO)	2000	90,909	-	Single Purpose (RO)
18	Yanbu	Yanbu (1)	1981	108,074	357	Dual Purpose (MSF)
19		Yanbu (2)	1998	144,000	150	Dual Purpose (MSF)
20		Yanbu (RO)	1998	128,182	-	Single Purpose (RO)
21	Jeddah	Jeddah (3)	1979	88,357	256	Dual Purpose (MSF)
22		Jeddah (4)	1982	221,575	590	Dual Purpose (MSF)
23		Jeddah (RO1)	1989	56,800	-	Single Purpose (RO)
24		Jeddah (RO2)	1994	56,800	-	Single Purpose (RO)
25	Shoaiba	Shoaiba (1)	1989	223,000	263	Dual Purpose (MSF)
26		Shoaiba (2)	2001	454,545	520	Dual Purpose (MSF)
27	Shoqaiq	Shoqaiq	1989	97,014	108	Dual Purpose (MSF)

Pipelines

#	Pipeline	Length (Km)	Diameter Size (mm)	Benefiting City
1	Jubail – Riyadh (A&B)	932	1500	Riyadh
2	Jubail – Riyadh (C)	375	1500	Riyadh
3	Shoaiba – Makkah (A&B)	304	1400	Makkah
4	Makkah - Taif	85	1050	Taif
5	Yanbu – Madinah (1)	175	800	Madinah
6	Yanbu – Madinah (2)	371.6	1500	Madinah
7	Yanbu - Yanbu	51	600	Yanbu
8	Shuqaia – Abha - Khamis	215	500 - 1200	Abha – Khamis M, Others
9	Khobar	226	500 - 1100	6 Cities in Eastern Province
10	Shoaiba - Jeddah	353	1500	Jeddah
11	Khobar - Alhafuf	135	400 - 1400	Alhafuf, Bgaig
12	Riyadh – Qassim (A&B)	884.8	400 - 2000	Sudair, Washm, Qassim

IWPP Projects in Saudi Arabia



Water Transmission Systems Related to IWPPs

Plant	Project Location	Pipeline Length (Km)	Pipeline Diameter (Inch)
Shoaiba (Phase 3)	Shoaiba –Jeddah	85	60
	Shoaiba-Qhaiza	109	76
	Shoaiba-Makkah-Makkah-Taif	112 43	80 44
	Taif-Baha	233	40
Shuqaiq (Phase 2)	Shuqaiq – Asser & Jazan Cities	912	6 - 64
Eastern Province	Jubail – EP Cities	133	24 - 76

Pipelines under constructions

Pipeline	Capacity (m3/day)	Length (Kilometers)	Expected Date
Ras Al-Khair / Riyadh	900,000	900	2013
Ras Al-Khair / Hafr El Batn	160,000	350	2014
Al-Laith	9,000	85.5	2013
Taif-Al Baha	80,000	233	2014

Future Pipelines Projects

Pipeline	Capacity (m3/day)	Length (Kilometers)	Expected Date
New Riyadh City Feeders	1,500,000	150	2016
New Qassem Water Transmission	500,000	260	2017
Rabigh -Jeddah Makah	600,000	300	2017

الخطة الإستراتيجية طويلة المدى لمياه الشرب

Long-term strategic plan for drinking water

The Basis Adopted in the Preparation Of the Strategy

1. Population (preliminary results of the General Census of Population and Housing 1431/2010).
2. Per capita consumption Select (150/200/250 / l / d).
3. The study includes all sources of groundwater and surface water and desalinated sea water and dams.
4. Adoption of 35 years as the working lifetime for desalination plants.
5. The study included all cities and provinces of each region.
6. The strategy will be updated every five years or whenever the need arises.

The New and Proposed Desalination Plants for the Period 2014-2025

Year	Desalination Plant	Riyadh Region	Mecca Region	Medina Area	Eastern Region	Tabuk Region	AlQseem Region	Asir Region	Jazan Region	Station Capacity M3/day
2013	Jeddah RO	0	240,000	0	0	0	0	0	0	240,000
2015	Ras Alkhair	700,000	0	0	100,000	0	200,000	0	0	1,025,000
	Al Khafji 3	0	0	0	30,000	0	0	0	0	30,000
	Duba 4	0	0	0	0	9,000	0	0	0	9,000
	Alwajh 4	0	0	0	0	9,000	0	0	0	9,000
	Haqal 3	0	0	0	0	9,000	0	0	0	9,000
2017	Rabigh	0	600,000	0	0	0	0	0	0	600,000
2019	Jubail 3	550,000	0	0	650,000	0	200,000	0	0	1,400,000
2025	Jeddah RO 4		400,000	0	0	0	0	0	0	400,000
	Al Khubar 4	0	0	0	775,000	0	150,000	0	0	925,000
	Al Khafji 4	0	0	0	45,000	0	0	0	0	45,000
	Omluj 4	0	0	0	0	17,000	0	0	0	17,000
	Haqal 4	0	0	0	0	7,500	0	0	0	7,500
	Shuqaiq 3 First stage	0	0	0	0	0	0	175,000	50,000	225,000

Thank you