

District Cooling Workshop

Wednesday 18/6/2014

Towards Cooperative District Cooling Society

TREATED SEWAGE EFFLUENT (TSE) NETWORKS IN QATAR

District Cooling Workshop
18th June 2014



قطر تستحق الأفضل
Qatar Deserves The Best

Agenda

Recycled Water Demands

Supply/Demand Balance

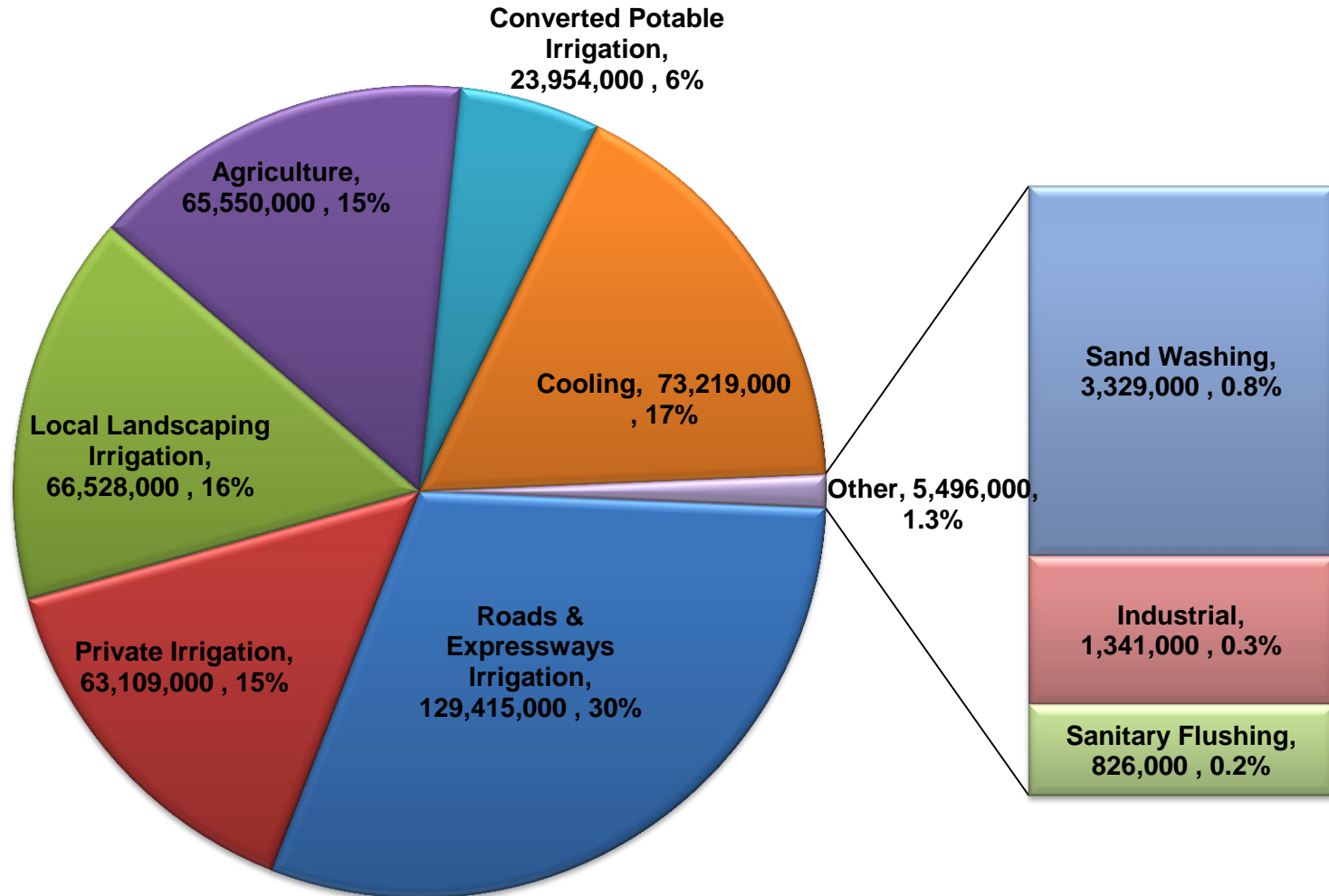
Water Quality

Existing Network with Proposed Modifications

Cooling Demand Locations

Conclusions

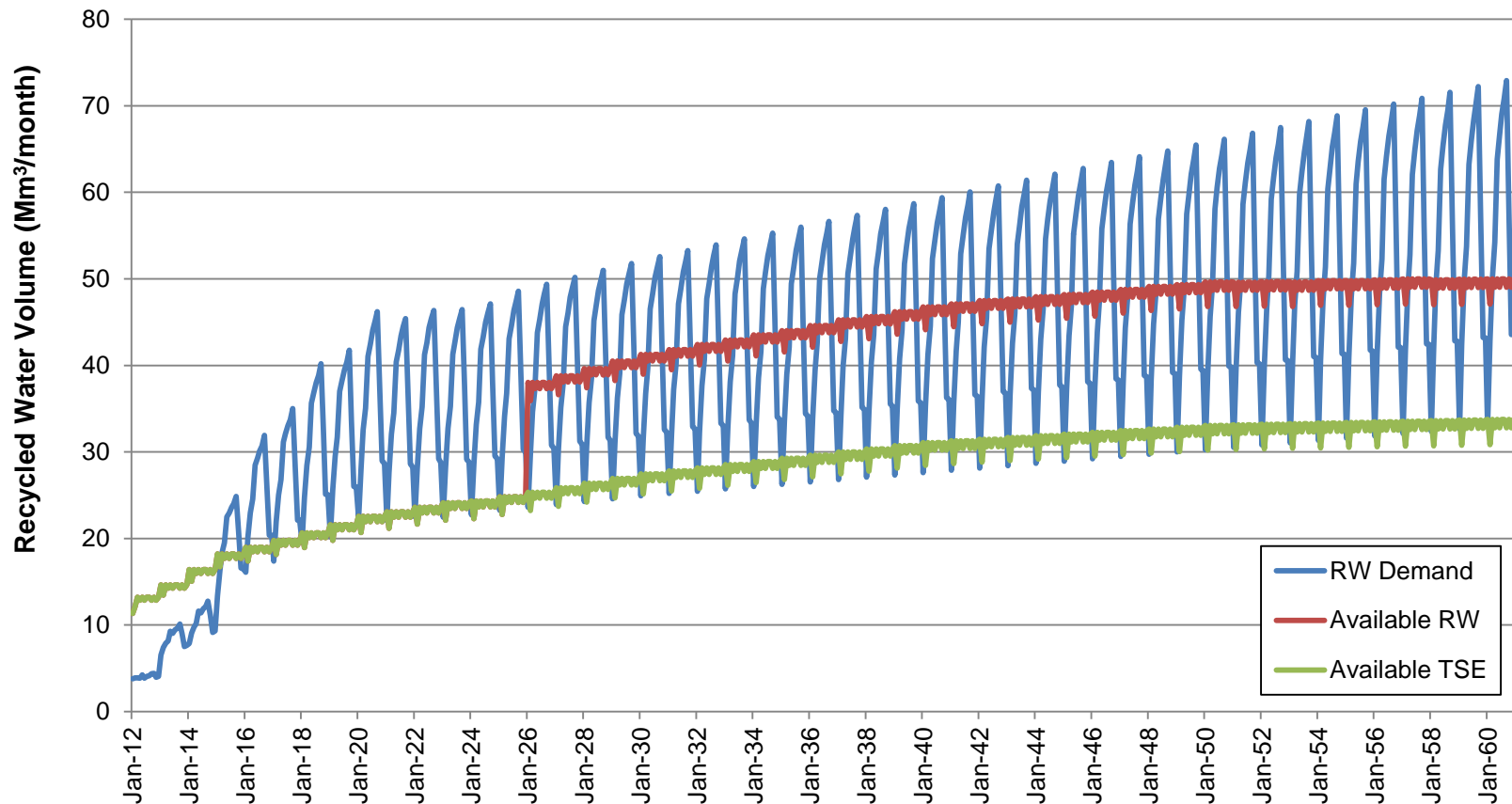
Recycled Water Demands -2020



Note- All units are shown in m³/year

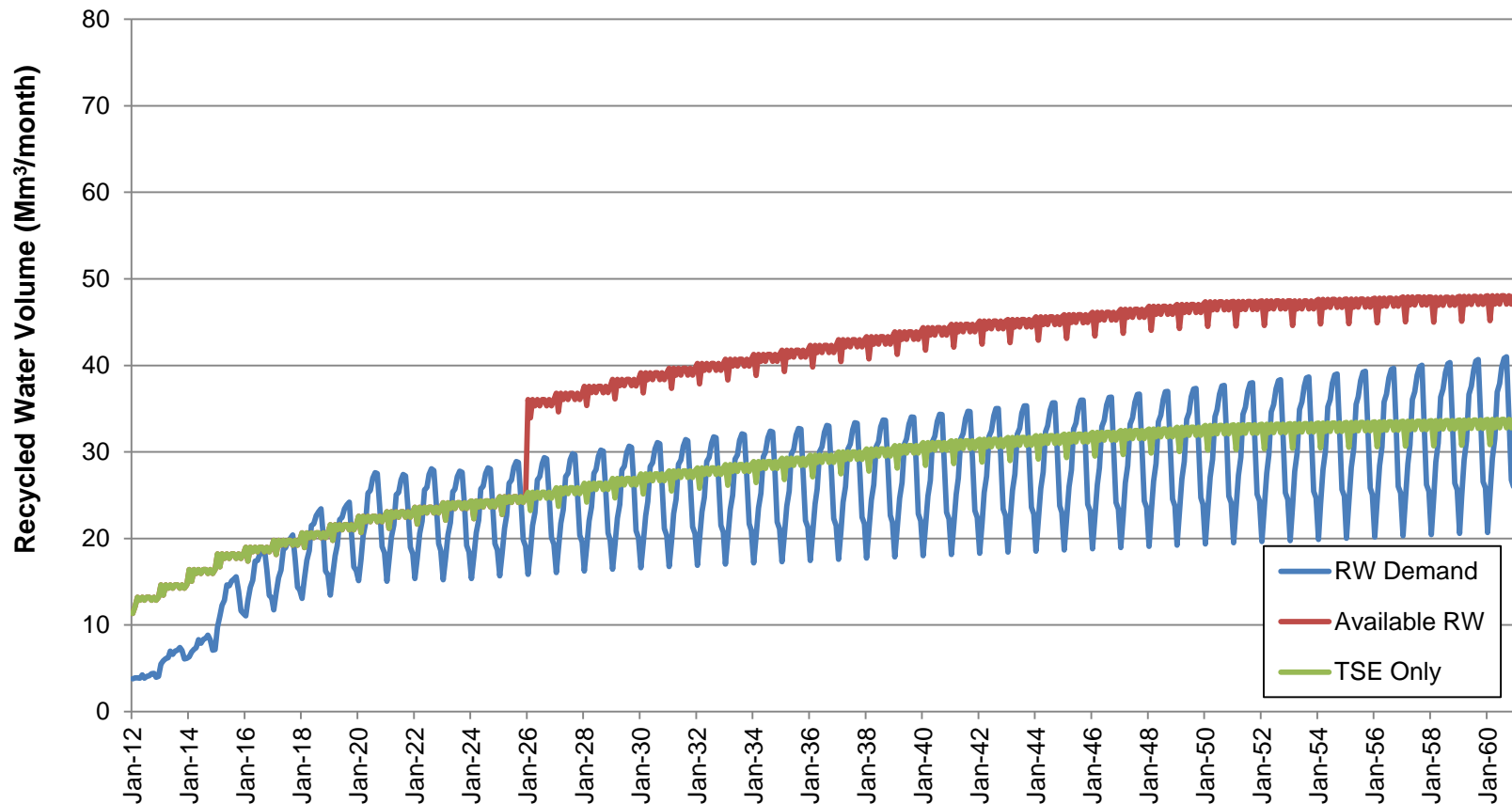
Supply/Demand Balance

RW Supply/Demand- Current Practices



Supply/Demand Balance

RW Supply/Demand- Efficient Practices



Water Quality

- All STWs use Ultra Filtration and UV disinfection to treat TSE to Class A+ Standard
- Class A+ meets most users needs (83% by 2020)
- TDS \leq 1,200 mg/L
- Nutrients are beneficial for irrigation
- Users requiring higher than Class A+ should provide their own treatment on their premises

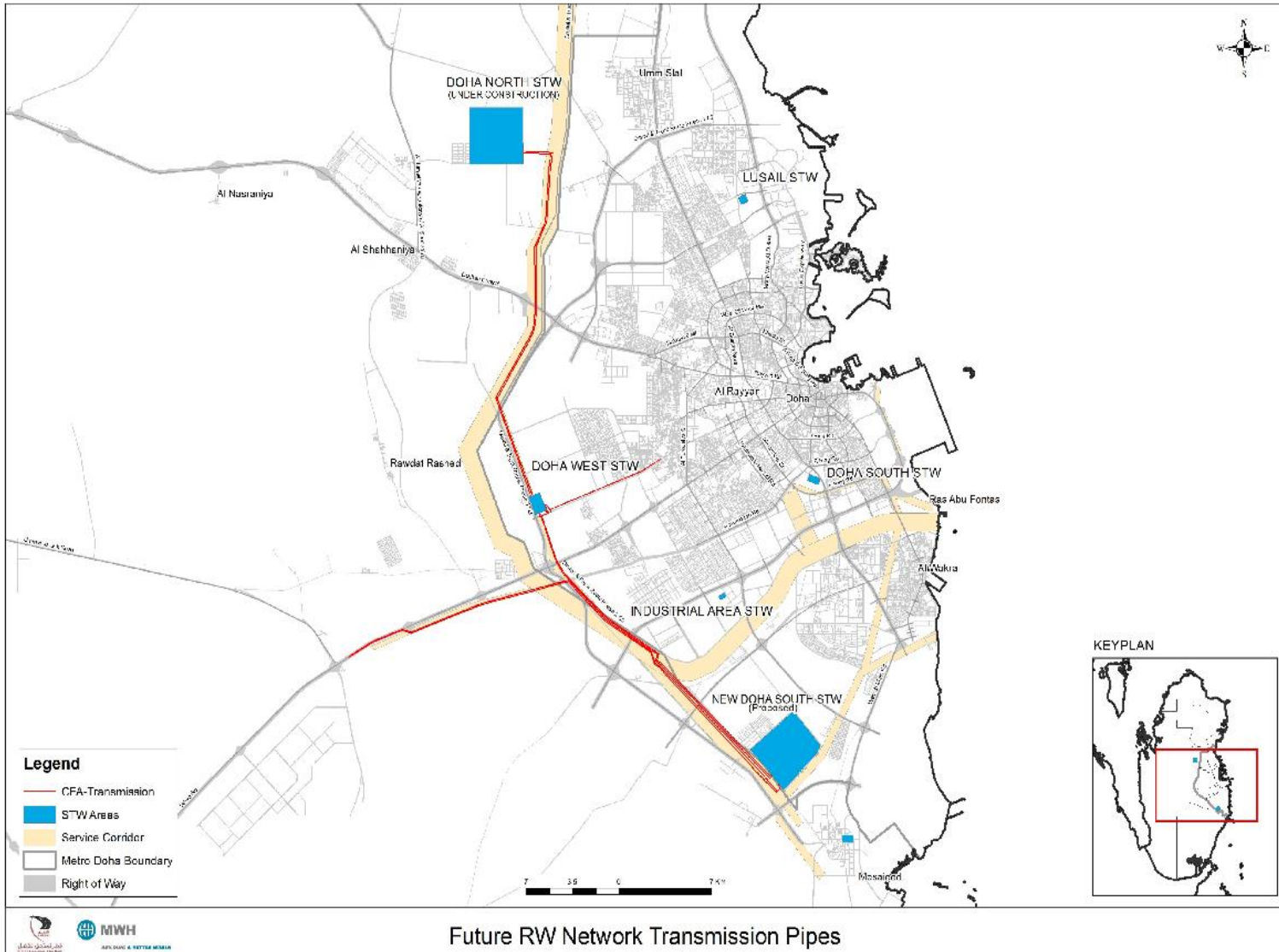




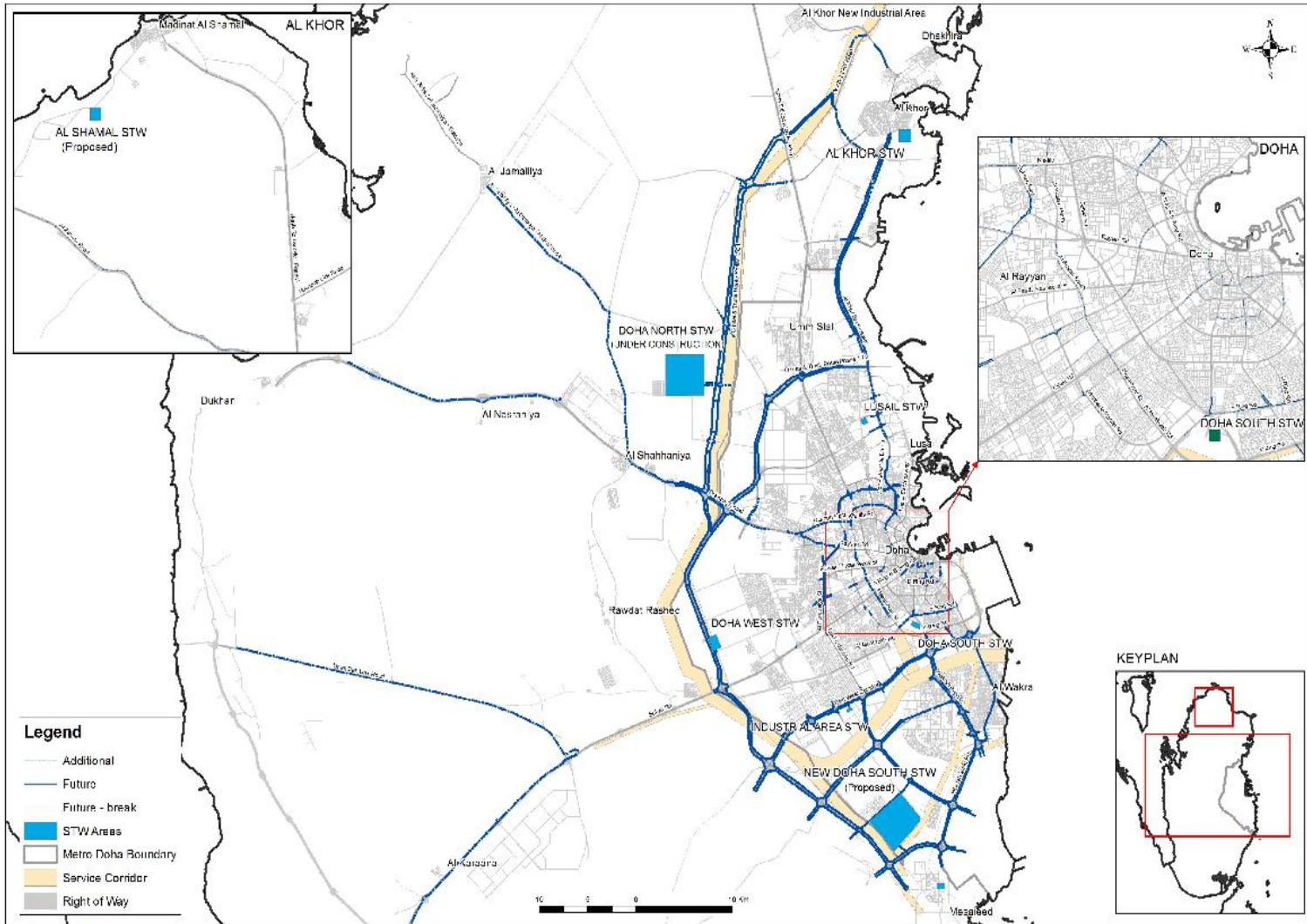
EXISTING TSE NETWORK

Pipe Dia. Range (mm)	Length (km)
<= 100	19
101 to 300	230
301 to 600	197
601 to 1000	245
1001 to 1600	86
Total	777
8 Nr. Pumping Stations	

Planned TSE Transmission Mains

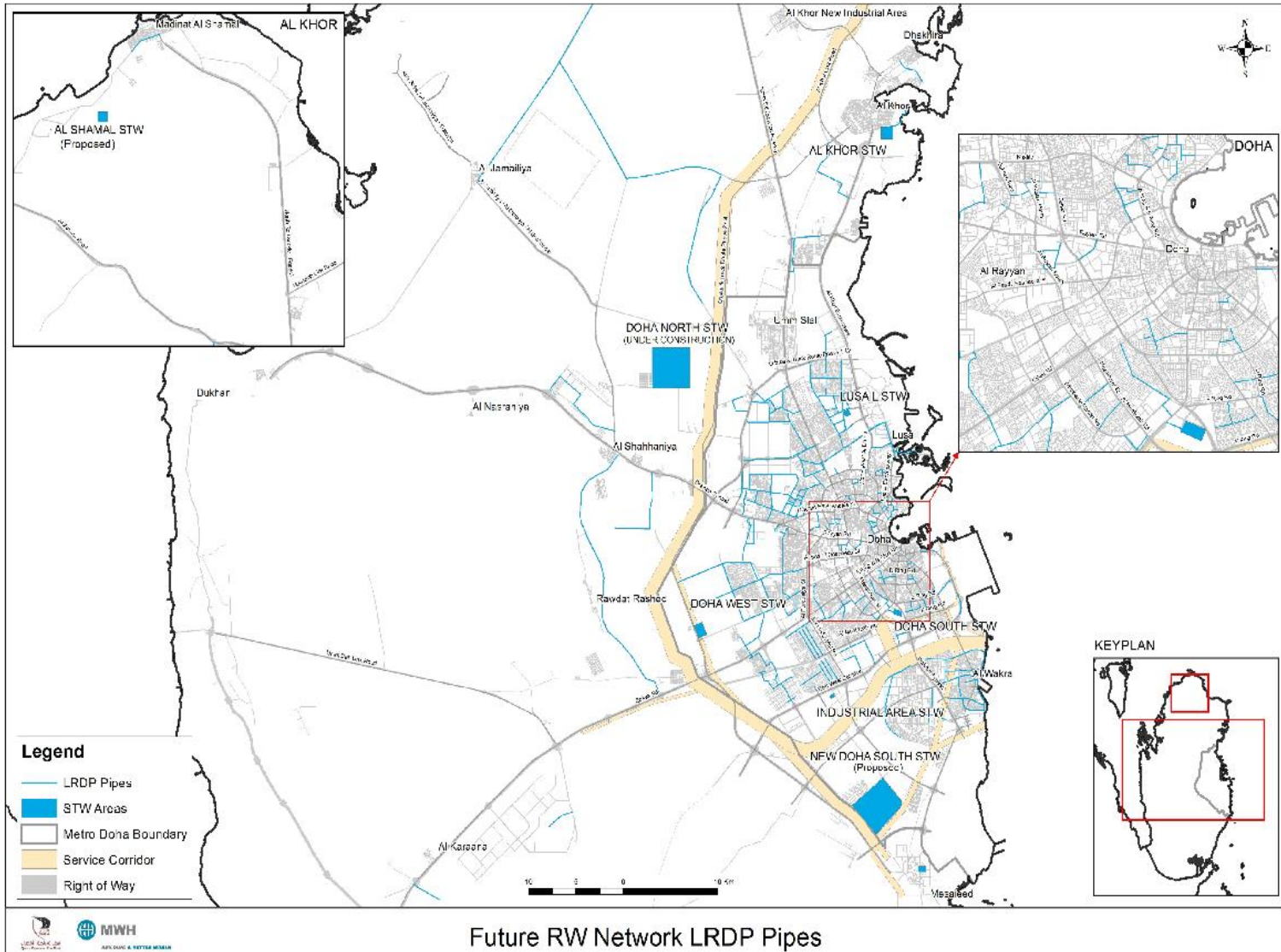


Planned TSE Distribution Mains- Expressways



Future RW Network Expressway Pipes

Planned TSE Distribution Mains- Local Roads



Planned & Existing Network Summary

Pipe Dia. Range (mm)	Length (km)
<= 100	0
101 to 300	2,500
301 to 600	1,400
601 to 1000	800
1001 to 1600	500
Total	5,200
15 Nr. Pumping Stations	

Planned Network

Pipe Dia. Range (mm)	Length (km)
<= 100	19
101 to 300	230
301 to 600	197
601 to 1000	245
1001 to 1600	86
Total	777
8 Nr. Pumping Stations	

Existing Network

Cooling Demands and The TSE Network



Conclusions

- Cooling will account for around 17% of TSE demands
- Current TSE surplus will become deficit by 2018
- There is a need for efficient use of TSE
- Future shortage can be met using shallow ground water
- TSE Quality ~ <1200mg/L TDS
- Network to be expanded 6-fold over 5-7 years
- Cooling must be carefully planned vs network availability

أي أسئلة؟



Thank You

Any Questions?