



## JOINTWAY Study on HVACR

# MEPS Regulations And Refrigerant Update

.....

# MEA Residential AC Market Dynamics/ Key Trends

Region\Year	Window AC										Split AC's							
	12	13	14	15	16	17	18	19	20	12	13	14	15	16	17	18	19	20
<b>Saudi</b>	7.5		8.5	→9.8		→		9.8/9		7.5		9.5	→11.5		→		11.8	
<b>Bahrain</b>					8.5	9.8								9.5	11.5			
<b>Qatar</b>					8.5	9.8								9.5	11.5			
<b>Oman</b>					8.5	9.8								9.5	11.5			
<b>UAE</b>	8.2		→	8.7						8.2		→	9					
<b>Egypt</b>			9.0	→	9.5	→	10					9.5	→	10	→	10.5		
<b>Kuwait</b>														10	→	11.5+		
<b>Israel</b>						11.9									11.7			

Region	Refrigerant Landscape
<b>Saudi Arabia</b>	<ul style="list-style-type: none"> <li>- R22 to continue in Window AC till Dec 2017</li> <li>- No R22 for Split AC's. OEM's selling R410A since Jan 2015.</li> <li>- Requesting details on R32 Product line</li> </ul>
<b>Bahrain/Qatar/Oman</b>	<ul style="list-style-type: none"> <li>- No official stand on R22 slowdown</li> <li>- OEM's selling R22 &amp; R410A systems</li> </ul>
<b>United Arab Emirates</b>	<ul style="list-style-type: none"> <li>- No Mention Of R22 Phase Down/Ban.. OEMs selling systems With R22 &amp; R410A</li> <li>- Alternate Refrigerant (PRAHA): OEMs Tested Prototypes With L20/R32/DR3. Planning Phase 2</li> </ul>
<b>Egypt</b>	<ul style="list-style-type: none"> <li>- UNEP alternate refrigerant project underway with EMR samples.</li> </ul>
<b>Kuwait</b>	<ul style="list-style-type: none"> <li>- R22 to continue till 2020</li> </ul>
<b>Israel</b>	<ul style="list-style-type: none"> <li>- R410A</li> </ul>

**Engaging with Regulators & OEMs To Plan For Future Transitions.  
 "GSO" Offers The Promise of Unified GCC Effy. Standards**

# SASO 2663 MEPS: Update

AC Type	SASO 2663 Today			Nov 6 <sup>th</sup> Meeting Proposal			Nov 22 <sup>nd</sup> Meeting Proposal				15 <sup>th</sup> Dec Meeting Proposal			
	Sys Cap KBtu	MEPS(EER)		Sys Cap KBtu	MEPS		Stage I: 1 <sup>st</sup> July 2017		Stage II : Date TBD		Stage I: 1 <sup>st</sup> July 2017??		Stage II : XX/XX/20XX	
		T1	T3		T1	T3	T1	T3	T1	T3	T1	T3	T1	T3
Window	≤ 18K	9.8	7.06	≤24K	9.8	7.06	9.70	6.90	9.80	6.90*	9.70	6.90	9.80	6.90*
	> 18K & ≤ 24K	9.7	6.98											
	> 24K & <70K	8.5	6.12	> 24K & ≤65K	8.5	6.12	8.50	6.10	9.80	6.90*	8.50	6.10	9.0	6.20*
Splits	<70K	11.5	8.28	<65K	12.1	8.70	11.50	8.30	12.10	8.30*	11.50	8.30	11.80	8.30*

## 15<sup>th</sup> Dec meeting discussion/outcome:

- Manufacturers raised a point on G Mark validity which is three years (starting July 2016). In case of any change in the information of a product, this will lead to a re-issuance of the Gmark, which will take at least 8 months.
- Manufacturers proposed that EER values will be 9.8 EER ( For Window AC type Category A), 9.0EER ( For Window AC type Category B) and 11.8 EER (for single splits) and to start the enforcement in 2020
- **Discussion on SEER:** Some manufactures proposed to introduce SEER. Conclusion is that SEER is premature and adapted methodology to KSA shall be used.

## Other Points:

- R22 phase out for Window AC : No Discussion
- Next team meeting will be scheduled in 2017 : No date of meeting
- SEEP team will come up with an updated final draft

# Kuwait MEW Standards (MEW/R-6/2016)

## New energy standards

**Table 7.1 Maximum Allowable Power Rating for Different Types of A/C Systems (kW/RT)**

System Type	Capacity (RT)	PR <sub>CHILL</sub>	(PR <sub>T</sub> )
DX units <sup>(1)</sup>	All	-	1.50
Variable refrigerant flow (VRF), DX with inverter compressor <sup>(1)</sup>	All	-	1.40 @ 48 °C 1.10 @ 35 °C
Air-cooled chilled water system	All	1.60	2.00 <sup>(2)</sup>
Water-cooled chilled water system, water cooled DX system	<250	0.90	1.45 <sup>(2)</sup>
	250 – 500	0.75	1.30 <sup>(2)</sup>
	>500	0.70	1.25 <sup>(2)</sup>

New power rating to be 1.5 Kw/ton as compared to 1.6Kw/ton today for DX units

## Implementation Dates

System Type	Capacity (RT)	PR <sub>T</sub> , (kW/RT)	
		1-10-2016	1-1-2019
DX units	All	1.50	1.10
Variable refrigerant flow (VRF), DX with inverter compressor	All	1.40 1.1 @ 35 °C	1.01 0.80 @ 35 °C
Air-cooled chilled water system	All	2.00	1.44
Water-cooled chilled water system, water cooled DX system	<250	1.45	1.05
	250 – 500	1.30	0.94
	>500	1.25	0.90

\* Based on discussions with RISCO and other AC manufacturers first phase might get implemented beginning 2017.