

2019

## Trade Analysis Series

# Air Conditioning Machines Sector, Pakistan (2017-18)



***Turn Potential into Profit!***



Small and Medium Enterprises Development Authority (SMEDA)  
Ministry of Industries and Production  
Government of Pakistan

[www.smeda.org.pk](http://www.smeda.org.pk)

UAN: 111 111 456

## 1. Product Description

Air Conditioning is the process of removing heat and moisture from the interior of an occupied space, to improve the comfort of humans, devices and products in a particular occupied space. Air Conditioner (AC) machines today are a prevalent part of the modern world and are utilized for both commercial and domestic use.

Products in this category consist of AC machines that comprise of motor-driven fans and other relevant parts thereof for changing the temperature and humidity of a particular space. The Harmonized Commodity Description and Coding System (referred as HS Codes) designated for trade of Air Conditioning machines is 8415. The brief description of sub categories falling within product category of HS 8415 is provided in the table below.

**Table 1: Air Conditioning Machine Products Categorized Under HS Code 8415**

Product Category HS Code	Product Description
841510	Window or Wall AC Machines (Self-contained or Split-system)
841520	Refrigerating AC Machine Unit (without valve for reversal)
841581	Refrigerating AC Machine Unit (with valve for reversal)
841582	AC Machine combining Refrigerating Unit
841583	AC Machines without Refrigerating Unit
841590	Parts of AC Machines

## 2. Global Trade of Air Conditioning Machines

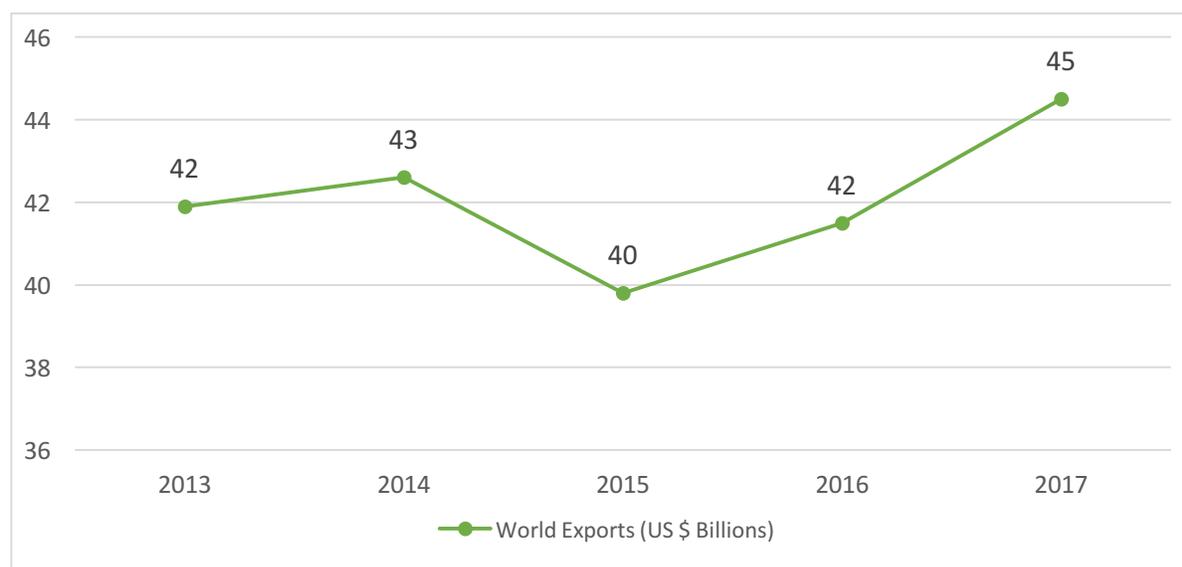
The global export trade value of Air Conditioning machines was estimated at US \$ 44.5 billion in 2017 signifying a 7.2% growth in trade value compared to the previous year. The export trade value of AC machines was the 17<sup>th</sup> largest out of the 87 commodities categorized under the specified category of machinery and mechanical appliances. The trade value of AC machines has grown at a Cumulative Aggregate Growth Rate (CAGR) of 1.5% in between 2013 and 2017 as exhibited in the table below.

**Table 2: Global Exports of Air Conditioning Machines**

Description	2013	2014	2015	2016	2017
World Exports (US \$ Billions)	41.9	42.6	39.8	41.5	44.5
Growth %(Year-on-Year)	5.8	1.7	(6.6)	4.3	7.2

Source: Trade Map



**Figure 1: Trend of AC Machines Global Exports (Value US \$ Billion) – Last 5 Years**

Source: Trade Map

### Major Exporters

During the last 5 years, the export of AC machines has been dominated by China with an estimated export value of US \$ 14.7 billion in the year 2017, that comprised of 33% market share of total global trade. Thailand and Mexico were recorded as the next largest exporting countries with export values of US \$ 4.8 Billion and 3.4 Billion respectively during the same period.

Despite the continual domination of China in global exports, Mexico has emerged as another major player in the industry by increasing its share in global trade and has grown at a CAGR of 12.8% during the period from 2013 to 2017. Furthermore, the country increased its share of the global export trade value from 5.1% in 2013 to 7.7% in 2017 signifying a 51% aggregate growth.

**Table 3: Export Values of Major Exporting Countries in US \$ Billions – Last 5 Years**

Country	2013	2014	2015	2016	2017	5 Year CAGR %
China	13.2	13.1	12.5	13.1	14.7	2.7
Thailand	4.5	4.6	4.5	4.8	4.8	1.6
Mexico	2.1	2.8	2.9	3.1	3.4	12.8
United States of America	2.7	2.7	2.8	2.7	2.6	-0.9
Czech Republic	1.7	1.7	1.7	1.8	1.8	1.4

Source: Trade Map

**Table 4: Total % Share in Value of Global Exports of Leading Countries – Last 5 Years**

Country	2013	2014	2015	2016	2017	5 Year Growth %
China	31.6	30.8	31.4	31.6	33.1	4.8
Thailand	10.8	10.8	11.4	11.7	10.8	0
Mexico	5.1	6.7	7.2	7.5	7.7	51



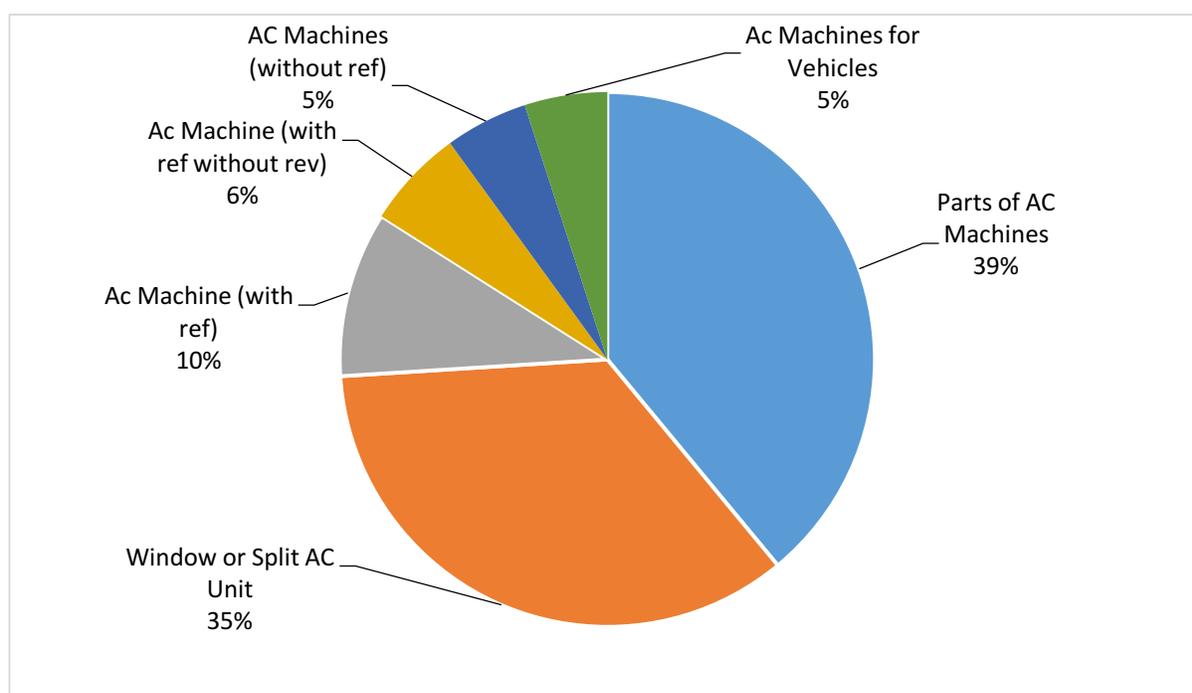
United States of America	6.5	6.3	6.9	6.6	5.8	-10.8
Czech Republic	4	4	4.1	4.4	4.1	2.5

Source: Trade Map

### Product Mix - Share in Exports

Parts of AC Machines (HS Code 8415290) and Window or Split AC Machines (HS Code 8415210) were the most valuable product categories in the overall global trade (i.e. combined share of more than 70%).

**Figure 2: Product Mix of AC Machines Exports**



### Major Import Destinations

The United States of America remained the largest import destination in 2017 with an estimated import value of US \$ 8 Billion, registering a growth of 9.5% compared to the previous year. The country has shown consistent growth in demand for AC machines with the value of imports having increased at a CAGR of 7.5% over the last five years.

During 2017, The United States of America has 18% share in the value of global AC machine imports compared to 15% in 2013 which is even greater than the combined share of the other four largest importers of the same category (See table 5 below).



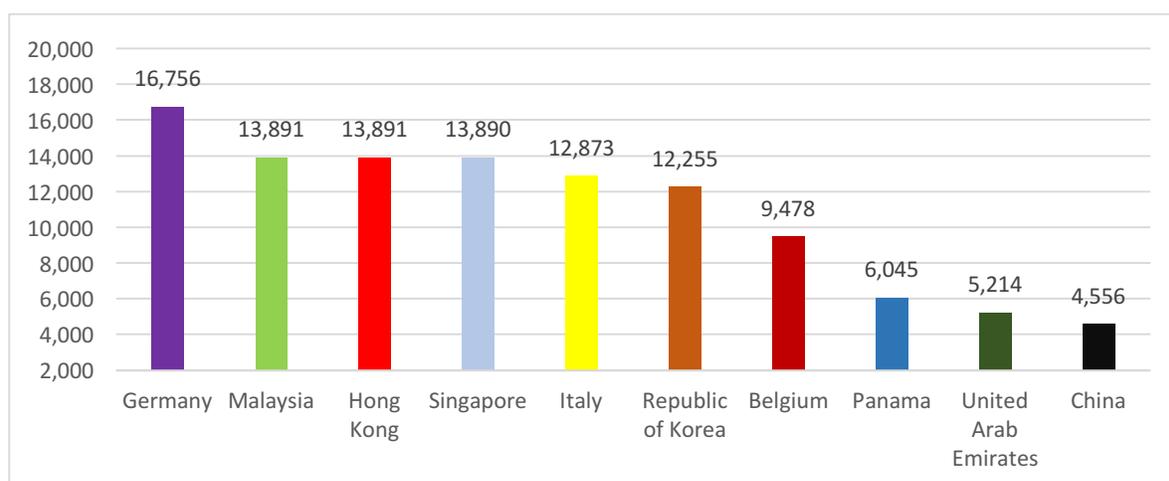
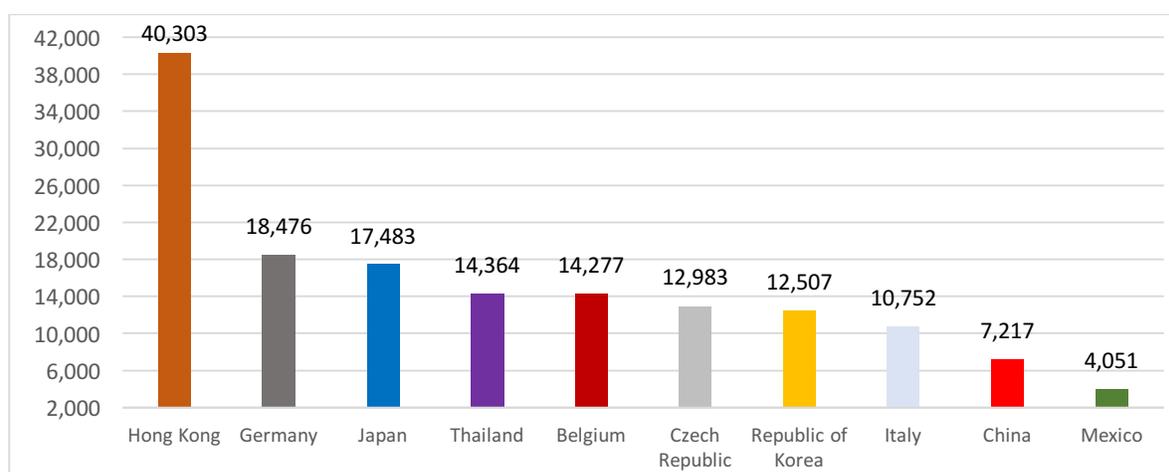
**Table 5: Total % Share in Value of Global Imports of Leading Countries – Last 5 Years**

Country	2013	2014	2015	2016	2017	Growth % (2013-2017)
United States of America	14.6	17	17.4	17.7	18.3	25.3
Japan	7.2	6.5	5.8	5.4	5.3	-26.3
Germany	4.6	4.5	4.2	4.6	4.5	-2.2
France	3.4	3.5	3.2	3.2	3.3	-2.9
Canada	3.6	3.5	3.6	3.5	3.2	-11.1

Source: Trade Map

### Price Comparisons

The following price comparison of AC machine shows the prices charged by exporting countries for major product mix.

**Figure 3: Price Comparison for Window or Split AC Machine (HS 841510, US \$ / Ton)****Figure 4: Price Comparison for Parts of an AC Machine (HS 841590, US \$ / Ton)**

### 3. Pakistan's Trade of Air Conditioning Machines

#### Pakistan's Exports

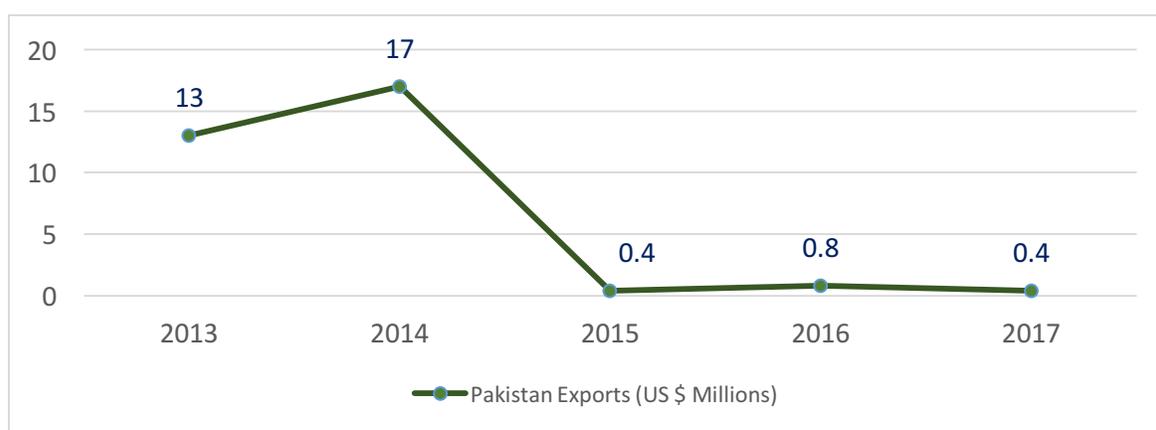
Pakistan's global export in AC machines is comparatively minimal and has witnessed a significant fall in last past 5 years. Pakistan's total export earnings were US \$ 446 thousand in 2017 falling by nearly 50% compared to the export earnings in 2016. Pakistan's five-year export performance is provided in the table below.

**Table 6: Pakistan Exports AC Machines - Last 5 Years**

Description	2013	2014	2015	2016	2017
Pakistan Exports (US \$ Thousands)	13.1	16.6	0.4	0.8	0.4
Growth %age (Year-on-Year)	237	27	-98	119	-46.5

Source: Trade Map

**Figure 5: Growth Trend of Pakistan's Exports (Value in US \$ Millions)**



Source: Trade Map

#### Pakistan's Exports Destinations

The United Arab Emirates constituted the largest concentration of Pakistan's exports in AC Machine in 2017 followed by Afghanistan and The United States of America (see table 6 below). Pakistan has also seen a major decline in export earnings in those countries, which previously proved to be major export markets i.e. Afghanistan and Saudi Arabia.

Air conditioning machine manufacturers in the country are also looking to develop new export markets and have successfully begun trade with the United States of America in 2016. This is particularly a lucrative market as the United States is the world's largest import destination for AC machine products.



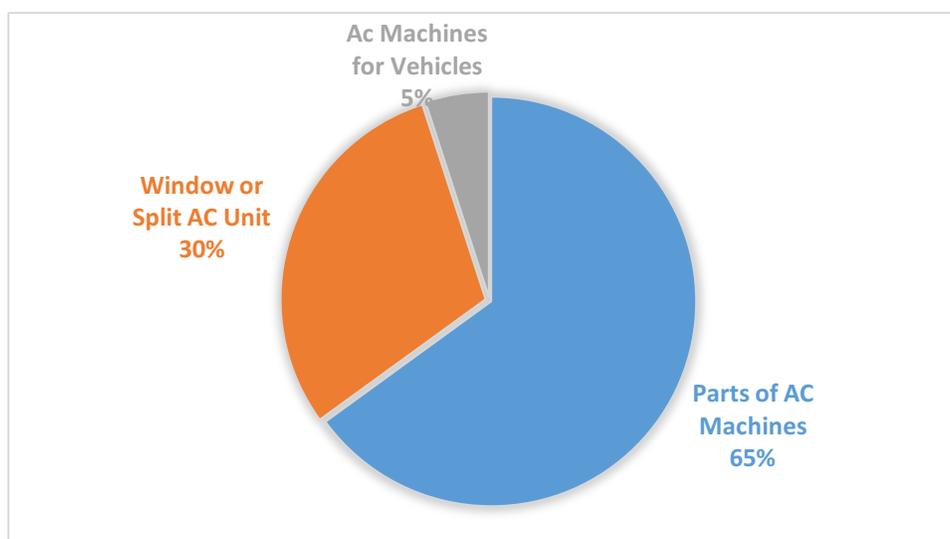
**Table 7: Export Trade Values of Pakistan to Trading Partner Countries in US \$ Thousands**

Country	2013	2014	2015	2016	2017	CAGR % (2013-2017)
United Arab Emirates	221	95	111	247	216	-0.6
Afghanistan	11,665	16,339	0	88	91	-70.3
United States of America	0	0	0	63	66	N/A
Jordan	83	6	41	14	19	-30.8
China	0	0	1	0	15	N/A
Saudi Arabia	467	71	108	144	1	-78.5

Source: Trade Map

### Pakistan's Major Product Mix

Similar to global export trends, Pakistan's exports in AC Machine products are also concentrated in the article of Parts of AC Machines (i.e. HS Code 841590) and Window or Split AC units (i.e. HS Code 841510), which constituted 65% and 30% of its overall exports respectively in 2017. The remaining share of Pakistan's exports came from AC's for Vehicle category (i.e. HS Code 841520) which represented 4% of its total exports.

**Figure 6: Pakistan's Product Mix of AC Machines Exports**

### Export Tariffs

Products in the AC Machine category originating from Pakistan face different tariff depending on its trade partner country with the exact tariff rate dependent on individual products. The following tariff rates are applied for the top two product commodities exported by Pakistan by the top three export trading partners in that category.



- For HS 841590 (Parts of AC Machines) – United Arab Emirates 5%, United States of America 0% and Afghanistan 5%<sup>1</sup>.
- For HS 841510 (Window or Split AC) – United Arab Emirates 5%, Afghanistan 5% and China 7.5%.

### Pakistan's Imports

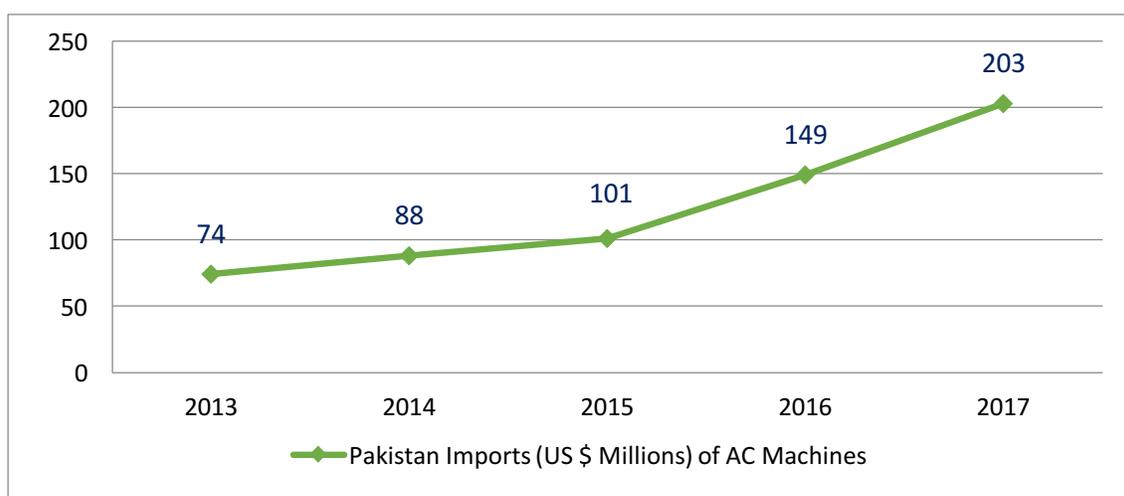
Pakistan has witnessed a steady increase in the values of imports in AC machines over the last 5 years, i.e. increasing at a CAGR of 28.8%. In 2017, Pakistan imported commodities valued at nearly US \$ 203 million that was 36% increase compared to the previous year. Furthermore, it is expected that the Pakistani Air Conditioner market is expected to grow at a CAGR of 7.2% in between 2017-2023, which is likely to bring a further rise in imports of AC machines in the country<sup>2</sup>.

**Table 8: Pakistan's Import of AC Machines - Last 5 Years**

Description	2013	2014	2015	2016	2017
Import (US \$ Millions)	74	88	101	149	203
Growth %age	14	19	15	48	36

Source: Trade Map

**Figure 7: Growth Trend of Pakistan's Imports (Value in US \$ Millions)**



Source: Trade Map

### Pakistan's Import Trading Partners

The overall share of Chinese imports to Pakistan has steadily risen to reach 75.3% of its total import value in 2017 vis-à-vis 55.7% in 2013. Comparatively Pakistan's exports to China in the AC machines category are relatively minuscule resulting in a substantial trade deficit in the product category (see table below).

<sup>1</sup> Trade Map

<sup>2</sup> <https://www.businesswire.com/news/home/20171025005943/en/Pakistan-Air-Conditioner-Market-2017-2023---Forecast>



A key reason behind the rapid increase in imports from China has been the entry of Chinese based manufacturers such as Haier and Gree into the Pakistan consumer AC market by establishing final unit assembly facilities in the country and importing AC machine parts from China which has resulted in rapid growth in the import of AC parts and components<sup>3</sup>.

**Table 9: Share of Total Imports of Major Import Trading Partners - Last 5 Years (%)**

Country	2013	2014	2015	2016	2017
China	55.7	57.2	59.4	73.2	75.3
Thailand	16.1	12.1	12.3	6.1	7.8
Malaysia	14.4	14.7	14.8	9.5	14.4
Indonesia	0.6	1.4	1.3	1.6	1.9
Japan	3.1	2.9	2.5	2.3	1.6

Source: Trade Map

### Product Mix - Share in Imports

Similar to world imports, Pakistan's total imports of AC Machines are also concentrated in the article of Parts of ACs (i.e HS Code 841590) and Window or Split ACs (i.e HS Code 841510), which comprised of 63.4% and 21.2% of its overall exports respectively during the year 2017 (see table below).

**Table 10: Product Mix Share of Pakistan's Imports in AC Machines % - Last 5 Years**

HS Code	Product Label	2013	2014	2015	2016	2017
841590	Parts of AC Machines	63.2	65.4	63.9	58	63.4
841510	Window or Split AC	25.2	22.5	25.6	29.8	21.2
841582	AC Machine (With ref)	4.2	2.3	2.7	3.6	9.1
841583	AC Machine (Without ref)	4.7	7.0	5.4	5.1	5.7
841581	AC Machine (With ref & Rev)	2.7	2.7	2.2	2.7	0.6
841520	Ac Machine for Vehicle	0	0.2	0.2	0.8	0

Source: Trade Map

### Import Tariffs

The Federal Board of Revenue has applied a custom duty of 20% on all AC machine products imported in Pakistan.

<sup>3</sup> <https://aurora.dawn.com/news/1141719>



#### 4. Prominent International Annual Trade Fairs

Sr. No	Name of Trade Show	Location	Web Links
1	Air-Conditioning, Heating, and Refrigerating Expo	United States of America	<a href="http://www.ahrexpo.com">www.ahrexpo.com</a>
2	Air-Conditioning, Ventilation, and Air Improving Fair	China	<a href="http://www.avaichina.com">www.avaichina.com</a>
3	Chillventa	Germany	<a href="http://www.chillventa.de">www.chillventa.de</a>
4	Heating, Ventilation, Air-Conditioning and Refrigeration Show	United Kingdom	<a href="http://www.hvacrshow.com">www.hvacrshow.com</a>
5	Heating, Ventilation, Air-Conditioning and Refrigeration Expo	United Arab Emirates	<a href="http://www.hvacrexpodubai.com">www.hvacrexpodubai.com</a>
6	ISK-SODEX	Turkey	<a href="http://www.sodex.com.tr">www.sodex.com.tr</a>
7	Mostra Convegno Expocomfort Asia	Singapore	<a href="http://www.mcxpocomfort-asia.com">www.mcxpocomfort-asia.com</a>
8	Mega Clima West Africa	Nigeria	<a href="http://www.westafricahvacexpo.com">www.westafricahvacexpo.com</a>