

- Based on CBS news ranking, Riyadh and Jubail is the fourth and the fifth in the most polluted cities on Earth.
- Riyadh:
 - With 156 ug/m³ PM_{2.5}. with 15 times what healthy PM_{2.5} threshold should be.
 - “The city attributes the high pollution days in part to sulfur dioxide in the air, which predominantly comes from industrial activity.” Ramsey
 - 71 % of the air is considered good by the Air Quality Index (AQI); however, “The remaining 29% of more problematic air quality is caused by PM₁₀ (74%) and SO₂ (~24%). The study has revealed that both ozone (O₃) and carbon monoxide (CO) have little contribution to Riyadh air pollution at 2% and 0.52%, respectively.” Alharbi
 - Part of the PM₁₀ is the occasional sandstorm



- Jubail:
 - With 152 ug/m³ PM_{2.5}
 - AL Jubail considered the Fifth in the world in terms of the most polluted cities in the world “Because of its rapid industrialization in the 1970s, it has a high amount of air pollution” Ramsey
 - According to Ehab, in The research to assess the pollution in the Al Jubail Industrial City. They conclude that SO₂ and Ammonia lies within the Royal Commission Environmental Regulations (RCER) Limit. However, the Elevated levels of NO₂ is due to Local sources such as traffic emissions. Also, the PM₁₀ High levels is due to the dust storm while PM_{2.5} is due to the Industrial construction activities and Traffic emissions.

- Possible reason to investigate:
 - Car emissions:
 - Cheap car gas price: until Jan 2017 the price of the gas in gas station were the cheapest in the world by about 0.65 Saudi Riyals per Liter for fuel 95 and 0.45 Riyals Per liter for fuel 91. (about 17 cents and 12 cents)
 - Lack of public transportation: the only option for transportation in big city such as Riyadh or Jubail is Cars. Car ownership is very essential today. Other wise you will be stock at home. (recent

- changes might occur. Ex, we are building a huge public transportation metro that will end about 2020 in Riyadh)
- These two reasons that explain the excessive consumption of cars that have a significant impact on atmosphere due to its emissions such as (PM2.5, CO, NOx, SO2)
 - Industrial pollution:” Heavy metals due to uncontrolled disposal of industrial waste into coastal area are a huge problem” The Active times
 - the health risk of SO₂, NOx, and PM_{2.5}:
 - Sulfur dioxide: the main source of the SO₂ is Industrial activities (Riyadh and Jubail) and it has a very sharp. Also, if breathed, it irritate the nose and could cause coughing, wheezing, and shortness in breath.
 - NOx: NOx affects the respiratory system and cause inflammation in the airways, and long exposure to NOx could cause decrease in the Lung function and increased response to allergies. It also contributes to the PM2.5
 - PM2.5: According to Bliss air, exposure to more than 151-200 ppm could “Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.”
 - Sources:

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