This lecture provides an overview on the contribution of international shipping on air quality problems and climate change. The first part covers the current knowledge of this contribution on global scale and explains the current legislation to reduce these effects. The second part introduces the project „MeSmarT – Measurements of Shipping emissions in the marine Troposphere – www.mesmart.de“ which has been established in 2012 to study the impact of shipping on the environment in the area of the North and Baltic Sea.