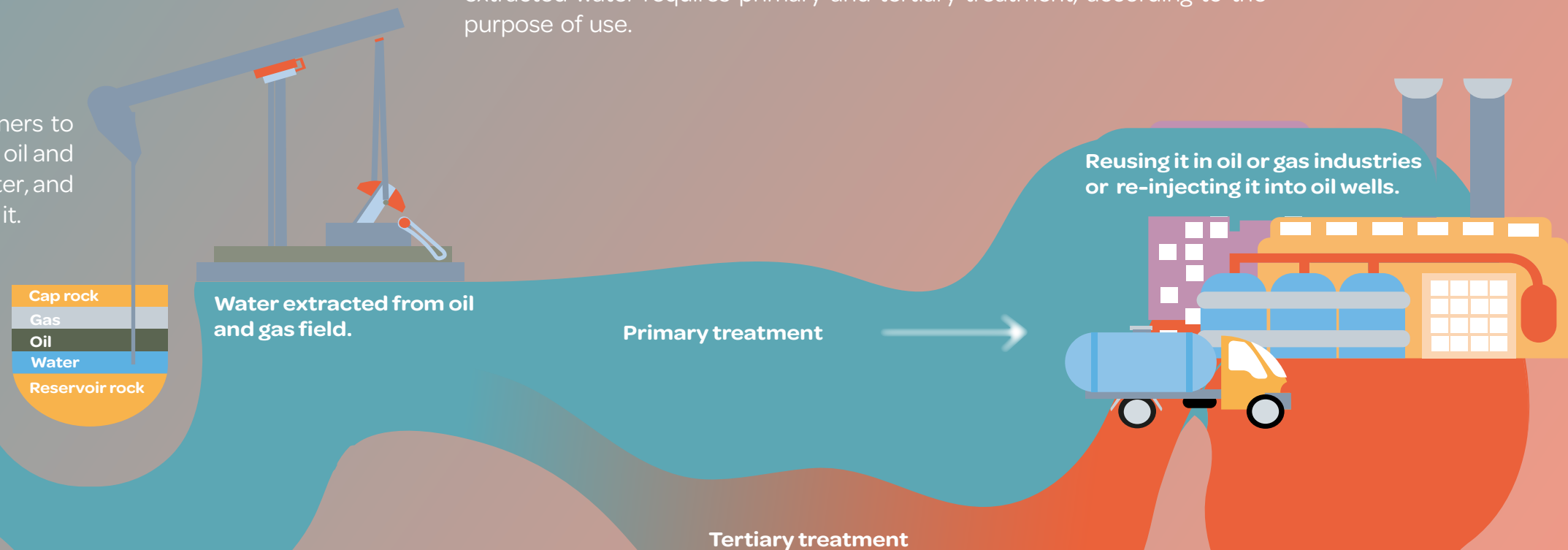


New water source

The preservation and sustainability of water resources in the Emirate of Abu Dhabi is one of the most important strategic priorities of the Environment Agency - Abu Dhabi. With increasing demand for freshwater resources, the government has increased the search for non-conventional water resources, including water produced from oil and gas fields, and to study the possibility of treating and reusing it where appropriate.

Environment Agency - Abu Dhabi cooperated with its partners to collect data and information related to water produced from oil and gas fields to study and evaluate the quantity and quality of water, and the appropriate methods for managing, treating and reusing it.

Based on the study, it was found that the water production rate is 5 barrels of water for every barrel of oil in the Emirate of Abu Dhabi. However, the extracted water often has high salinity and contains a mixture of mineral salts, organic compounds, hydrocarbons and organic acids in addition to greases, oils, some chemical compounds and other minor components, to use the extracted water requires primary and tertiary treatment, according to the purpose of use.



There are several methods used for treatment such as membrane technology, thermal technology, hydrocyclones, biological aerated filters, adsorption, enhanced flotation, and ion exchange processes. Each of these methods seek to purify water from oils and dissolved organic compounds, remove suspended solids and microbes, and then desalinate it from dissolved salts. Although the methods of managing and treating this water are economically costly but environment friendly, some of the possible ways to reuse water are illustrated here.

