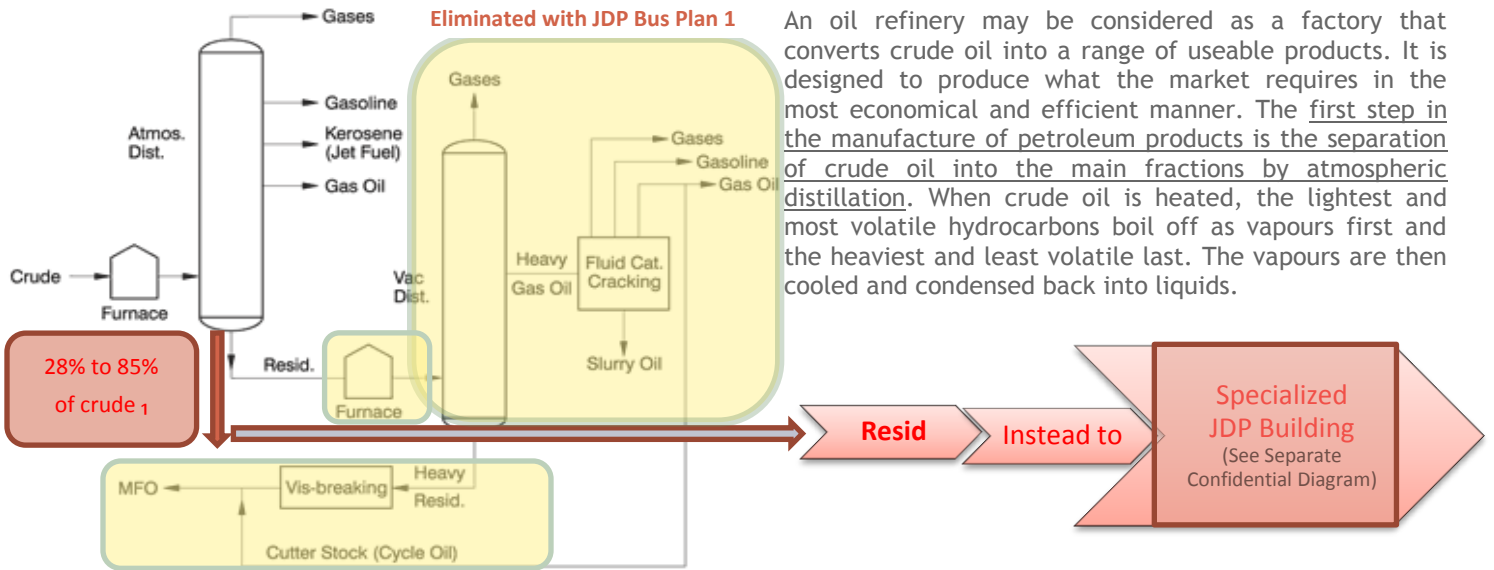


What Happens to Crude Oil in the Refinery? With & Without JDP



This distillation process is carried out in a fractionating column. This is divided into a series of chambers by perforated trays, which condense the vapours at each stage and allow the liquids to flow into storage tanks. Pre-heating of the crude oil is limited to 350°C to prevent the oil being thermally cracked.

Atmospheric and Vacuum Distillation

The residue from atmospheric distillation is sometimes referred to as long residue and to recover more distillate product, further distillation is carried out at a reduced pressure and high temperature. **This vacuum distillation process is important in maximizing the upgrading of crude oil.** The residue from vacuum distillation, sometimes referred to as short residue, is used as a feedstock for further upgrading or as a fuel component. Unlike the fractionating column for atmospheric distillation, a system of packed beds instead of trays is used for condensation of the low-pressure vapours.

Refineries based just on atmospheric and vacuum distillation are said to be operating “the straight run” process and **the fuel oil is basically either long or short run residue. The percentage of residue varies depending on the composition of crude processed.** For a typical **“light” North African crude the residue is 28%, whilst for a “heavy” Venezuelan crude it is as high as 85%.** ¹ [see Platt’s Yield Slide] The proportion of products produced does not always match the product demand and is primarily determined by the crude oil. JDP can change the value for the 28% to 85% ‘resid’ coming from the atmospheric distillation at multiples of value with much lower cost than VDU and processes eliminated in our business plan. Selection of using “heavy” crudes increases the profit per barrel by increasing the % resid as stated above [Platt’s Crude Yields].

