CLAIMS

1. A process for producing and converting hydrocarbon feedstock vapor comprising

pressurizing hydrocarbon feedstock using a hydrocarbon feedstock pump;

preheating the pressurized hydrocarbon feedstock in a first heat exchanger, wherein the heat exchanger is a furnace or a steam heater heated by any suitable heat source; and

distilling the pressurized preheated hydrocarbon feedstock in a medium pressure distillation column connected to the first heat exchanger, and wherein the medium pressure distillation column is operated at an absolute pressure in a range of 0.7 to 1.2 MPa;

wherein the hydrocarbon feedstock vapor (303, 331) is pressurized naphtha vapor, the process further comprising:

separating the pressurized naphtha vapor (303, 331) from the hydrocarbon feedstock and transforming the pressurized naphtha vapor (303, 331) in a conversion process into derivative products,

wherein the conversion process is steam cracking which is performed in a steam cracker furnace, or a continuous catalytic reforming process.

2. A process according to claim 1, further comprising distilling the hydrocarbon feedstock in the medium pressure distillation column using medium pressure stripping steam having an absolute pressure in a range of 0.8 – 2.0 MPa.

3. A process according to claim 2, wherein the medium pressure stripping steam has a temperature in a range of 180 - 350 ºC.

4. A process according to any of claims 1 or 2, wherein the heat exchanger is heated using a heat transfer medium having a temperature in a range of 160 – 350 ºC.

5. A process according to claim 1 or 2, further comprising

preheating fluid components of the hydrocarbon feedstock from the medium pressure distillation column through heat exchange in a second heat exchanger; and

distilling preheated fluid components of the hydrocarbon feedstock in a low pressure distillation column into at least one of a light distillate fraction and a middle distillate fraction and a heavy distillate fraction;

wherein the low pressure distillation column is arranged to operate at atmospheric pressure.

6. A process according to claim 5, further comprising distilling the hydrocarbon stream in a low pressure distillation column using low pressure stripping steam having an absolute pressure in a range of 0.1 – 0.7 MPa.

7. A process according to claim 5, further comprising recycling condensed components of the distillated hydrocarbon feedstock from the low pressure distillation column to the medium pressure distillation column.

8. A system for producing and converting hydrocarbon vapor, comprising:

a hydrocarbon feedstock pump for pressurizing hydrocarbon feedstock;

a first heat exchanger connected to the hydrocarbon feedstock pump, wherein the heat exchanger is a furnace or a steam heater or any other type of heater, heated by any suitable heat source, and

a medium pressure distillation column connected to the heat exchanger for distilling the heated hydrocarbon feedstock at medium pressure in a range of 0.7 to 1.2 MPa, wherein the medium pressure distillation column has an inlet for supplying medium pressure stripping steam, wherein the medium pressure stripping steam has an absolute pressure in a range of 0.8 – 2.0 MPa; and wherein the first heat exchanger is heated using a heat transfer medium having a temperature in a range of 160 to 350°C;

wherein the hydrocarbon vapor (303, 331) is pressurized naphtha vapor,

the system further comprising a device for a conversion process for transforming the pressurized naphtha vapor in a conversion process into derivative products, and

wherein the device for a conversion process is a steam cracking furnace or a continuous catalytic reformer.

9. A system according to claim 8, further comprising

a second heat exchanger connected to the medium pressure distillation column for preheating liquid components of the hydrocarbon feedstock from the medium pressure distillation column; and

a low pressure distillation column connected to the second heat exchanger for distilling the hydrocarbon feedstock into at least one of a light distillate fraction and a middle distillate fraction and a heavy distillate fraction;

wherein the low pressure distillation column is arranged to operate at atmospheric pressure.

10. A system according to claim 9, wherein the low pressure distillation column has an inlet for low pressure stripping steam having an absolute pressure in a range of 0.1 – 0.7 MPa.