CLAIMS:

1. A method for propagating flame in a combustor of a power production plant, the method comprising:

inputting to a combustor a fuel having a defined autoignition temperature;

further inputting to the combustor at least one non-fuel stream; and

heating the at least one non-fuel stream sufficiently such that a total flow of streams entering the combustor is at a temperature that is greater than the autoignition temperature of the fuel ~~or is below the autoignition temperature of the fuel by no more than 20%~~, the heating being effective to propagate a flame in the combustor;

wherein heating the at least one non-fuel stream is carried out only before inputting the at least one non-fuel stream to the combustor and by utilizing only heat that is not derived from combustion.

2. The method of claim 1, wherein the method is implemented at start-up of the power production plant or during a transient period in operation of the power production plant.

3. The method of claim 2, wherein the start-up of the power production plant or the transient period in operation of the power production plant is defined in relation to the power production plant operating at a power output that is less than 75% of a normal operating power output.

4. The method of claim 1, wherein the non-fuel stream is one or more of an oxidant stream, a working fluid stream, a diluent stream, and a water/steam stream.

5. The method of claim 1, wherein heating the at least one non-fuel stream comprises heating at least a portion of a line through which the non-fuel stream flows to the combustor using one or more line heaters.

6. The method of claim 5, wherein the one or more line heaters is configured to receive a heated stream for transfer of heat therefrom to the line.

7. The method of claim 1, wherein heating the at least one non-fuel stream comprises directly heating the at least one non-fuel stream.

8. The method of claim 7, wherein directly heating the at least one non-fuel stream comprises compressing the at least one non-fuel stream.

9. The method of claim 1, wherein heating the at least one non-fuel stream comprises passing the at least one non-fuel stream through a heat exchanger against a separately heated stream.

10. The method of claim 1, wherein the at least one non-fuel stream is input to the combustor through a line that includes a branch line that is isolatable from the line.

11. The method of claim 10, wherein heating the at least one non-fuel stream comprises heating at least a portion of the branch line.

12. The method of claim 10, wherein the branch line is isolatable from the line utilizing one or more valves that selectively allow or disallow flow of the at least one non-fuel stream through the branch line.

~~13. The method of claim 1, further comprising controllably operating a heating component present within the combustor or a combustion chamber thereof.~~

~~14. The method of claim 13, wherein the heating component is controlled so when the total flow of streams entering the combustor is at a temperature that is below the autoignition temperature of the fuel, the heating component is effective to add sufficient heat so that an overall temperature in the combustor or the combustion chamber is greater than the autoignition temperature of the fuel.~~

~~15~~13. The method of claim 1, further comprising inputting a chemical catalyst comprising at least one NOx species into the combustor in an amount sufficient to reduce an activation energy level necessary to achieve or maintain flame in the combustor or a combustion chamber thereof.

~~16~~14. A power production plant comprising:

a combustor;

a fuel line configured for input to the combustor of a fuel having a defined autoignition temperature;

at least one input line configured to deliver to the combustor at least one non-fuel stream;

a turbine or expander in fluid communication with the combustor; and

at least one heater operably arranged with the at least one input line to heat the at least one non-fuel stream before passage into the combustor sufficiently such that a total flow of streams entering the combustor is at a temperature that is greater than the autoignition temperature of the fuel ~~or is below the autoignition temperature of the fuel by no more than 20%~~, the heating being effective to propagate a flame in the combustor.

~~17. The power production plant of claim 16, wherein the combustor further includes a heating component positioned within the combustor or within a combustion chamber thereof.~~

~~18. The power production plant of claim 17, wherein the heating component is configured to provide heating to the combustor or the combustion chamber that is independent of heating from the total flow of streams entering the combustor.~~

~~19. The power production plant of claim 17, wherein the heating component is a resistive heater.~~

~~20. The power production plant of claim 17, wherein the heating component is controllable so when the total flow of streams entering the combustor is at a temperature that is below the autoignition temperature of the fuel, the heating component is effective to add~~

~~sufficient heat so that an overall temperature in the combustor is greater than the autoignition temperature of the fuel.~~

~~21~~15. The power production plant of claim ~~16~~14, wherein the at least one heater is a line heater.

~~22~~16. The power production plant of claim ~~21~~15, wherein the line heater is configured to receive a heated stream for transfer of heat therefrom to the line.

~~23~~17. The power production plant of claim ~~16~~14, wherein the at least one heater comprises a compressor.

~~24~~18. The power production plant of claim ~~16~~14, wherein the at least one heater comprises a heat exchanger through which the at least one none-fuel stream is heatable against a heated stream.

~~25~~19. The power production plant of claim ~~16~~14, wherein the at least one input line further includes a branch line that is isolatable from the at least one input line, and wherein the at least one heater is positioned on the branch line.

~~26~~20. The power production plant of claim ~~25~~19, wherein the branch line is isolatable from the at least one input line utilizing one or more valves that selectively allow or disallow flow of the at least one non-fuel stream through the branch line.

~~27. A method for propagating flame in a combustor of a power production plant, the method comprising:~~

~~inputting a fuel into a combustor;~~

~~inputting an oxidant into the combustor; and~~

~~inputting a chemical catalyst comprising at least one NOx species into the combustor in an amount sufficient to reduce an activation energy level necessary to achieve or maintain flame in the combustor or a combustion chamber thereof.~~

28. The method of claim 27, wherein the chemical catalyst comprising at least one NOx species is input to the combustor in combination with one or both of the fuel and the oxidant.

29. The method of claim 27, further comprising reacting at least ammonia in a reactor to generate the at least one NOx species.

30. The method of claim 27, wherein the inputting of the chemical catalyst comprising at least one NOx species is substantially continuous during operation of the power production plant, and wherein the method further comprises adjusting a content of the chemical catalyst comprising the at least one NOx species based upon a change in one or more further operating parameters of the power production plant.

31. The method of claim 27, wherein the inputting of the chemical catalyst comprising at least one NOx species is carried out until a defined threshold is reached.

32. The method of claim 31, wherein the defined threshold is a combustor operating temperature or a power output of the power production plant.

33. The method of claim 27, wherein the chemical catalyst comprising at least one NOx species is input in an amount sufficient such that an amount of the at least one NOx species present in an exhaust flow out of the combustor is about 5 ppm to about 1000 ppm.

34. A power production plant comprising:

a combustor;

a turbine or expander in fluid communication with the combustor and arranged to receive an exhaust from the combustor; and

a plurality of lines configured for input of at least a fuel, an oxidant, and a chemical catalyst comprising at least one NOx species into the combustor.

~~35. The power production plant of claim 34, further comprising a reactor configured to receive at least ammonia and output a stream comprising the at least one NOx species.~~