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, 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 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.

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, the heating being effective to propagate a flame in the combustor.

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

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

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

18. The power production plant of claim 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.

19. The power production plant of claim 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.

20. The power production plant of claim 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.