Claims

1. A fuel composition comprising

    a) fossil diesel component

    b) oxygenate component in an amount from 1 vol-% to 10 vol-%, preferably from 5 vol-% to 10 vol-% of the total fuel composition volume, wherein

        i. said oxygenate is a monoether having a molar mass from 128 to 300 g/mol, and

        ii. said oxygenate is of structure

        R_1-O-R_2 (formula 1),

        in which formula R_1 and R_2 are same or different and selected from C_1-C_{15} alkyl groups,

    c) renewable paraffinic diesel component in an amount from 5 vol-% to 15 vol-% of the total fuel composition volume,

    wherein the sum amount of said oxygenate component and said renewable paraffinic diesel component is from 6 to 25 vol-%, preferably from 10 vol-% to 20 vol-% of the total fuel composition volume.

2. The composition according to claim 1 wherein said oxygenate component is selected from symmetrical or asymmetrical straight chain monoethers, having molar mass from 150 to 300 g/mol, preferably from 150 to 250 g/mol.

3. The composition according to claim 1 or 2 wherein said oxygenate component is selected from group of di-n-nonyl ether, di-n-decyl ether, di-n-octyl ether, di-n-heptyl ether, di-n-pentyl ether, di-n-hexyl ether, ethyl-dodecyl ether, ethyl-undecyl ether, ethyl-decyl ether, ethyl-octyl ether, propyl-dodecyl ether, propyl-undecyl ether, propyl-decyl ether, propyl-nonyl ether, propyl-octyl ether, propyl-heptyl ether, butyl-dodecyl ether, butyl-undecyl ether, butyl-nonyl ether, butyl-heptyl ether, butyl-hexyl ether, pentyl-dodecyl ether, pentyl-undecyl ether, pentyl-nonyl ether, pentyl-octyl ether, pentyl-heptyl ether, or pentyl-hexyl ether,.ethyl-nonyl ether, butyl-decyl ether, pentyl-decyl ether, octyl-tert-butyl ether, dodecyl-tert-butyl ether, ethyl-hexyl-tert-butyl ether, di-ethylhexyl ether, and mixtures thereof.

4. The composition according to claim 1, wherein said oxygenate component is selected from symmetrical or asymmetrical straight chain monoethers, preferably said oxygenate component comprises di-n-pentyl ether.

5. The composition according to any one of the preceding claims wherein said renewable paraffinic diesel component comprises hydrocarbons produced from biomass with a process selected from gasification of biomass to produce syngas and production of paraffins from said syngas by Fischer-Tropsch synthesis to obtain a paraffinic C_9-C_{24} hydrocarbon fraction, hydrotreatment of vegetable oil, animal fat, fish fat, fish oil, algae oil, microbial oil and/or wood and/or other plant based oil as well as recyclable waste and/or residue or a combination thereof to obtain a paraffinic C_9-C_{24} hydrocarbon fraction, optionally followed by isomerization, or a combination thereof.

6. The composition according to any one of the preceding claims, wherein said renewable paraffinic diesel component comprises hydrotreated vegetable oil, hydrotreated wood and/or other plant based oil, hydrotreated animal fat, hydrotreated fish fat and oil, hydrotreated algae oil, hydrotreated microbial oil, hydrotreated recyclable waste, hydrotreated recyclable residue, or a combination thereof.

7. The composition according to any one of the preceding claims, wherein in said renewable paraffinic diesel component the amount of the paraffinic C_{15}-C_{18} hydrocarbons is at least 70 vol-%, more preferably at least 80 vol-%, most preferably at least 90 vol-%.

8. The composition according to any one of the preceding claims, wherein in said renewable paraffinic diesel component the amount of the paraffinic components in the range of carbon number C_3-C_{14} is less than 25 vol-%, such as less than 20 vol-%, less than 10% vol-%, or less than 7 vol-%.

9. The composition according to any one of the preceding claims, wherein in said renewable paraffinic diesel component the amount of the paraffinic components in the range of carbon number C_{19}-C_{24} is less than 25 vol-%, such as less than 20 vol-%, less than 10 vol-%, or less than 5 vol-%.

10. A method for producing a fuel composition according to claim 1, wherein the renewable paraffinic diesel component is produced from a renewable feedstock by a process selected from

i) hydrogenation or deoxygenation of vegetable oil, animal fat, fish fat, fish oil, algae oil, microbial oil and/or wood and/or other plant based oil as well as recyclable waste and/or residue or a combination thereof to obtain a paraffinic C_9-C_{24} hydrocarbon fraction, which is optionally subjected to isomerization, or

ii) gasification of biomass to produce syngas and production of paraffins from said syngas by Fischer-Tropsch synthesis to obtain a paraffinic C_9-C_{24} hydrocarbon fraction, or

iii) a combination thereof,

and blending the renewable paraffinic diesel component thereby obtained, a monoether oxygenate component having molar mass from 128 to 300 g/mol, and fossil diesel component.

11. The method according to claim 10, wherein the feedstock for renewable paraffinic diesel component comprises vegetable oil, wood and/or other plant based oil, animal fat, fish fat and oil, algae oil, microbial oil, recyclable waste, recyclable residue, or a combination thereof.

12. Use of a monoether oxygenate component having molar mass from 128 to 300 g/mol and renewable paraffinic diesel component as fuel blending components to fossil fuel for reducing NOx emissions, wherein the total fuel composition comprises from 1 vol-% to 10 vol-% of a monoether oxygenate component having molar mass from 128 to 300 g/mol and from 5 vol-% to 15 vol-% renewable paraffinic diesel and the sum amount of said oxygenate and said renewable paraffinic diesel component from 6 to 25vol-%, preferably from 10 vol-% to 20vol-% of the total fuel composition weigh and vol-% is calculated of the total fuel composition.