CLAIMS

[Claim 1]

A fuel production plant comprising:

a separation unit which separates oil and water from palm oil mill effluent discharged from an oil refining plant which refines essential oil from fresh fruit bunches containing oil and fat so that fuel oil and treatment water are separated;

a heat treatment unit which performs a heat treatment on empty fruit bunches discharged from the oil refining plant to generate fuel; and

a fuel oil supply line which supplies the fuel oil to the heat treatment unit,

wherein the heat treatment unit includes a carbonization treatment unit which carbonizes the empty fruit bunches, and

the fuel oil is used as the fuel of the heat treatment unit.

[Claim 2]

The fuel production plant according to claim 1, further comprising:

a heating source gas generation unit which is connected to the fuel oil supply line and generates a heating source gas; and

a heating source gas supply line which supplies the heating source gas to the carbonization treatment unit,

wherein the heating source gas is used as a heat source of the carbonization treatment unit.

[Claim 3]

The fuel production plant according to claim 2, further comprising:

an exhaust gas supply line which supplies an exhaust gas from the carbonization treatment unit to a drying treatment unit which dries the empty fruit bunches,

wherein the exhaust gas is used as a heat source of the drying treatment unit.

[Claim 4]

The fuel production plant according to any one of claims 1 to 3, further comprising:

a crushing treatment unit which crushes the fuel.

[Claim 5]

The fuel production plant according to claim 1, further comprising:

a crushing treatment unit which crushes the empty fruit bunches carbonized by the carbonization treatment unit.

[Claim 6]

The fuel production plant according to claim 4 or 5, further comprising:

a pellet molding unit which molds the fuel crushed by the crushing treatment unit to generate solid fuel pellets.

[Claim 7]

The fuel production plant according to any one of claims 1 to 6, further comprising:

a returning unit which returns the fuel oil and the treatment water to the oil refining plant.

[Claim 8]

A production method for fuel comprising:

a separation step of separating oil and water from palm oil mill effluent discharged from an oil refining plant which refines essential oil from fresh fruit bunches containing oil and fat so that fuel oil and treatment water are separated; and

a heat treatment step of performing a heat treatment on empty fruit bunches discharged from the oil refining plant to generate fuel,

wherein the heat treatment step includes a carbonization treatment step of carbonizing the empty fruit bunches, and

the fuel oil extracted by the separation step is used as the fuel in the heat treatment step.

[Claim 9]

The production method for fuel according to claim 8, further comprising:

a gas generation step of burning the fuel oil to generate a heating source gas after the separation step,

wherein the heating source gas is used as a heat source in the carbonization treatment step.

[Claim 10]

The production method for fuel according to claim 9,

wherein a high-temperature exhaust gas discharged in the carbonization treatment step is used as a heat source in a drying treatment step of drying the empty fruit bunches.

[Claim 11]

The production method for fuel according to any one of claims 8 to 10, further comprising:

a crushing treatment step of crushing the fuel after the heat treatment step.

[Claim 12]

The production method for fuel according to claim 8, further comprising:

a crushing treatment step of crushing the empty fruit bunches carbonized in the carbonization treatment step.

[Claim 13]

The production method for fuel according to claim 11 or 12, further comprising:

a pellet molding step of molding the crushed fuel to generate solid fuel pellets after the crushing treatment step.

[Claim 14]

The production method for fuel according to any one of claims 8 to 13, further comprising:

a returning step of supplying the fuel oil and the treatment water to the oil refining plant.