CLAIMS

1. A method for use in power generation comprising:

bringing a first target matter via wave resonance into a higher energy state by exposing the first target matter to electromagnetic radiation input energy for producing a first isotope shift in the first target matter and neutrons resulting from the first isotope shift,

capturing the neutrons by a second target matter for producing a second isotope shift in the second target matter and electromagnetic radiation output energy,

wherein, on a condition that the electromagnetic radiation output power is produced above a power threshold value, maintaining the production of electromagnetic radiation output energy by exposing the first target matter to electromagnetic radiation maintenance energy provided by means of a wave source.

2. The method according to claim 1, wherein the electromagnetic radiation input energy is sourced by electromagnetic radiation comprising at least one resonance frequency mode comprised in a frequency interval.

3. The method according to claim 2, wherein the at least one resonance frequency mode is associated with an inter-atomic distance of the first target matter.

4. The method according to claim 2 or 3, wherein the at least one resonance frequency mode is a gas or plasma resonance frequency mode of the first target matter, a plasma resonance that characterize magnetized and/or non-magnetized plasmas of the first target matter, or a solid/fluid/gaseous/plasma resonance frequency mode of the second target matter.

5. The method according to any of claims 1-4, further comprising heating at least one of the first target matter and the second target matter.

6. The method according to any of claims 1-5, wherein the electromagnetic radiation input energy is provided in the form of a square wave signal or a sinus wave signal.

7. The method according to any one of claims 1-6, wherein the electromagnetic radiation maintenance energy is sourced by electromagnetic radiation comprising at least one resonance frequency mode comprised in a frequency interval.

8. The method according to any of claims 1-7, further comprising providing a third target matter comprising a catalyst material.

9. The method according to any of claims 1-8, further comprising bringing the first target matter into a plasma state.

10. An apparatus for power generation, the apparatus comprising:

a source unit for producing electromagnetic radiation input energy,

a first target matter (210),

a second target matter (220), and

a fuel container (130) for containing the first target matter and the second target matter,

wherein the first target matter and the second target matter are mixed,

wherein the source unit is arranged to expose the first target matter to the electromagnetic radiation input energy for producing an isotope shift in the first target matter and neutrons resulting from the isotope shift,

wherein the second target matter has a nuclear binding energy which is smaller than the nuclear binding energy of the isotope, or isotopes, into which it is shifted after a process of neutron capture.

11. The apparatus according to claim 10, wherein the fuel container is a pressure chamber.

12. The apparatus according to claim 10 or 11, wherein the source unit comprises an induction coil arrangement (120).

13. The apparatus according to any one of claims 10-12, further comprising a discharge electrode unit (150).