

(19)



(11)

EP 2 518 230 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

31.10.2012 Bulletin 2012/44

(51) Int Cl.:

E04B 1/74 (2006.01)

F24D 12/00 (2006.01)

(21) Application number: **12425047.3**

(22) Date of filing: **29.02.2012**

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

Designated Extension States:

BA ME

(71) Applicant: **Casaxylia Srl.**

62019 Recanati (MC) (IT)

(72) Inventor: **The designation of the inventor has not yet been filed**

(30) Priority: **03.03.2011 IT CH20110001**

(54) **Energy efficient building**

(57) Public and private residences with frame buildings, which are made from laminated wood construction system "xlam" from forest certified by FSC, subject to planting controlled, powered for all its functions only with

electricity produced from renewable sources and managed in the entirety and with home automation system software.

EP 2 518 230 A2

Description

Field of application

[0001] In the light of a movement called "green economy" continuously growing, the company CASAXYLIA Ltd, has launched a program with the task of pursuing and implementing integrated solutions for high-innovation in the construction industry, for the construction of residential buildings and no residential, powered exclusively by electricity produced from renewable sources in self, all integrated with the proprietary home automation with specific profiles of high savings and emissions of greenhouse gases equal to zero in solutions for all residential and functional not powered solely by electricity produced from renewable sources.

[0002] CASAXYLIA SRL has, in this context defined general and particular solutions for the construction of public and private residences, with the structure of the buildings that will be made with laminated wood construction system "xlam" from forests certified by FSC, subject to planting controlled, powered for all functions only with electricity produced from renewable sources and managed in the entirety and with home automation system software exclusive presented as habitability "CASAXYLIA zero energy building" that is:

"CASAXYLIA zero energy building zero emissions of CO2"

Zero CO2 emissions

zero primary energy from fossil

zero energy costs for the life of the building

all in line with the European directive 2010/31/CE

Current status

[0003] Still does not appear that there is a living model equal to the one developed and analyzed in its complexity and operation.

Technical problem

[0004] entered into force on 8 July 2010 the European directive 2010/31/CE on the energy performance of buildings. The Directive requires that plans be drawn up plans for increasing the number of "almost zero energy buildings", high-energy performance of buildings, whose energy needs very low or almost zero, should be covered in a very significant extent by energy produced from renewable sources. by 31 December 2020 all new buildings must be "almost zero energy buildings". For public buildings prior to this deadline is January 31, 2018. later than June 30, 2011, the States should provide funding and

incentives for improving energy efficiency of buildings and the transition to almost zero energy buildings.

Solutions of the technical problem

[0005] "CASAXYLIA zero energy" solves the problem posed by the new directive, it is building a zero energy needs from renewable sources, is a building whose energy requirements are very low (less than 30 kW / m h), has a home automation system and exclusive software that determines and manages the power consumption of the building and a building finally being electrically operated heating system is also zero emission of CO2 into the atmosphere.

Description of one or more embodiments

[0006] No alternative is provided for the construction described

Operation

[0007] The construction provides for the basic realization of a passive casing. means that the individual components for the realization in terms of materials, are characterized by high level of energy containment. The lighting plant is characterized by the use of LED lamps the heating system is based on the use of "STEP" is an electrical heating system in the floor, it works to the safety voltage of 24 volts is a durable polymer, thin and flexible the operating principle is based on nano technology. More precisely, each material expands or contracts by varying the temperature. When the heating element is exposed to a low temperature the conductive particles of the polymer tend to approach causing a current flow, and then generates heat by radiation that is diffused in the building. The power management system is governed by a specific software made specifically for the building, which on the basis of predetermined parameters makes the house can always be served by the energy it needs without creating unmanageable peaks in consumption according to the powers of domestic use provided. No source of energy derived from fossil fuel is present in the system CASAXYLIA.

Benefits

[0008] The benefits are to be able to market a "manufactured home" with energy-efficient construction costs and sales in line with the market. This situation generates a reduction in consumption and expenditure by the utilities for those who live in a building CASAXYLIA (compared to an average cost of 3000 € per year, an inhabitant of CASAXYLIA has zero operating costs).

[0009] The building anticipates a decade europea legislation described above and acts as a strong element of innovation in the construction market, which currently does not provide solutions to zero CO2 emissions. The

structure of the building to the natural characteristics of wood, eliminates the formation of mold and bacteria inside the building and eliminates contamination by radon gas (second cause of lung cancer after smoking) usually found in standard construction because absorbed the concrete structure increase the comfort and roominess of the building compared to a conventional one. 5

Variants

[0010] Are not foreseen at the time variations to the product. 10

Claims

1. CASAXYLIA A ENERGIA ZERO is **characterized by** the fact that it does not emit CO₂ into the atmosphere and therefore has zero emission in line with the European directive 2010/31/CE 20
2. CASAXYLIA A ENERGIA ZERO is **characterized by** the fact that the operation of household appliance, of the loads and of the heating system of the dwelling are totally electric and managed by an exclusive software to control home automation. 25
3. CASAXYLIA A ENERGIA ZERO is **characterized by** the fact that does not resort to the use of fossil fuels, but self-produced energy systems based on renewable energy. 30
4. CASAXYLIA A ENERGIA ZERO helps to reduce environmental pollution. 35
5. CASAXYLIA A ENERGIA ZERO is a protocol for the construction of energy efficient buildings. is also a protocol of energy certification for buildings, electrically operated, thanks to a software realized and specific for buildings in electrical operation. These technical guidelines will be proposed for certification at institutions qualified by the legislature to rise as a reference for regions and states in the framework of the energy certification of buildings, electrically operated, and zero emission. 40 45
6. CASAXYLIA A ENERGIA ZERO anticipates a decade the European regulation 2010/31/CE, which will come into force on 31/12/2018. 50

55