

The impact of renewable energy in urban planning instruments: the case of PDAU

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Abstract. The instruments of urban planning are the practical expression of a specialized planning process. Having said that they represent the results and proceeds of the evolution of the city and urban thought .compared to which, they must evolve in their tours to meet the requirements of sustainable development including renewable energy. Now, it happens that the terms defined by the instruments and tools of urban planning are overtaken by the rapid development of the city, which gave the latter a configuration complex and fragmented, with many problems. Added to this, urban interventions are repeated and multiply without durable solutions to the city. Thus, Algerian cities evolve and transform in neglecting the conditions of real sustainability, able to open perspectives in the barrel of a sustainable development .

Keywords: sustainable development – planning instruments–renewable energy.

1 Introduction

Renewable energy is an energy source which renews itself quite quicquly to be regarded as inexhaustible scale human, they are derived from regular or constant natural phenomenon. While urban planning are the result and proceeds of the evolution of the city and urban thought, so they have to lead to accompany him in his mutations. For all these reasons they must evolve in their tours to meet the best requirements of sustainable development. Algeria with its territory which extends over an area of 2382 km has significant natural resources. This large area is characterized by its vulnerability resulting from effects of the practices of citizens, which caused a degradation of the environment therefore the sustainability of these resources, is called into question.

2 Preambles

In recent years, the duality between sustainable development and urban planning instruments subject contrast. At the time where the terms defined by these urban planning tools are always overwhelmed by the rapid development of the city, which gave it a complex and fragmented, configuration with many problems. On the other hand, the spatial dimension of sustainable development is not really taken in charge in urban planning, including the PDAU (master plan of land use and urban planning). As a result, urban planning should opt for the launch of a vast program focusing on the use of renewable energy and clean energy for sustainable development.

3 Case of the PDAU of Saida city

3.1 Geographical location

Saida city in high oranian plains with a semi arid climate which is characterized by: Its hydraulic potential, its thermal potential, with water baths-mineral, its forestry potential, representing an economic value followed but above all ecological and environmental and it's important industrial fabric.

3.2 The winds

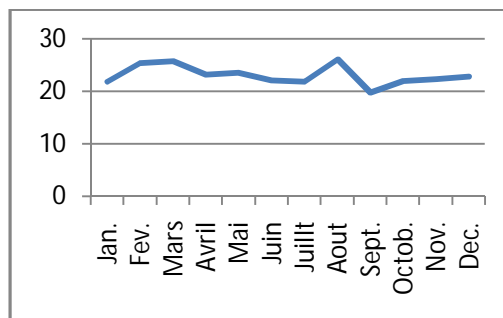


Fig. 1. Wind speeds, registered at the level of Saida station.

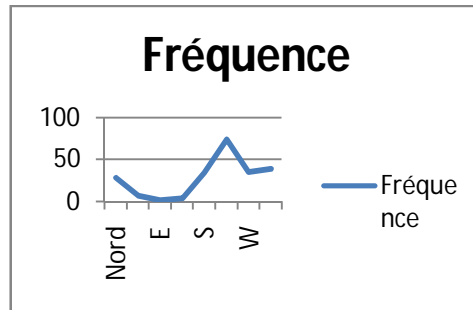


Fig. 2. Frequency of directions

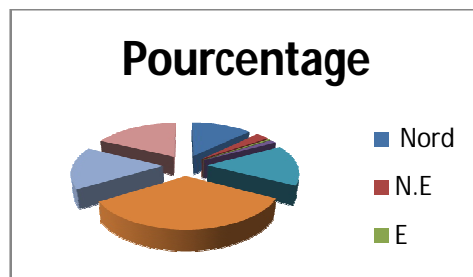


Fig. 3. Percentage of Frequency of directions, registered at the level of Saida station.

3.4 The temperatures

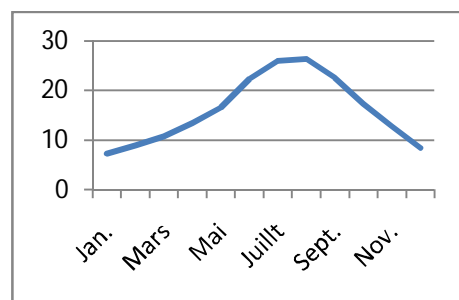


Fig. 4. Average temperatures, source information; Station weather of Rebahia

3.4 Insufficient green space

We note that Saida city present chronic in the field of space.

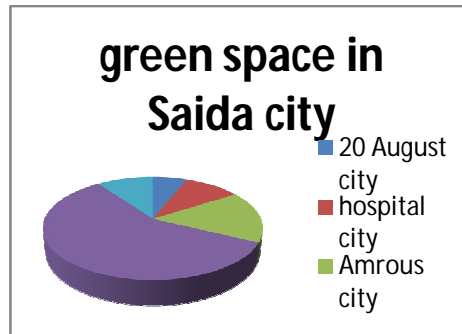
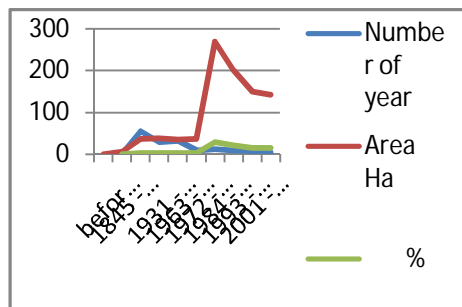


Fig. 5. Evolution of green space in Saida city.



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Fig. 6. The spatial evolution and the evolution of the population of Saida city .

4 result and discussion

We need to have a national strategy for the environment and a national plan for environmental action and sustainable development very sharp. In order to ensure the implementation of this program:

1 regularly updates the instruments of urban planning (PDAU) integrating of modern standards of durability, comfort and ecology.

2 introduce a “green building permit «for all new major buildings (hospital, administrative building, large complexes and hotels” and generalize it.

3 integrate renewable energy and modern techniques of reduction of energy consumption and thermal insulation in new buildings as well as to existing building.

4 introduce savers of water as a priority.

5 restore constancy and aesthetics in urban ensembles.

6 find the mastery of the evolution of urban spaces by introducing a genuine of urban planning.

7 put in place of green belt around cities and introduction of the concept of urban landscapes as inseparable supplements plans of occupation of land (POS)

8 impositions of standards on the minimum proportion of spaces for recreation and green spaces according to the number on inhabitants.

9 widespread use of solar energy for electricity production or small hydraulic.

5 Conclusion

In sum , the use of spaces in sustainability management is difficult to implement in the context of Algeria, because it is based on both the need for taking into account of the multi functionality of natural resource as well as to the political willingness state, this municipalities must have a vast program focusing on the use of renewable energy and clean energy for sustainable development , where it is question of solar energy (photovoltaic panels) and the establishment on the heights of the city equipment in wind turbines, with regular follow-up and a progressive .

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