

# Solar Energy Application on Environmental Protection

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**Abstract-** Human need deployment for energy resources always was a basic matter of all human life, and try to achieve one immortal energy resource was an old human wishes. With human civilization gradual advance life wood, then coal, oil and gas enter to energy market. But because of increase of need to energy and fossil resources limitation and increase of environmental protection implication arising from burning this used resources of unlimitation energy. This matter becomes more important day by day. Researches and specialists believed that with using of pure energies like solar, windy and heat ground energy and etc, instead of energies cause by fossil fuels will impede of environmental protection implication. In this way and about two decade after entering Fotovoltaeek cell into public arena of energy produces, close relation between policy and energy resources bring that, there aren't any place for economic explanation argument and finding away for using solar energy and made electricity. In Iran, because our countries set on world solar line and have solar light shining with good power and high ability and our country also is kind of ready area for using this energy. So the average volume of light shining at a day is 4 kilowatt H/m<sup>2</sup> and the average volume of sunny hour is more than 2800 hour at a year.

**Keywords-** *Environmental Implication, Solar Energy, Fotovoltaeek Cells*

## I. INTRODUCTION

Access of developing countries to kinds of new energy resources, have basic important for economic expansion and new projects show that between development level of one country and his volume of energy consumption is a direct relation. With attention o fossil energy limitation resources and increase of energy consumption at new world, we cannot emphasis on existence energy resources. At our country, the needs of energy resources and decrease of fossil energy, some factors are necessary such as, keeping the health of environmental, decrease of implication, providing fuel and using of new energies like: windy, hydrogen solar energy and etc. Today, policy, economy crisis and matters like limitation of fossil resource strength, environmental concerns, increase of publication, economy growth and consumption coefficient,

all of them are world arguments that with all their aspect occupied thoughts of Scientifics for finding suitable way at solving energy problems at world, especially at environmental crisis. This is obvious that today economy and policy coverage, depend on their use of fossil energy resources, and missed fossil resources, not only is a threat for economies of exporting countries. All this matter caused by missed fossil energy resources fortunately, all world notions, know the importance and the role of different kind of energy resources, specially new (renewal) energies for guarantees now and futures need of people, and at a wide range at developing usage of this immortal resources, they want to invests all their capitals. With regarding these kinds of basic thoughts at field of immortal energy using and related technologies at industrial and developing countries such as Iran is absolutely necessary to providing basic program, plan and suitable guidelines. We expected with development use of pure energies at Islamic Republic Iran, according to results said at this thesis and essential guideline and suitable planning could making clear many challenges and identify suitable way to do the best. We hope this said planning could be response important questions and ambiguity like:

- 1) Potential value of every one limitation energy bearers at Iran.
- 2) Identify and selection of right regain (finding right site)
- 3) Compiled view for limitation energies.
- 4) Economy explanation regarding to deigned different factors.
- 5) Planning, the way and capacity of investment, identify prefer ability of every limitation energies.
- 6) Compiled plan for related technologies development at Iran

## II. SOLAR ENERGY

About two deiced after entering fetavoltaeek cells in to public arena of energy produces, close relation between policy and energy resources bring that, there aren't any place for economic explanation argument and finding away for using solar energy and electricity. In Iran, because our shining with good power and high ability and our country also is kind of ready area for using this energy, so the average value of light shining at a day is 4 kilowatt Hm<sup>2</sup> and the average value of sunny hour is more than 2800 hour at a year of course, all said

values is average value and at salt desert area of our country like Yazd sunny hours reach to 3200 hours. With attention to this matter that Iran is a mountainous country that almost of his area set on at high of 1000 upper than water sea level, the ability of delivery sun light shining will be more. The use of limitation energies consumption of Iran was low, after words until now solar energy is not commercial formally. Areas that have high potential for solar energy including: Shiraz, Tehran, Khorasan and Yazd. Semnan, Solar design including central delivering power station, linear Sahnmy, Fotovoltaeek system and solar groups

*2-1: Studying the Possibility Use of Solar Energy from Economic View.*

Although the cost of using of solar energy is so light, but today at making policy is not consider only the cost of solar systems, so the advantages gaining from use of them like decrease of environmental protection implication also considered. With attention to all designed matter, could finding some area of our country that use of solar energy at them have economy explanation. As a sample, using of solar cells at for away areas could reach high price during several years. With regarding to existing technologies and the expansion use of solar energy at a world, Seems at sections like: buildings heat, produce heat water, cooking food, blotter making fresh water, and this energy could be compete with current energies. Doing researches shows until now, making independent solar power stations is not profitable, so combination cycle power stations like solar- gas or solar-vapor will be so economy. One of important obstacles at using of solar energies is capitals for getting solar industries that must be considered all basic functions. Different kinds of limitation energies produce by effect of sun shining. Fotovoltaeek cells that produce electricity, sahmoy and solar concentration towers, windy and heat ground energy all of them reach their energies from sun. Already of European countries work severely on solar energy and using of this energy would talk last words at human future life.

III. SUITABLE WAYS FOR BRIGHT USING OF SOLAR ENERGY

*3.1: Green buildings- Coordinate with Solar Energy*

Green buildings that are famous as coordinate buildings with environmental they are kinds of constructions that providing possible bright use of valuable natural resources like: water, wind, solar energies aside effective materials. During recent years this buildings encounter with extraordinary development at new design and technology, this matter cause environmental implication decrease and naturally create more health environment at outside and inner of buildings. Implications created by demolition and reconstruction buildings and them including weather, soil quality and unpure energies consumption. With expansion of construction and green technologies at governmental and individual segments compiled program is not limitation. By this mean at U.S the use of green buildings Council (USGBC) design a program that expand the use of green buildings

around the world. This program named LEED that mean leadership in Energy and Environmental, this program made by basic energy and environmental and also is balance factor between essential functions and environment.

Project teams (authorities, extension markers, architects and contractors) with attention to basic of this program as a powerful instrument could manage to find best ways for physics and economy fields and also helped to aims of green projects.

*3-2: How LEED Works?*

LEED show his program at 5 Headline:

- 1) Coordinate sites with environmental.
- 2) Output and efficiency of water (protection of water)
- 3) Energy and atmosphere.
- 4) Keeping and protecting resources and materials.
- 5) Quality of inner building from the view of environmental.

If a project design by this 5 headline or in other words success to do this LEED circumstance, a unite output world be produce that have the possibility of achieving Silver, Gold or Platinum medals, doing each of 5 LEED circumstance identify the degree of medals.

*3.3: Coordinate Sites with Environmental*

Attention to different factors at the time of designing cause more effectiveness of this building.

- A) The situation of building.
- B) Designing area with regarding to natural and agriculture environments.
- C) Use of empty area between buildings or grounds that before was implication.
- D) Decrease use of local automobile.
- E) Bright use of local texture.
- F) Controlling and managing superficial water.
- G) Decrease of implication.

*3.4: Protection of Water*

- A) Decrease the volume needs water for building and person.
- B) The lack of using of drinking water for irrigation and washes.
- C) Use of new technologies for sewages filtration.
- D) Protect of drinking water quality and water of rivers, canals and lakes.

*3.5: Energy and Atmosphere*

- A) Managing on impression at ground atmosphere and decrees of energy consumption.
- B) Use of limitation energies.
- C) Cycle and origin protect of buildings.
- D) Elimination of halons and Conservatory gasses.

*3.6: Resources and Materials.*

- A) Renewed use of existing building.
- B) Decrease volume Consumption materials.
- C) Use of local-regional and limitation materials.

- D) Right use of wooden resources and replaced them.
- E) Decrease of futile and managing them.

### 3.7: *Quality of Inner Building from the View of Environmental*

- A) Elimination or decrease of impeded resources at inner building.
- B) Weather ventilation and controlling impeded.
- C) Heat and Cold studding and forbidden of port heat.
- D) Controlling of weather quality.
- E) Bright and correct use of light and view.

### 3.8: *Environmental Benefits*

Constriction and make building, have expansion negative impact on jungles, pastures, planet ecosystems and also animal and agricultures with correct selection and right chose of buildings situation could forbidden of this matters and also forbidden of irregular cities that are serious problems.

Reconstruction of existing building, use of unutilized ground between buildings and use of ground that before was impeded by machines life that forbidden of unutilized growth cities. Decrease cast of operations. The cost of energy and water consumption at buildings with designer of LEED technology decreased rather than old buildings. This volume during a period of time could compensation primary costs and archive positive indicator investment. Buildings that are making with these desirable technologies could lead to development and expansion of now projects. Reconstruction of existence buildings could decrease building cost. At this system with using of abilities could use of one project as another cover project. With getting small of some instruments like chillers could forbid of irregular consumption.

## IV. CONCLUSION

Today, human interference subjects at environmental is revealed more than any time. The concept of development is synonym of protection of natural environment and environmental and at economy indicator national counts such as inner UN pure produce, keeping natural resources and environmental also designed. Energy is basic need for continuation economic expansion, providing and guarantees welfare and rest of people. Now, world energy consumption is about 10 Gtoely (equal to 10 milliard tons pure oil at one year). This volume shows the measure of world energy consumption at future century and surely this important question design that will be fossil energies sources at future century response the world energy need for permanence, expansion and evolution? At least for three mast important factors, the answer to this question is negative and new energy sources must replace to old one. This factors including:

- 1) Limitation and at the same time desirability of fossil energies that from logical view have better application rather than oxidation and also environmental problems.
- 2) Implication result from oxidation and increase density of 'Carbon dioxide' at atmosphere and their conclusion countered the world with irrevocable and throaty changes. The increase of earth Tempress, weather changes, going up the

water of sea level and to least aggravation national arguments are kind of sad result. In other hand, finishing fossil sources and predict increase of costs, encourage, policy makers to set balance offers and some policies for controlling environmental and researchers for expansion resources with low implication that have powerful ability for substation with now energy systems.

3) All limitation energy undertake more share at world energy providing this sources have the possibility of response two basic fossil sources at the sometime limitation energies naturally coordinate with nature and have not implication, because they are limited and have more gravity. Another characters of this sources is dispersion and expansion of them around the world, they needs lower technologies that have more gravity.

So at programs and international policies, in the way of expansion stability of world, limitation energies have special role but to a coordinating limited sources, also have some problems with now systems of world energy consumption, for solving them, must specific world recherche allocated to them. With regarding to now human technologies, nuclear energy and electricity, wind energy are tow sustainable energy for fossil fuel. Iran country from the view of different energy sources is most riches countries in the whole world; Iran has most potential of limitation energies like wind, Jeotormal, sun and etc. The view of energy and environmental until 2030 the weather of ground changes in result of human activities especially at energy segment. Most environmental and weather changes at world could be explained like this.

1) Publication value of CO<sub>2</sub> at 200 years past time increase 31 percent.

2) Publication value of CH<sub>4</sub> from 1800 increases at least two times.

3) By increase atmosphere descend impact at middle geographic fields and sow flood and great storm.

4) In the past century, the free level of sea water at world increase 1 to 2 millimeter annual.

5) The growth season at every decade is longer from 1 to 4 years about past 40 years. At future 30 years the value of carbon dioxide, publication by impacting of produce and energy consumption will increase with faster music than basic energy consumption. Two from three of this increase resulted from consumption at developing countries, and at power producer and transportation segment, cause more than 75 percent increase of Carbon dioxide and would be transported the situation of geographic growth Carbon dioxide from industrial countries to developing countries.



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