

NINETEENTH CONGRESS OF THE )  
REPUBLIC OF THE PHILIPPINES )  
First Regular Session )



Senate  
Office of the Secretary

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SENATE  
S. No. 532

RECEIVED BY: 

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Introduced by Senator Grace Poe

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**AN ACT  
TO FURTHER PROMOTE THE ADOPTION OF ROOFTOP SOLAR TECHNOLOGY  
AMONG RESIDENTIAL, COMMERCIAL, INDUSTRIAL, AND GOVERNMENT  
END-USERS, AMENDING FOR THE PURPOSE REPUBLIC ACT NO. 9513,  
OTHERWISE KNOWN AS THE "RENEWABLE ENERGY ACT OF 2008", AND  
FOR OTHER PURPOSES**

EXPLANATORY NOTE<sup>1</sup>

The solar photovoltaic (PV) technology is a low-carbon renewable energy solution well suited in the Asia-Pacific region due to its bountiful solar radiation. There are two common types of solar PV system: (1) utility-scale installation with one megawatt capacity which require large, open land areas with few shadows, and (2) distribution generation which may be ground-mounted or installed on rooftops, and generate power during the day while feeding surplus power back into the power grid<sup>2</sup>.

In the Philippines, rooftop solar PV technology could be a valuable tool in achieving energy security, reducing electricity cost, improving supply reliability and promoting power grid independence. It can also help offset part of the investment needed for new power generation. More so, it recognizes the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.

In 2018, the Institute for Energy Economics and Financial Analytics (IEEFA) published a report entitled "Unlocking Rooftop Solar in the Philippines" which tagged

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<sup>1</sup> We acknowledge the support of Mr. Roberto Verzola in drafting this measure.

<sup>2</sup> Asian Development Bank. *Handbook for Rooftop Solar Development in Asia*.

<https://www.adb.org/sites/default/files/publication/153201/rooftop-solar-development-handbook.pdf>

Philippines has one of the highest-priced electricity rates among ASEAN members states. However, it stressed that the promotion of solar power generation can ensure power supply while lowering electricity costs to P2.50 per kilowatt-hour (kWh), leading to a \$2.8 billion or P1.5 trillion in new investment by 2030.<sup>3</sup>

The benefits of solar power has long been recognized by National Economic Development Authority (NEDA) Director General Ernesto M. Pernia. In 2015, he wrote a policy report entitled "Solar Power's Dawning and Promise for Inclusive Growth" published by the Philippine Center for Economic Development (PCED).<sup>4</sup> He noted the recent developments in solar energy and called upon the government to vigorously foster the development of solar power in its various forms.<sup>5</sup>

According to the study, rooftop solar is an emerging technology which the government should look into for the following reasons:

- 1) Electricity from rooftop solar is becoming cheaper by the day. In 2014, then Department of Energy (DOE) Secretary Jericho Petilla stated that electricity from a coal plant costs around Php12.00 per kilowatt hour, with transmission and distribution costs factored in.<sup>6</sup> In contrast, electricity from solar panels directly installed on one's rooftop costs only Php9.00per kilowatt hour;<sup>7</sup>
- 2) Rooftop solar could reduce the demand for electricity during peak hours. In 2013, the United States Agency for International Development (USAID) estimated that a 10% reduction in peak demand is expected to bring down spot prices by 20%.<sup>8</sup> Of course, peak hours are usually around 12 to 2 pm in

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<sup>3</sup> Ahmed, S.J. *Unlocking Rooftop Solar in the Philippines*. Retrieved from [http://ieefa.org/wp-content/uploads/2018/07/Unlocking-Rooftop-Solar-in-the-Philippines\\_July-2018.pdf](http://ieefa.org/wp-content/uploads/2018/07/Unlocking-Rooftop-Solar-in-the-Philippines_July-2018.pdf)

<sup>4</sup> Pernia, E.M. "Solar Power's Dawning and Promise" *PCED Policy Notes* (No. 2015-01) Retrieved from [http://www.pced.gov.ph/wp-content/uploads/2015/07/PN-2015-01\\_final-digital.pdf](http://www.pced.gov.ph/wp-content/uploads/2015/07/PN-2015-01_final-digital.pdf)

<sup>5</sup> Pernia, E.M. "Solar Power's Dawning and Promise" *PCED Policy Notes* (No. 2015-01) Retrieved from [http://www.pced.gov.ph/wp-content/uploads/2015/07/PN-2015-01\\_final-digital.pdf](http://www.pced.gov.ph/wp-content/uploads/2015/07/PN-2015-01_final-digital.pdf)

<sup>6</sup> Verzola, R. *Crossing Over: The Energy Transition to Renewable Electricity*. Philippines: Friedrich Ebert-Stiftung, 2015.

<sup>7</sup> *Ibid.*

<sup>8</sup> USAID. *Challenges in Pricing Electric Power Services in Selected ASEAN Countries*. Retrieved from <http://www.catif.org/wp-content/uploads/2013/10/Challenges-in-Pricing-Electric-Power-Services.pdf>

the afternoon when the sun is hottest. In 2015, the Luzon grid recorded its highest electricity demand to date at 8,791 megawatts (MW) on May 6 at 2:08 pm.<sup>9</sup> Fortunately, solar panels work best when the sun is hottest, which coincides with when demand for electricity in the Philippines is highest;

- 3) Complete solar photovoltaic systems can be bought off-the-shelf and could be easily installed in a few hours. Larger systems may take a few days. No other technology, renewable or otherwise, could match the convenient installation attributed to rooftop solar; and
- 4) Unlike other power plants, whether fossil-based, hydro, wind or solar farms, rooftop solar does not require land conversions because it uses what is usually an underutilized and already existing resource, the roof.

The Philippines has policy mechanisms to support the development of rooftop solar. In 2008, net-metering was introduced as one of the major policy innovations under Republic Act No. 9513, otherwise known as the "*Renewable Energy Act of 2008*". In addition, MERALCO introduced the Peak/Off-Peak (POP) Program in 2014. Under the POP program, households with rooftop solar are charged a higher rate for daytime-consumption and a lower rate for night time consumption.<sup>10</sup> Finally, PAG-IBIG Fund introduced a new solar panel acquisition/installation loan in 2015.<sup>11</sup>

This measure seeks to address the gaps in this emerging industry by introducing the following measures that aims to further increase and encourage the adoption of rooftop solar in the Philippines:

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<sup>9</sup> Olchondra, R.T. "Summer heat drives Luzon power demand to new peak" *Philippine Daily Inquirer* (May 08, 2015). Retrieved from <http://business.inquirer.net/191467/summer-heat-drives-luzon-power-demand-to-new-peak>

<sup>10</sup> Ranada, P. "How Practical is Solar Power for PH Home Owners" *Rappler* (26 July 2014). Retrieved from <http://www.rappler.com/business/industries/power-and-energy/64165-solar-power-ph-households-net-metering>

<sup>11</sup> PAG-IBIG Fund. "Availment of PAG-IBIG Housing Loan for the Acquisition/Installation of Solar Panels. Retrieved from <http://www.pagibigfund.gov.ph/governancescorecard/Materials%20for%20uploading/Memo%20on%20Environment.pdf>

- 1) Removal of the 100-Kw cap on distributed generation to allow large electricity consumers such as commercial establishments and industrial buildings to avail of the net-metering program under RA 9513;
- 2) Insertion of an explicit provision that the same reference price should be applied to both electricity imported from and exported to the grid by end-users;
- 3) Requiring the Department of Energy, Energy Regulatory Commission, National Renewable Energy Board, Department of Interior and Local Government, to standardize permits and licenses needed to install rooftop solar panels;
- 4) Institutionalization of the rooftop solar loan program of the PAG-IBIG Fund; and
- 5) Mandatory installation of rooftop solar panels on government buildings, which shall increase by 5% every five years.

In view of the foregoing, the approval of this measure is eagerly sought.



GRACE POE

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**END-USERS, AMENDING FOR THE PURPOSE REPUBLIC ACT NO. 9513,**  
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**FOR OTHER PURPOSES**

*Be it enacted by the Senate and the House of Representatives of the Senate in Congress assembled:*

1 Section 1. *Short Title.* – This Act shall be known as the "Solar Rooftop  
2 Adoption Act of 2019".

3 Sec. 2. *Declaration of Policy.* – The State recognizes energy security and  
4 electricity affordability as necessary components of inclusive, sustained and broad-  
5 based growth. The State further recognizes the necessity of balancing the provision  
6 of secure and affordable electricity with the right of the people to a balanced and  
7 healthful ecology in accord with the rhythm and harmony of nature. The State also  
8 recognizes the emergence of rooftop photovoltaic or solar technology as an  
9 increasingly affordable and feasible method of complementing the electricity needs  
10 of residential and commercial end-users, thereby reducing overall demand.

11 To this end, it is hereby declared a policy of the State to further promote  
12 rooftop solar technology among residential and commercial end-users, and to  
13 address institutional barriers to its adoption thereof.

14 Sec. 3. Section 4 of Republic Act No. 9513 is hereby amended to read as  
15 follows:

16 "Section 4. *Definition of Terms-* As used in this Act, the following terms are  
17 herein defined:

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1 (j) "Distributed generation" refers to a system of small generation  
2 entities supplying directly to the distribution grid [~~any one of which shall~~  
3 ~~not exceed one hundred kilowatts (100 kW) in capacity;~~] **OR TO END-**  
4 **USERS, AND WHICH ARE PRIMARILY USED TO MEET OR**  
5 **AUGMENT THE ELECTRICITY REQUIREMENTS OF END USERS."**

6 Sec. 4. Section 10 of the same Act is hereby amended to read as follows:

7 "Section 10. *Net-Metering for Renewable Energy*.- Subject to technical  
8 considerations and without discrimination and upon request by distribution end-  
9 users, the distribution utilities shall enter into net-metering agreements with  
10 qualified end-users who will be installing RE system.

11 The ERC, in consultation with the NREB and the electric power industry  
12 participants, shall establish net metering interconnection standards and pricing  
13 methodology and other commercial arrangements necessary to ensure success of  
14 the net-metering for renewable energy program within one (1) year upon the  
15 effectivity of this Act. **IN ESTABLISHING A PRICING METHODOLOGY, THE**  
16 **ERC SHALL ENSURE THAT THE SAME REFERENCE SHALL BE APPLIED TO**  
17 **BOTH THE ELECTRICITY IMPORTED FROM AND EXPORTED TO THE**  
18 **DISTRIBUTION GRID BY END-USERS.**

19 The distribution utility shall be entitled to any Renewable Energy Certificate  
20 resulting from net-metering arrangement with the qualified end-user who is using an  
21 RE resource to provide energy and the distribution utility shall be able to use this RE  
22 certificate in compliance with its obligations under RPS.

23 The DOE, ERC, TRANSCO or its successors-in-interest, DUs, PEMC and all  
24 relevant parties are hereby mandated to provide the mechanisms for the physical  
25 connection and commercial arrangements necessary to ensure the success of the  
26 Net-metering for Renewable Energy program, consistent with the Grid and  
27 Distribution Codes."

28 Sec. 5. *Standardization of Permits and Licensing Requirements*. – The  
29 Department of Energy (DOE), in coordination with the Department of Interior and  
30 Local Government (DILG), in coordination with the relevant power distribution  
31 utilities and Local Government Units, shall standardize and streamline permitting and  
32 licensing requirements in the installation of rooftop solar projects.

1           Sec. 6. *Solar Installation Loans.* – Pursuant to the declared national policy of  
2 this Act, the Board of Trustees under Republic Act No. 9679, otherwise known as the  
3 “Home Development Mutual Fund Law of 2009” shall develop a loan program for  
4 qualified members for the acquisition and installation of solar panels as part of home  
5 improvement or as a component of the housing unit to be purchased, subject to the  
6 prevailing Pag-IBIG Fund rules and regulations.

7           Sec. 7. *Installation of Solar Panels on Government Buildings.* – All government  
8 agencies, in coordination with the Department of Energy (DOE), shall install solar  
9 energy systems in their respective offices and buildings. The solar panels shall  
10 supply at least five percent (5%) of the electric power requirements of each  
11 government office or building within three (3) years from the effectivity of this Act,  
12 which shall be further increased by five percent (5%) every five (5) years thereafter.

13           Sec. 8. *Appropriations.* – Such funds necessary to carry out the provisions of  
14 this Act shall be included under the appropriations of the Department of Energy  
15 (DOE) in the annual General Appropriations Act.

16           Sec. 9. *Implementing Rules and Regulations.* – The Department of Energy  
17 (DOE), National Renewable Energy Board (NREB), Energy Regulatory Commission  
18 (ERC), Department of Interior and Local Government (DILG), in consultation with  
19 the concerned stakeholders in the electric power and renewable energy industry  
20 shall jointly promulgate the implementing rules and regulations of this Act within  
21 ninety (90) days of its effectivity.

22           Sec. 10. *Separability Clause.* – If any part or provision of this Act shall be  
23 declared unconstitutional and invalid, such declaration shall not invalidate other  
24 parts thereof which shall remain in full force and effect.

25           Sec. 11. *Repealing Clause.* – All laws, decrees, executive orders,  
26 proclamations, rules and regulations, or their parts thereof, which are inconsistent  
27 with the provisions of this Act are hereby repealed, amended or modified  
28 accordingly.

29           Sec. 12. *Effectivity Clause.* – This Act shall take effect fifteen (15) days after  
30 its publication in the Official Gazette or in a newspaper of general circulation.

Approved,