

Article

The Evolution and Effect Evaluation of Photovoltaic Industry Policy in China

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Abstract: The large scale of China's photovoltaic (PV) industry and the great policy support by the Chinese government make it necessary to scientifically evaluate PV industry policy. This study designed an evaluation framework for China's PV industry policy from four dimensions (policy measure, policy type, policy strength, and policy issuing department) to categorize and quantify China's 307 PV industry policies from 1994 to 2016. Furthermore, the historical evolution and realistic effect of the policies on the PV industry in China were examined. The results show that, currently, grid support, operation specification, and operation supervision are the main policy measures, while a low-level notice is the main type of policy. The policy issued strength is generally low. The enforcement strength of regional policy presents descending trend from the northern to the southern provinces, and a similar trend from coastal provinces to inland provinces. The policy for grid support, operation specification, and technical specification has had the best effect. The most effective policy types are the sector-specific notices and announcements, and the best policy-issuing department is the National Energy Administration. In terms of policy strength, the policy for grid support, operation specification, and operation supervision has had a positive correlation with the development of the industry, although it did not achieve its desired effect.

Keywords: photovoltaic industry; policy evolution; policy effect

1. Introduction

Solar energy is a renewable power source that is an ideal replacement for fossil fuels in the future. In recent years, the solar photovoltaic (PV) market has grown rapidly around the world. According to the data from the International Energy Agency, the average annual growth rate of PV power generation exceeded 40% from 2006 to 2016 [1]. By the end of 2016, the new PV installed capacity reached 75 GW globally, and the cumulative PV installed capacity increased to 303 GW [1]. In China, the PV industry started in 2004. The cumulative PV installed capacity grew from 850 MW in 2010 to 78,070 MW in 2016, and the newly-installed capacity in 2016 was 34,540 MW [2]; consequently, China's cumulative and new installed capacity are ranked first in the world [2]. Since 2004, the Chinese government has paid much attention to the development of China's PV industry, and has issued relevant industrial policy from the multiple perspectives of financial subsidies, tax incentives, technical support and grid service to encourage and support the solar PV industry.

Now, the scale of China's PV industry is leading the world, and the government still strongly supports the further development of this industry. While many problems restrict the development of the industry, the main performance obstacles are a lack of a clear borders between the government and the market and industrial regulation failure [3–5]; difficulties in grid connection, coordination, and planning problems between PV power generation and power grid construction [5–7]; lack of independent innovation capability and core technology [5,6], and a lag in technical standards [8–11];

international environmental deterioration, financial system flaws, risk transfer mechanism deficits, and lack of innovative financial products [6,12]; and the government blindly carrying forward the PV industry, and the abuses of financial subsidy policy [5,8,9]. On the one hand, there is continuous expansion of the operation scale and the continued investment of government policy, but on the other hand there is the difficulty in breaking through the existing technology and innovation bottleneck, both of which lead to China's PV policies being questioned. It is urgent to scientifically evaluate the implementation effect of PV industry policy in China.

Currently, some foreign studies related to the effect of the photovoltaic industry policy have been conducted. It mainly focused on specific policy measures to establish a new evaluation index of the PV market. The research mainly employed quantitative analysis methods. Dusonchet and Telaretti [13] and Sarasa-Maestro et al. [14] performed a comparative economic analysis through the main support measures (feed-in tariffs and tradable green certificates) implemented in Western EU countries, based on the calculation of the cash flow, the net present value and the internal rate of return indices, which can assess the effectiveness of PV energy policies in different Western European member states. Shrimali and Jenner [15] assessed the effectiveness of 12 state-level policies on the cost and deployment of solar photovoltaic, it showed that cash incentives and tax incentives would increase the initial cost commercial system deployment and reduce the initial cost of PV installation. The similar studies have been found in the research of Sarzynski [16] and Kwan [17]. Most Chinese studies on PV industry policy are mainly qualitative analyses and case studies. Zhang et al. [18] examined the similarities and differences between the development trajectories of wind power and solar PV power in terms of development status, development policy, and development trends. Zhi et al. [4] examined the development history of China's PV industry policy system from the perspective of industrial policies, and conducted a comparative analysis among China, United States, Germany, and Japan from the perspective of both the supply- and demand-side policies. There are few Chinese studies on the effect of PV industry policy available. Some studies considered policy factors to analyze the economic benefits of photovoltaic industry [19,20] and some scholars have studied the effectiveness of incentive policies of PV industry [21–23]. However, based on the limited studies on China's PV policies, the literature only focuses on a group of photovoltaic industry policy and the logic analysis, which cannot explain the China's PV policies and its relation to the development of the industry. The studies consider policy to discuss China's photovoltaic industry policy measures, policy types and policy strength, which is missing. There is also a lack of a systematic photovoltaic policy system to study the evolution and effect of China's photovoltaic industry policy.

This paper attempts to construct an evaluation system of China's PV industry policy based on four dimensions: the policy measures, policy types, policy strength, and policy issuing departments. Then, according to the evaluation framework, we categorize and quantify China's PV industry policies, and analyze the historical evolution and implementation effect of these policies based on the four dimensions. Lastly, we propose some suggestions to enhance the effectiveness of China's PV industry policy and improve future industrial policy.

The rest of this paper is organized as follows: Section 2 introduces the design theory of the evaluation system; research methods are introduced in Section 3; Section 4 analyzes the evolution of China's PV industry policy and evaluates the effect of China's PV industry policy; and Section 5 provides conclusions and policy implications.

2. Design Theory of Evaluation System

There is an increasing amount of research on the effects of policy, and most studies are based on the analysis of the effect of policy instruments. Rothwell and Zegveld [24] analyzed technical innovation policies from three dimensions (demand, supply, and environmental instrument), and many scholars since have enriched the three-dimensional evaluation framework and applied it to study the performance of policy instruments. For example, Amp and Francis [25] considered the influence of the types and fields of scientific and technological activities to construct a three-dimensional

framework of public science and technology policy, and used it to study the science and technology policy system. Su et al. [26] built a two-dimensional analysis framework of China's innovation policy, and studied the role of China's innovation policy in promoting the new-energy vehicles industry by combining the three-dimensional policy instrument with the innovation value chain (i.e., research and development, industrialization and marketization). Li and Wang [7] constructed a two-dimensional analysis framework of China's PV industry policy and analyzed the existing problems of these policy instruments by combining the three-dimensional policy instrument with life cycle theory of industrial development.

Research on the effect of policy should avoid an analysis that considers only the perspective of the policy instrument. Rather, an acceptable analysis should combine several aspects, such as policy strength, policy objective, and the policy-issuing department. Breslin [27] quantified central and local governments' foreign direct investment policies from 1978 to 2000, and empirically studied the effectiveness of China's foreign direct investment policies on the basis of the policy measures dimension. However, the selection of policy measures was limited and the study did not consider policy strength. Huang [28] analyzed the historical evolution of China's 1980–2005 innovation policy on the basis of policy strength and policy type. However, the study was only a descriptive statistical analysis of innovation policy, and it did not involve a study of policy content. Peng et al. [29] quantified China's technological innovation policy on the basis of policy strength, policy measure, and policy objective, and studied the evolution path and performance of China's technological innovation policy. Wang et al. [30] combined policy content with policy strength in their research of China's wind power industry policy, and considered policy departments and the form of policy formulation.

At present, there is no systematic evaluation framework for analyzing the effects of policy, but evaluations from the perspective of policy instruments or means are common. In addition, Schneider and Ingram [31] thought that the research on the effect of policy should be studied on the basis of the policy objective, policy implementer and policy measures. Peters [32] believed that, in addition to considering the policy instruments, research to analyze and evaluate government policy needs to include policy issues and policy management.

Learning from the above literature, we concluded that an evaluation framework for examining the effect of policy should cover three dimensions: policy means (or measures), policy types and policy strength. In addition, according to Wang et al. [30], an evaluation framework also should consider the policy issuing department. Thus, we constructed the framework for evaluating the effect of China's PV industry policy based on four dimensions: the policy measure, policy type, policy strength, and policy issuing department.

3. Research Methodology

3.1. Sorting and Quantifying China's Photovoltaic Industry Policy

Policies regarding the PV industry were collected from the Law Information Database of Peking University [33]. These were retrieved using key words, such as 'photovoltaic', 'solar energy', and 'renewable energy' to search the full text of policies and regulations and identify the policy text most closely related to the PV industry. Finally, to ensure the integrity and accuracy of the policy text, we supplement the PV industry policies and regulations by examining the websites of the government departments that issued the policy.

Furthermore, to ensure the representativeness of the selected policies and regulations, selection was based on the following criteria: (1) select national and regional PV industry policies issued at the provincial level and above; (2) select only policies that are closely related to the PV industry policy (thus excluding policies that refer to renewable energy); (3) consider the main types of policies to be laws, regulations, and normative documents; and (4) select policy texts that were issued before 31 December 2016.

A total of 307 PV industry policies were selected for evaluation (Appendix B). 173 regional policies are included. These were organized and quantified according to promulgation time, promulgation department, policy type, legal validity and policy measures. Since the research objective was the policy variable, the content validity of the final policy quantification can be guaranteed.

3.1.1. Policy Measure

According to the difference of the Chinese government's roles in the PV industry policy, the PV industry policy measures were divided into four types: guidance policy measures, supporting policy measures, specification policy measures, and supervision policy measures (hereinafter referred to as guidance measures, supporting measures, specification measures, and supervision measures, respectively). These four aspects encompass a total of 14 small groups as shown in Figure 1. We used the binary method to code the virtual variables for the policy measure dimension. If a policy adopted a policy measure, the value of the corresponding variable was assigned a value of 1; otherwise, it was assigned 0. Considering that a single policy may have adopted a variety of policy measures, each policy measure involved in the policy was assigned a value of 1, while other variables that were not involved were assigned a value of 0.

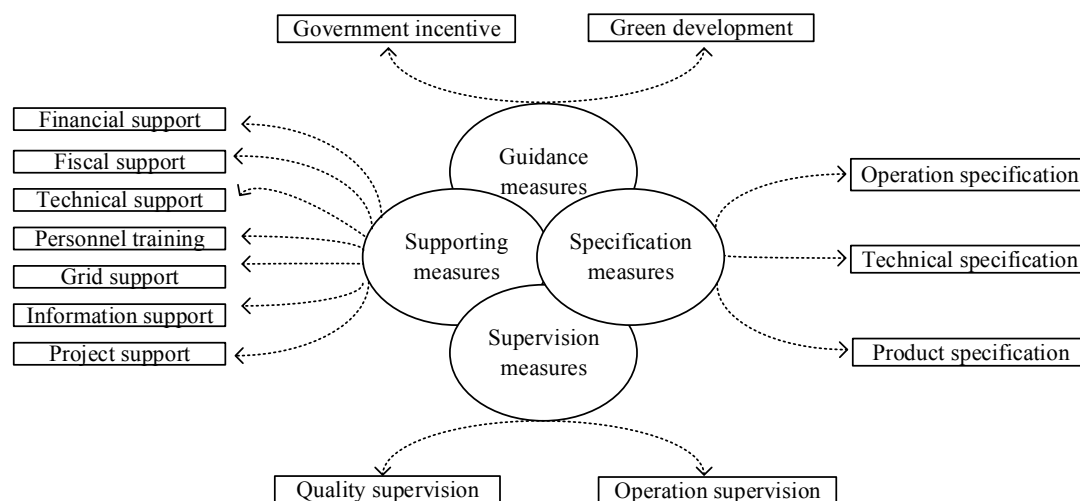


Figure 1. The classification of photovoltaic (PV) industry policy measures.

3.1.2. Policy Type

Although laws and policies are different, they are interrelated. Policy and law both have an impact on the development of the photovoltaic industry, but the impact efforts and angles are different. Therefore, in this dimension, the law is incorporated into the research as a formalized and standardized policy form. We referred to Peng et al. [29] when quantifying the types of technological innovation policies. The paper adopts the five-level rating assignment method for the policy type of photovoltaic industry based on the different administrative power structure of the policy enacting department. The scoring standard is: (5) laws promulgated by the National People's Congress and its Standing Committee ("Laws" for short); (4) regulations issued by the State Council and the orders of Ministries ("Regulations and Orders" for short); (3) interim regulations, decisions, opinions, and rules promulgated by the State Council, as well as the regulations, rules, and decisions of Ministries ("Opinions and Rules" for short); (2) opinions, outlines, planning, measures, and interim provisions ("Measures" for short); and (1) notices.

In our classification, the higher the level of the policy type, the higher its corresponding score. Considering that a policy might have been jointly issued by a number of departments, the score was calculated based on the best match between the issuing department and policy type.

3.1.3. Policy Strength

The policy strength dimension refers to the ideas of Wang et al. (2016) [30] about establishing a standard for policy strength. We scored the PV industry policies according to implementation strength. According to differences in the level of detail and implementation strength of the 14 policy measures that were examined, we used a five-grade scoring method for each policy. The more detailed policy measures and those with greater implementation strength were assigned higher scores (Appendix A). The table in Appendix A was compiled by a professor who had studied the photovoltaic industry. Each policy was evaluated by three experts who independently scored the policies according to the table in Appendix A. When scoring was completed, the experts comparison-tested the results. Finally, the results were collated by two graduate students.

Policy strength has a specific time continuity. The policy measures not only affect the PV industry in the year of promulgation, but accumulate in their effect over time until they are repealed. We drew on Peng et al. [29] and classified the strength of PV industry policy on the basis of “issued” strength (Equation (1)) and “enforcement” strength (Equation (2)). In Equation (1), RP_i represents the issued strength of the photovoltaic industry policy in year i , while in Equation (2) AP_i represents the enforcement strength of the PV industry policy in year i . In both equations, i represents the year ($i \in$ positive real number set R^+) and j represents the PV industry policy ($j \in R^+$), A_{ij} represents the policy strength of the PV industry policy j issued in year i ($A_{ij} \in \{1, 2, 3, 4, 5\}$), B_{ij} represents the corresponding value of the policy type of PV industry policy j which is issued in year i ($B_{ij} \in R^+$), and N_i represents the number of PV industry policies issued in year i :

$$RP_i = \sum_{j=1}^{N_i} (A_{ij} \times B_{ij}) \quad (1)$$

$$AP_i = RP_{i-1} + RP_i \quad (2)$$

3.1.4. Policy Issuing Department

Many departments are involved in the study of the PV industry policy, and there are subordinate relations and historical evolution problems between departments. These factors increase the difficulties of researching the policy departments of China’s PV industry. We considered the departments that still existed in 2016. Since the State Council (SC) and the National Development and Reform Commission (NDRC) are the authorities of PV policy, the National Energy Administration (NEA) is the sector that issued the largest number of the PV industry policies. We chose only these three representative departments for issuing of PV industry policy. The remaining departments as other departments, and it has no specific number differences in other departments (OD). As for other dimensions, we used a binary method (0 or 1) for assigning virtual variables for the policy issuing department dimension. Considering the policies may be jointly promulgated by multiple departments, each department involved in issuing a policy was assigned a value of 1, and the other departments that were not involved in the policy were assigned a value of 0.

3.2. Data Resource

In order to test the effect of PV industry policy on industrial development, we made a regression analysis to the four dimensions (policy measures, policy types, policy strength, and policy issuing department). The policy data came from the 307 PV industry policies that were quantified as described in Section 3.1. Typically, the installed capacity and generating capacity of renewable energy sources are used to evaluate the effect of renewable energy policies [34,35]. We chose the new PV installed capacity as the index of the effect of PV industry, and the original data were first processed using a logarithm so as to avoid the interference caused by the original data units and the difference of magnitude in the original data. The new PV installed capacity data were obtained from the BP Statistical Review of World Energy 2017 [2].

4. Results

4.1. Evolution of Policy Measures

As shown in Figure 2, the five most important contributions to the enforcement strength intensity of policy measures for the national PV industry are government incentive, grid support, operation supervision, technical support, and fiscal support. In the early stage of China's PV industry, the government mainly issued incentive policies and gave technical supports to enhance the innovation capacity and provide "soft" power for the development of the industry. The government continues to provide substantial financial and tax support for the PV industry, which are important forces to stimulate the development of the industry.

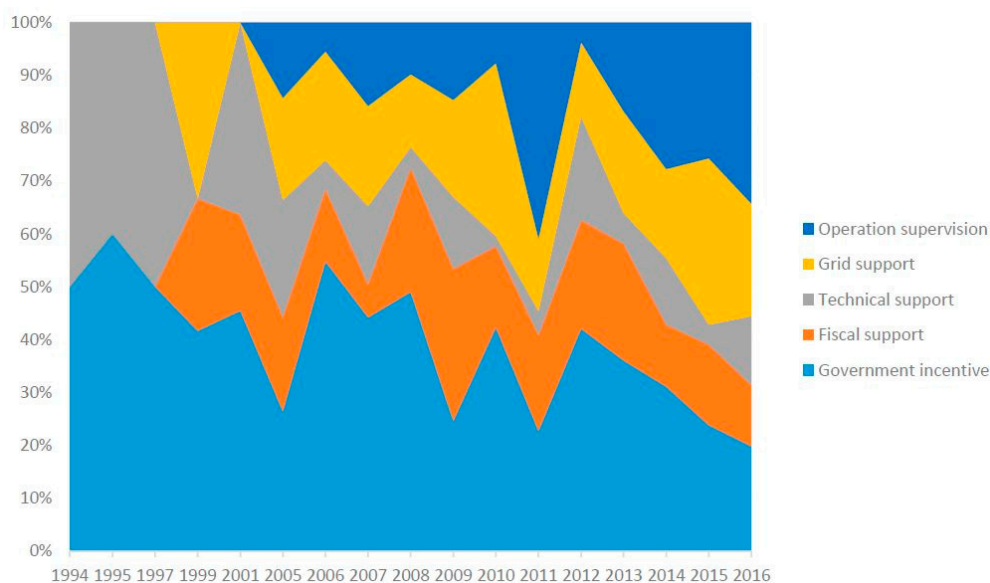


Figure 2. The main national-level policy measures of China's photovoltaic industry.

Since the promulgation of the 'renewable energy law' in 2005, the Chinese government has gradually realized the urgency of solving the grid connection problem in China's PV industry. Then it issued a series of policy measures to solve the problem. In 2011, the NDRC issued a 'Notice on improving the feed-in tariff policy of solar photovoltaic power generation'. The NDRC made a unified national solar photovoltaic benchmark tariff, which has had landmark significance for domestic PV applications. In 2013, the SC issued 'Opinions on promoting the healthy development of photovoltaic industry', which resulted in some policy measures to further support the applications of PV power generation in terms of price, tax, subsidies, grid connection and other aspects. The grid problem has been alleviated to some extent, but a complete solution to this problem is still far away.

In addition, with the rapid development of the PV industry, non-standard operation in the industry gradually emerged, such as overcapacity in the polysilicon industry, the serious phenomenon of abandoning light and power in some areas, and the disorderly operation of PV power stations. These problems still restrict the development of the PV industry. Therefore, policy measures of the Chinese government mainly focus on the operation specification and supervision of the PV industry that have developed in recent years.

In terms of regional policy measures, the five most important contributions to the enforcement strength intensity of policy measures for the regional PV industry are government incentive, fiscal support, financial support, grid support, and technical specification (Figure 3). Regional PV policy can be promulgated later. Similar to the national-level PV policy, the regional policies put more emphasis on government incentive, fiscal support policy to promote the development of the PV

industry. Regional governments pay more attention to the photovoltaic power grid problem, which provides a great deal of grid support. Currently, compared with the national-level policy, the regional policy focuses more on the establishment and improvement the industrial standard system.

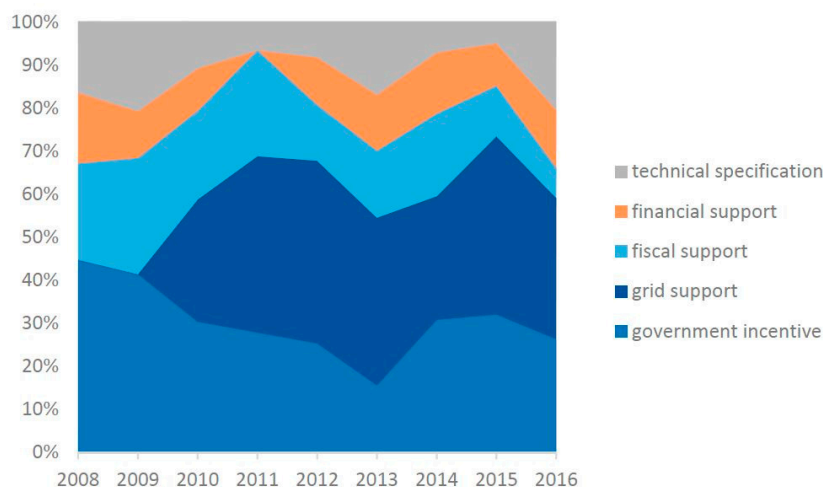


Figure 3. The main regional policy measures of China's PV industry.

4.2. Evolution of Policy Types

As Table 1 shows, most of the 307 policies examined were promulgated in the form of low-level notices, opinions, and measures. The value assigned to these policies is 1 and the quantity is relatively large; in contrast, the quantity of higher assignment policies is relatively small. This reflects a lack of authority in China's PV industry policies. The development of China's PV industry is immature. The government has adopted a large number of low-level, low-strength supporting measures, while the industry lacks powerful specification and supervision measures. Thus, these policy measures have failed to achieve the desired implementation effect.

Table 1. The main policy types of China's PV industry.

Notices	Measures	Opinions and Rules	Regulations and Orders	Laws	Sum
228 (149)	59 (20)	15 (4)	1	4	307

Note that the figures in parentheses are the number of regional policy.

4.3. Evolution of Policy Strength

4.3.1. Evolution of National-Level Policy Strength

The PV industry policy measures not only affect the industry in the promulgation year, but also have an accumulative effect until they are repealed. Therefore, as described in Section 3.1.3, the strength of the PV industry policies was based on the issued strength and the enforcement strength.

As Figure 4 shows, the average number of China's PV industry national-level policies issued per year was 1.4 items from 1995 to 2004, but was zero in some years. It can be seen that the issuing of China's PV industry policy lacks continuity, which is related to the background of the reform of government institutions during the study period. Since 2005, the government has gradually attached importance to the development of the PV industry, and the number of PV industry policies issued by relevant institutions has been growing rapidly, especially from 2007 to 2009 and from 2012 to 2016. In 2005, the government promulgated the 'Renewable Energy Law of the People's Republic of China', which provides the relevant legal basis for the development of the PV industry in China. On this basis, the number of guidance, supporting, specification, and supervision policies has grown rapidly, and the PV industry has developed rapidly.

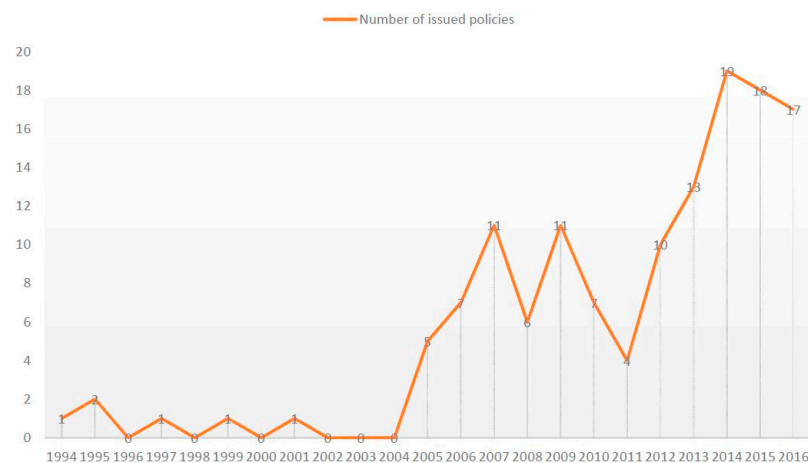


Figure 4. The number of China's photovoltaic industry national-level policies.

In 2011, China's PV industry suffered from the anti-dumping and countervailing trade policies of Europe and the USA. To cope with the impacts of the international market, the government promulgated a series of policies, such as the feed-in tariff and distributed PV power generation policy, to stimulate the domestic PV applications market. Furthermore, in the 'Paris Agreement' of 2015, the Chinese government pledged that the proportion of non-fossil fuels used in China will increase to 20% in 2030, and that China will pay more attention to the utilization of renewable energy, especially solar energy. This agreement will accelerate the promulgation of PV industry policies in China.

The strength of China's PV industry national-level policy is also increasing (Figure 5). China's PV industry only began in the ten years from 1995 to 2004. In this period, the government did not consider solar PV energy as an important strategic resource to develop and utilize. Rather, the Chinese government was just trying to learn from foreign experience, and the issued strength and enforcement strength of PV industry national-level policy were both low. Since 2005, the government has paid considerable attention to the development of the PV industry. The competent departments of the PV industry (such as the NEA and the NDRC), promulgated a series of policies to promote the development of the photovoltaic industry. The number of policies promulgated has steadily increased; meanwhile, the issued strength and enforcement strength of PV industry national-level policy has remained in a rapid uptrend.

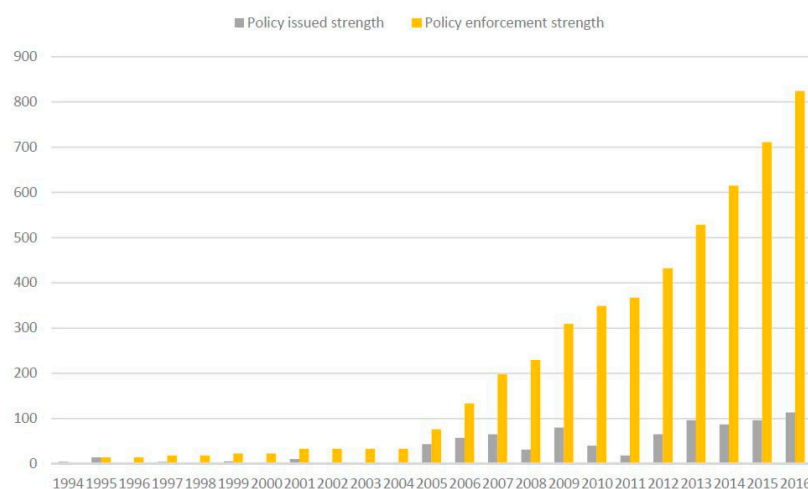


Figure 5. Issued strength and enforcement strength of China's PV industry national-level policies.

4.3.2. Evolution of Regional Policy Strength

The research on the policy effectiveness in Chinese photovoltaic industry was conducted from the perspective of region distribution dimension. First, we selected the regional photovoltaic industry policy text of each province. Second, we used the method in Section 3.1.3 to quantify the regional photovoltaic industry policy. Then, we processed the policy data to obtain the issued strength of the regional photovoltaic industry policy. Finally, we obtained the enforcement strength of the regional photovoltaic industry policy.

In order to study the enforcement strength of regional photovoltaic industry policy, the research presents the regional photovoltaic policy strength classification map (Figure 6). Ranking by the regional policy enforcement strength, the top three are the Beijing-Tianjin-Hebei region, Gansu Province, and Qinghai Province. According to the policy enforcement strength of the photovoltaic industry, it is broadly divided into the following five parts:

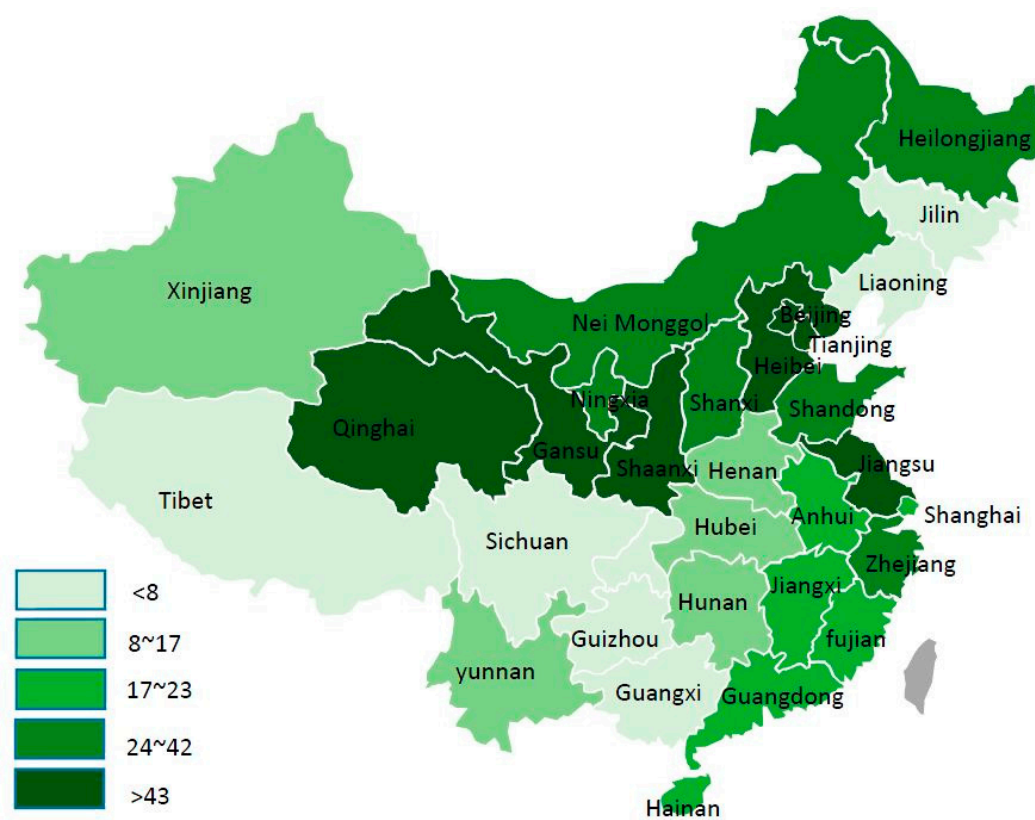


Figure 6. The regional photovoltaic policy strength classification map.

The highest-level regions are Beijing-Tianjin-Hebei region, Gansu, Qinghai, Jiangsu and Shaanxi Province; the second-level regions are Nei Monggol, Heilongjiang, Shandong, Shanxi, Zhejiang and Ningxia Province; the third-level regions are Shanghai, Anhui, Jiangxi, Guangdong, Fujian and Hainan Province; the fourth-level regions are Yunnan, Chongqing, Xinjiang, Hubei, Hunan and Henan Province; and the lowest-level regions are Liaoning, Jilin, Guangxi, Guizhou, Sichuan, and Tibet.

According to the regional photovoltaic policy strength classification map, the enforcement strength of regional policy presents descending trend from the northern to the southern provinces, and the similar trend from coastal provinces to inland provinces can be seen.

4.4. Evolution of Policy Issuing Departments

As Table 2 shows, the number of government agencies involved in promulgating PV industry policy in China has increased since 1994. By 2016, more than 20 agencies have become involved in the promulgation of PV industry policies, such as National People's Congress, the SC, the NDRC, the Ministry of Finance (MOF), the NEA, and the Ministry of Industry and Information Technology. Most of the PV industry policy is promulgated by the NEA, followed in order by the NDRC and the MOF. The NEA and NDRC are the planning agencies for the PV industry, and are responsible for the development planning and strategy of the industry. The MOF is the capital guarantor for industrial development, and (as a ministerial department) shows that government pays much attention to the development of PV industry from the strategic planning perspective, giving the industry rich financial support. In terms of the regional policy issued departments, the provincial Development and Reform Commission and the provincial government are the main policy-issuing departments. The Construction Committee, Finance Bureau, and Price Bureau help guide the development of the photovoltaic industry.

Table 2. Policy-issuing departments and the number of policies issued by the department.

Apartment	Number of Issued Policies	Apartment	Number of Issued Policies
National-level policy department			
1994MOPI	1	2009SAC	1
1995NDRC	34	2009AQSIQ	2
1995SSTC	1	2009NEA	43
1995SETC	2	2009MOFCOM	1
1995NPC	4	2009SAT	3
1999MOST	4	2012GOASC	1
2005SC	16	2013CDB	2
2005MOC	6	2013MIIT	5
2006MOF	27	2014SAIC	1
2007SERC	5	2014APDOSC	2
2007GAC	1	2015SAWS	1
2008MOHURD	7	2015SFA	1
2009CNCA	10	2015MOLR	1
Regional policy department			
PDRC	127	PG	48
CC	25	FB	63
PB	54	PEA	8

Note that the date before the name of the institution represents the year of the first policy issued by the institution. Ministry of Power Industry (MOPI), National Development and Reform Commission (NDRC), State Scientific and Technological Commission (SSTC), State Economic and Trade Commission (SETC), National People's Congress (NPC), Ministry of Science and Technology (MOST), The State Council (SC), Ministry of Construction (MOC), Ministry of Finance (MOF), State Electricity Regulatory Commission (SERC), General Administration of Customs (GAC), Ministry of Housing and Urban-Rural Development (MOHURD), Certification and Accreditation Administration (CNCA), Standardization Administration of the People's Republic of China (SAC), State General Administration of the People's Republic of China for Quality Supervision and Inspection and Quarantine (AQSIQ), National Energy Administration (NEA), Ministry of Commerce (MOFCOM), Government Offices Administration of the State Council (GOASC), China Development Bank (CDB), State Administration of Taxation (SAT), Ministry of Industry and Information Technology (MIIT), State Administration for Industry and Commerce (SAIC), Aid-the-Poor Development Office of the State Council (APDOSC), State Administration of Work Safety (SAWS), State Forestry Administration (SFA), Ministry of Land and Resources (MOLR), Provincial Development and Reform Commission (PDRC), Provincial Government (PG), Construction Committee (CC), Finance Bureau (FB), Price Bureau (PB), Provincial Energy Administration (PEA).

The Ministry of Housing and Urban-Rural Development (MOHURD) first participated in the promulgation of PV industry policy in 2005. In 2009 MOHURD, in 'Implementation Opinions on accelerating the construction of applications of solar photovoltaic in buildings', mentioned several actions for solving the shortage of domestic application of photoelectric products and photovoltaic grid-connecting problems. These actions included organizing a demonstration project of a photoelectric building application, implementing the 'solar roofs plan', and actively promoting the PV building

demonstration. The combination of PV power generation and building energy conservation is the future development direction of the PV industry, and MOHURD will play an important role in its development. In 2015, the Ministry of Land and Resources issued a ‘Notice on control indicators of photovoltaic power station project land’ that compiled a standard for PV power generation project land. The Ministry also proposed that project construction should give priority to the use of advanced-technology and high-efficiency PV modules, improve land-use efficiency, and standardize the construction of PV power stations. In 2015, the State Forestry Administration issued the ‘Notice on issues of the use of forest land in the construction of photovoltaic power stations’, which stated that the construction of PV power stations should use forest land legally to avoid the destruction of ecological resources.

Over time, more agencies have become involved in promulgating PV industry policy. The agencies are not restricted to several competent authorities, because more related agencies have become involved in the construction of the PV industry. On the one hand, the diversity of policy-issuing authorities shows that the Chinese government is paying more attention and trying to promote the rapid development of China’s PV industry by various forces. On the other hand, this diversity reflects that, in the process of rapid development, problems of the PV industry are not being taken seriously and solved in a coordinated and timely way. The competent authorities are unable to solve the problems independently and need the help of related agencies for a comprehensive solution.

4.5. Evaluation of the Effect of Policies

To determine the contribution of PV industry policy on PV installed capacity, we made a regression analysis to the four dimensions (policy measures, policy types, policy strength, and policy issuing department) and ignoring the study of the constant term. The policy strength of the photovoltaic industry includes national-level policy strength and regional policy strength. The regional policy strength will be given the weight on the proportion of the regional PV installed capacity in the China’s PV installed capacity. The regression results are shown in Tables 3–6.

Table 3. Evaluation of the effect of policy measures on China’s photovoltaic industry.

Variable	Coefficient	Variable	Coefficient
GI	4.583 (1.316)	IS	0.809 (1.883)
GD	1.679 (1.699)	PS	−0.004 (2.027)
FS	−0.914 (2.511)	OS	5.561 (1.554)
FIS	1.146 (3.364)	TSP	4.680 (0.859)
TS	-	PSP	−1.875 (1.554)
PT	1.243 (2.566)	QS	3.977 (1.043)
GS	4.419 (3.112)	OSU	4.308 (0.889)

Note that the figures in parentheses are standard errors. GI represents government incentive, GD represents green development, FS represents financial support, FIS represents fiscal support, TS represents technical support, PT represents personnel training, GS represents grid support, IS represents information support, PS represents project support, OS represents operation specification, TSP represents technical specification, PSP represents product specification, QS represents quality supervision, and OSU represents operation supervision.

Table 4. Evaluation of the effect of policy types on China’s photovoltaic industry.

Variable	Coefficient	Variable	Coefficient
Notices	3.307 (0.635)	Regulations and Orders	−0.472 (1.455)
Measures	0.245 (0.669)	Laws	−0.650 (0.738)
Opinions and Rules	1.381 (0.688)	R ²	0.938

Note that the figures in parentheses are standard errors.

Table 5. Evaluation of the effect of policy strength on China's photovoltaic industry.

Variable	Coefficient	Variable	Coefficient
GI	1.972 (0.348)	IS	−1.848 (1.281)
GD	−0.497 (0.615)	PS	0.233 (0.344)
FS	0.47 (0.694)	OS	0.746 (0.854)
FIS	2.620 (1.300)	TSP	2.888 (0.459)
TS	1.187 (1.093)	PSP	−0.1060 (0.958)
PT	−0.844 (0.485)	QS	1.179 (0.879)
GS	0.324 (1.092)	OSU	1.864 (0.446)

Note that the figures in parentheses are standard errors. GI represents government incentive, GD represents green development, FS represents financial support, FIS represents fiscal support, TS represents technical support, PT represents personnel training, GS represents grid support, IS represents information support, PS represents project support, OS represents operation specification, TSP represents technical specification, PSP represents product specification, QS represents quality supervision, and OSU represents operation supervision.

Table 6. Evaluation of the effect of policy issuing departments on the China's photovoltaic industry.

Variable	Coefficient	Variable	Coefficient
SC	2.993 (1.321)	NEA	3.420 (1.408)
NDRC	0.435 (1.288)	OD	1.478 (1.182)
R ²	0.933		

Note that the figures in parentheses are standard errors and similarly hereinafter. OD represents other departments.

As shown in Table 3, four major types of PV industry policy measures and the development of the PV industry have positive correlation, but the effect of each is different. In the guidance measures, government incentive have a significant positive correlation with the development of the industry, but government incentive (4.583) with real function is more effective than green development (1.679). Among supporting measures, grid support can best promote the development of the PV industry, followed by fiscal support and information support. The effects of financial support, technical support, and project support policies are not satisfactory. The unsatisfactory effect of these policies is related to the late start of each policy; thus, the policies need to be further strengthened and improved. Among specification measures, operation specifications and technical specifications have significant positive correlation with the development of China's PV industry. These results show that strengthening the internal specifications of the PV industry is very important, in addition to strengthening external incentive measures such as grid support. Among supervision measures, quality supervision policies and operation supervision policies (but especially the latter) have positive correlations with the development of China's PV industry. These findings further indicate that the internal specification, supervision, and management of the PV industry are core aspects of the PV industry and crucial to its development.

Results presented in Table 4 show that the three policy types have positive correlation with the development of China's PV industry, but their effects differ. Although the highest-level policy type is a law, it is not the most effective; rather, the most effective form of policy is the minimum-level notice. These findings could be because the government has adopted more moderate policy combinations. In addition, the policy issuing departments should promulgate the more authoritative PV industry policies (such as interim regulations, opinions, and planning of the State Council and regulations of the ministries) (1.381), and attempt to avoid issuing the less-serious industrial policies (such as opinions, outlines, planning, measures, and interim provisions) (0.245). The current status of policy types for the Chinese PV industry is related to the immaturity of the industry. The promulgation of the Renewable Energy Law and other related laws provides legal supports for the development of the PV industry in China, but did not match the rapid development of the industry; yet, this law did not have the greatest effectiveness among the policies examined. Thus, it is particularly important to accelerate the formulation of relevant laws for China's photovoltaic industry.

The regression results of policy strength shown in Table 5 are similar to those for policy measures shown in Table 3. The similarity occurs because policy measures and policy strength are closely related, and a non-zero value for a policy measure automatically results in a non-zero value for policy strength. Among policy measures, those for fiscal support, technical specifications and operation supervision have positive correlation with the development of the PV industry in China. However, from the regression results of policy strength, the effects of grid supports and operation specifications have not reached their anticipated importance. Unilaterally increasing grid support and operation specification policies cannot achieve the desired incentive effect. In addition, the regression coefficient of operation specifications and is particularly low. These results indicate that the departments involved in issuing PV policy have no incentive to promote operation specification (0.746), especially in terms of increasing the level of government encouragement (1.972). Policies for China's PV industry are promulgated frequently, but specification policies often are not implemented, nor do they achieve the expected goal. As a result, the implementation of grid support, specification, and supervision policies for China's PV industry is slow.

The regression results regarding policy departments are presented in Table 6, and show that the PV industry policies promulgated by various departments have positive correlation with the development of PV industry. However, the NDRC, as the competent and supervision department of the PV industry, did not have significant correlation with the development of the PV industry; in fact, their performance was even worse than that of the MOHURD, State Forestry Administration, Ministry of Commerce, and other less important functional departments. In the future promulgation process of PV industry policies, the SC should focus on setting the tone of the policies. Furthermore, as a communication bridge between the SC and the NEA, the NDRC should strengthen its power, control the promulgation of policies, and exercise further macro-control over the development of the entire industry. The reorganized NEA should implement specific measures to promote the development of the PV industry, and be responsible for the SC and the NDRC.

5. Conclusions and Policy Implications

5.1. Conclusions

In recent years, China's PV industry has developed rapidly, and the number of PV industry policies has increased obviously. However, relevant research on the historical evolution and effect evaluation of PV industry policy is lacking. We designed an evaluation system for China's PV industry policy, classifying and quantifying 307 photovoltaic industry policies issued from 1994 to 2016. The policies were investigated from four dimensions: policy measures, policy types, policy strength, and policy issuing departments. Based on this evaluation framework, the historical evolution and realistic effect of the policies were examined. The research supports the following conclusions.

From an evolution perspective, China's PV industry policy is broadly divided into three stages. Currently, grid support, operations specification and operation supervision are the main policy measures and low-level notifications are the main type of policy. The issued strength of policies is generally low. The enforcement strength of regional policy presents descending trend from the northern to the southern provinces and the similar trend from coastal provinces to inland provinces. The main policy issuing departments are the SC, the NDRC, and the NEA.

Regarding the effect of policy, of the 14 policy measures examined, only ten have positive correlations. The other policy measures are not yet mature and have no positive correlation. The policy for grid support, operations specification, and technical specification has significant positive correlation with the PV industry. All the policy departments have a positive correlation with the development of the PV industry. The most effective policy types are the sector-specific notices and announcements, and the best policy-issuing department is the NEA. In contrast, the issued effect of policies from the NDRC is not satisfactory. The issued strength of policy for grid support, operation specification, and

operation supervision has a positive correlation with the development of the industry, but has not achieved the desired effect.

5.2. Policy Implications

According to the research results, the following aspects of PV industry policy should be improved.

(1) Cohesion between sectoral policies should be improved, the linkage of policies strengthened, policy-making among different departments coordinated, and complementarity of policies among different departments and levels increased. Meanwhile, the implementation of PV industry policy should have specific expectations. The authority should carry out systematic and prospective planning for the development of the PV industry from the perspective of a national strategy, then formulate feasible PV industry policies, and be effective in policy implementation and supervision.

(2) Grid support, operation specification, and operation supervision policies should be further improved. First, photovoltaic grid support should be promoted, solving the difficulties in the photovoltaic grid-connected system, and accelerating the pace with which the photovoltaic power network is developed. According to the proximity consumption principle, the implementation of renewable energy power generation should adhere to the requirements of full indemnificatory acquisition, complete PV power consumption work well, and prioritize the indemnificatory acquisition of power. Learning from foreign experiences, a mandatory market share system should be established and legislation, such as the Feed-in Tariff Law, should be enacted to ensure the utilization of renewable energy and implementation of PV power full indemnificatory acquisition. In addition, families and enterprises should be encouraged to invest in the PV power generation industry, promoting the diversified development of distributed PV applications, improving the tariff acquisition subsidy mechanism, and increasing people's positivity for investment in PV power generation. Second, the development of a standards and specification system should be accelerated, establishing a complete standards system for the PV industry, including public service platforms for testing and certification, as well as empirical research bases for PV applications. Meanwhile, attention must be paid to the internal specification, supervision and management of the PV industry so as to prevent the related policies from becoming a formality.

(3) The amendment-of-subsidy mechanism should be strengthened. At present, China's funding of renewable energy has a large gap, and the subsidies for PV power stations are seriously in arrears. The Chinese government should expand the sources of special subsidy funds for renewable energy, develop an innovative subsidy mechanism for PV power generation, and establish a green certificate trading mechanism. Meanwhile, to enhance the competitiveness of the PV industry, policies for scientific research (such as increasing deductions for research and development expenditure and establishing research and development funds) should be formulated to support key technology research of the PV industry.

(4) China's financial support, information support and personnel training policy measures are not mature; the formulation and implementation of financial and information support policies should be accelerated. The PV industry generally faces a financing problem, and it is difficult for the traditional financial support model to solve the financing needs of PV industry. The industry and government need to develop an innovative financing mode to break through the financing bottleneck. In addition, the Chinese government has too few information support policies. To reduce and avoid information asymmetry in the development of the PV industry, the government must strengthen information support and establish an information-sharing mechanism to help enterprises obtain the latest information and promote the healthy development of the PV industry. In addition, the government needs to strengthen the formulation of personnel training policies on the basis of talent introduction, supporting the training of high-level professional technology and management personnel and setting up relevant research teams.

(5) The global competitive advantages of China's PV industry should be accelerated. To cope with challenging international trade policies such as the anti-dumping and countervailing duties

imposed in Europe and the USA, the Chinese government needs to increase the demand for the domestic PV market and promote the merger, reorganization and resource integration of the PV industry. The government also needs to conscientiously implement the national ‘The Belt and Road’ strategy and actively explore overseas emerging markets in South America, South Africa, and other countries, thereby promoting the diversification of China’s PV market and enhancing the global competitive advantage of China’s PV industry. At the same time, China’s PV enterprises should be guided in investing overseas, actively promoting overseas mergers and acquisitions, and encouraging the establishment of PV manufacturing industry parks and capacity demonstration bases in the major PV markets, thus achieving industrial agglomeration and resource integration.

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Appendix A

Table A1. Classification of policy strength for China’s photovoltaic (PV) industry policies.

Value	Strength Description of ‘Guidance Measures’
Government incentive	
5	Formulate issue-specific preferential policies for the development of the solar PV industry.
4	Take coercive measures such as market share policy to develop the PV industry.
3	Take the PV industry as a new economic growth point, and have corresponding incentive measures.
2	Encourage the development of the solar PV industry.
1	Mention the development of solar power or the PV industry.
Green development	
5	Implement the ‘Renewable Energy Law’ conscientiously and formulate relevant supporting policies and regulations; Photovoltaic enterprises and projects should comply with laws and regulations such as environmental conservation, energy-saving management; Photovoltaic manufacturing and power generation projects implement the environmental impact assessment system.
4	Take green development as a national sustainable development strategy in the photovoltaic industry-related policies; encourage taking the use of solar energy into energy-development, energy-saving and emission-reduction planning.
3	Promote green development in policy, pay attention to the environmental benefits of solar energy utilization, and encourage (through policy) projects to acquire the relevant green testing certification during construction.
2	Pay attention to environmental problems in the construction process of photovoltaic manufacturing and power generation projects.
1	Mention green development in policy.
Value	Strength description of ‘supporting measures’
Financial support	
5	Satisfy two or more of the following financial value items: 2, 3, 4.
4	The policy stipulates that financial institutions provide low interest loans and preferential loans to PV equipment manufacturers, PV power stations or PV power generation projects.
3	Government or social capital provides guaranteed loans to the PV industry.
2	For PV enterprises, PV power plants or PV projects broaden financing channels and develop innovative financial services such as stocks, bonds, funds and private investments.
1	Mention support for development of the PV industry using financial measures.

Table A1. Cont.

Technical support	
5	Satisfy two or more of the following technical value items: 2, 3, 4.
4	Support PV enterprises to carry out technological innovation and build research and development platforms of PV power generation technology; research the key PV technology; encourage cooperative research and production.
3	The research and development of PV technology is included in the special projects of technological development.
2	Selectively introduce technologies of the PV industry; digestion, absorption and recreation of foreign advanced technologies; promote technical exchanges; encourage enterprises to strengthen international research and development cooperation.
1	Mention the research and development of the photovoltaic technology.
Personnel training	
5	Satisfy two or more of the following personnel value items: 2, 3, 4.
4	Train professional technology and management personnel by colleges and research institutes; support universities, research institutions and enterprises to establish an international talent introduction and training mechanism.
3	Integrate renewable energy knowledge and technology into education, set up related courses in higher or polytechnic schools.
2	Explore the establishment of a personnel training system, standardize the training of photovoltaic practitioners.
1	Mention photovoltaic related personnel training.
Grid support	
5	Satisfy two or more of the following grid value items: 2, 3, 4.
4	Acquire the full grid-connected power of renewable energy generation projects within the coverage of power grid enterprises.
3	Set up the subregional benchmark feed-in tariff at PV power stations and establish a subsidy standard for photovoltaic power generation, and a subsidy for PV price, to assure the difference between the average cost of conventional energy and the value added in the sale price is shared by the whole society.
2	Formulate a supporting power grid construction plan, coordinate and promote the construction and transformation of supporting grid; Strengthen the grid access and grid connected service of photovoltaic power generation projects.
1	Mention solving the photovoltaic power grid problems.
Information support	
5	Satisfy two or more of the following information value items: 2, 3, 4.
4	Evaluation of solar energy resources and pre-feasibility study of photovoltaic power plant projects
3	The survey and publishing of solar energy information resources.
2	Photovoltaic medium- and long-term development planning.
1	Develop renewable energy industry development guidance catalogue.
Project support	
5	Satisfy two or more of the following project value items: 2, 3, 4.
4	Put forward the construction plan and organize the implementation of a photovoltaic demonstration project.
3	Implement quota subsidy policy of unit electricity for photovoltaic power generation projects in the demonstration area.
2	Encourage the provinces (district, city) to use financial funds to support the construction of photovoltaic demonstration projects.
1	Mention the construction of photovoltaic demonstration projects.
Value	Strength description of 'specification measures'
Operation specification	
5	Satisfy two or more of the following operation value items: 2, 3, 4.
4	Inspect and evaluate work of important processes such as the construction operation, equipment operation and parallel operation of photovoltaic power generation projects.
3	Record the generating capacity, operational aspect and price of photovoltaic power generation projects.
2	Macro guidance for the operation of photovoltaic power generation project.
1	Mention the establishment of operation specifications for photovoltaic power generation projects.

Table A1. *Cont.*

Technical specification	
5	Satisfy two or more of the following technical value items: 2, 3, 4.
4	Photovoltaic power plant projects need to comply with the technical standard of grid access of photovoltaic power stations; Photovoltaic devices and products must be evaluated by the national inspection and certification institution.
3	The construction of photovoltaic standards system and the improvement of the industry standards system.
2	The related technical standards of the PV industry.
1	Mention the establishment of relevant technical standards for PV equipment or PV power stations.
Product specification	
5	Satisfy two or more of the following product value items: 2, 3, 4.
4	The access conditions for the PV product market and the specification of the PV manufacturing industry.
3	Information disclosure of the PV products market, and limits on the capacity of PV manufacturing projects.
2	Quality specifications, and improve product quality.
1	Mention the specification of PV product quality and the PV product manufacturing market.
Value	Strength description of ‘supervision measures’
Quality supervision	
5	Satisfy two or more of the following quality value items: 2, 3, 4.
4	Set up relevant departments and committees for solar PV products to carry out product quality supervision and inspections of businesses.
3	Regularly organize relevant departments to carry out technological quality inspection of PV market products, and focus on examining key technological functions and product quality of PV products.
2	Establish an excellent quality supervision system and an effective quality supervision mechanism, strengthen the quality supervision and management of PV project construction.
1	Mention the quality supervision of PV market products.
Operation supervision	
5	Satisfy two or more of the following operation value items: 2, 3, 4.
4	Establish a renewable energy project information system, and monitor the construction and operation of PV power plant projects in various regions; establish an industrial monitoring and evaluation system.
3	Supervise and research the consumptive situation of the grid access, abandoned power, and electricity subsidy settlements.
2	Implement information sharing of PV power generation project management and supervision, and strengthen the operation supervision of PV power generation.
1	Mention the operation supervision of PV power generation.

Appendix B

Table A2. The sorting of policy text.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
1	1994.09.19	Notice on Issuing the Science and technology development planning of power industry	Guidance measures-GI Supporting measures-TS	MOPI	Measures
2	1995.01.05	Notice on Issuing the outline for the development of new energy and renewable energy	Guidance measures-GI Supporting measures-IS, FIS, FS, TS	NDRC, SSTC, SETC	Measures
3	1995.12.28	Electric Power Law of the People’s Republic of China	Guidance measures-GI	NPC	Laws
4	1997.05.27	Interim Provisions on the management of new energy infrastructure projects	Guidance measures-GI Supporting measures-IS, TS	SPC	Measures
5	1999.01.12	Notice on further supporting relevant issues on renewable energy development	Guidance measures-GI Supporting measures-FS, FIS, GS	NDRC, MOST	Notices
6	2001.10.10	Notice on issuing the ‘10th Five-Year Plan’ for the development of new energy and renewable energy industries	Guidance measures-GI Supporting measures-IS, FIS, TS Specification measures-PSP, TSP	SETC	Measures

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
7	2005.02.28	Renewable Energy Law of the People's Republic of China	Guidance measures-GI, GD Supporting measures-IS, TS, PT, GS, FIS, FS Supervision measures-OSU	NPC	Laws
8	2005.03.16	Notice on organizing the implementation of industrialization projects for the renewable energy and new energy high-tech industry	Supporting measures-TS	NDRC	Notices
9	2005.05.01	Interim Measures for the administration of Grid Power Price	Supporting measures-GS	NDRC	Measures
10	2005.11.10	Regulations on the administration of energy efficiency in civil buildings	Guidance measures-GI Supporting measures-TS	MOC	Opinions and Rules
11	2005.11.29	Circular of the National Development and Reform Commission on Printing and Distributing Catalog for the Guidance of the Industrial Development of Renewable Energy	Supporting measures-IS	NDRC	Notices
12	2005.12.26	Notice on Issuing the Outline for the long-term Development of science and technology (2006–2020)	Guidance measures-GI	SC	Opinions and Rules
13	2006.01.04	Notice of the National Development and Reform Commission on Issuing the Trial Measures for the Management of Prices and Allocation of Costs for Electricity Generated from Renewable Energy	Guidance measures-GI Supporting measures-GS	NDRC	Measures
14	2006.01.05	Notice of the National Development and Reform Commission on Issuing Administrative Provisions on Renewable Energy Power Generation	Supporting measures-GS	NDRC	Opinions and Rules
15	2006.05.11	Notice on submitting the Application and Demonstration of Renewable Energy in Buildings	Supporting measures-IS	MOF, MOC	Notices
16	2006.05.30	Notice on Issuing the Interim Measures for the Administration of Special Funds for the Development of Renewable Energy	Guidance measures-GI Supporting measures-FIS	MOF	Measures
17	2006.06.26	Notice on further doing well the feasibility study report for the Application and Demonstration projects of Renewable Energy in Buildings	Supporting measures-IS	MOC	Notices
18	2006.08.25	Implementation Opinions on Accelerating the application of renewable energy in buildings	Guidance measures-GI, GD Supporting measures-TS, PS, FIS Specification measures-TSP Supervision measures-OSU	MOC, MOF	Measures
19	2006.09.04	Interim Measures for the administration of special funds for the applications of renewable energy in buildings	Guidance measures-GI Supporting measures-FIS	MOF, MOC	Measures
20	2007.01.11	Notice of the National Development and Reform Commission on Issuance of the Interim Measures for Allocation of Income from Surcharges on Renewable Energy Power Prices	Guidance measures-GI Supporting measures-FIS	NDRC	Measures
21	2007.02.13	Notice on strengthening the administration of the Application and Demonstration of Renewable Energy in Buildings	Supervision measures-OSU	MOF, MOC	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
22	2007.04.06	Notice on organizing the implementation of major industrialization projects for high purity silicon material and high-tech industry	Supporting measures-TS	NDRC	Notices
23	2007.04.28	Notice on Issuing the '11th Five-Year plan' for the development of high technology industry	Guidance measures-GI Supporting measures-FS, FIS, PT Specification measures-TSP	NDRC	Measures
24	2007.05.23	Notice on Issuing a comprehensive work plan for energy-conservation and emission-reduction	Guidance measures-GI	SC	Notices
25	2007.06.09	Notice on Issuing the "11th Five-Year Plan" for the rural economic and social development	Guidance measures-GI	NDRC	Measures
26	2007.07.25	Regulatory Measures for Grid Enterprises' Full Purchase of Renewable Energy Electricity	Supporting measures-GS Supervision measures-OSU	SERC	Measures
27	2007.08.31	Notice on Issuing the medium and long term development plan for renewable energy	Guidance measures-GI,GD Supporting measures-IS, GS, PS, FIS, TS	NDRC	Measures
28	2007.10.28	Economizing Energy Law of the People's Republic of China (2007 Amendment)	Guidance measures-GI	NPC	Laws
29	2007.10.31	Notice on the issuing the Guiding Catalogue for foreign investment(2007 Amendment)	Guidance measures-GI Supporting measures-FS	GAC	Notices
30	2008.03.03	Notice on issuing the '11th Five-Year Plan' for the development of renewable energy	Guidance measures-GI,GD Supporting measures-IS, GS, TS, FIS Specification measures-TSP Supervision measures-QS	NDRC	Measures
31	2008.06.02	Notice on organizing the declaring of application demonstration projects of renewable energy in buildings in 2008	Supporting measures-PS	MOF, MOHURD	Notices
32	2008.06.10	Notice on inspecting the Grid Enterprises' Full Acquisition of Renewable Energy Electricity and the implementation of renewable energy tariff policies	Supervision measures-OSU	SERC	Notices
33	2008.07.15	Notice on Issuing the work arrangements for energy-conservation and emission-reduction in 2008	Guidance measures-GI	SC	Notices
34	2008.08.01	Regulations on energy conservation for civil buildings	Guidance measures-GI	SC	Regulations and Orders
35	2008.11.11	Notice on renewable energy price subsidies and quota trading schemes from October 2007 to June 2008	Guidance measures-GI Supporting measures-FIS, GS	NDRC, SERC	Notices
36	2009.03.23	Implementation Opinions on accelerating the applications of solar photovoltaic in buildings	Guidance measures-GI Supporting measures-PS, FIS Specification measures-TSP	MOF, MOHURD	Measures
37	2009.03.23	Interim Measures on the administration of financial subsidies for the application of solar photovoltaic in buildings	Guidance measures-GI Supporting measures-FIS,GS	MOF	Measures
38	2009.03.31	Notice on the authorization of the national quality supervision and Inspection Center for solar photovoltaic products	Supervision measures-QS	CNCA	Notices
39	2009.07.16	Interim Measures on the administration of government subsidies of golden sun demonstration project	Supporting measures-FIS, GS Specification measures-OS Supervision measures-OSU	MOF, MOST, NEA	Measures

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
40	2009.07.19	Notice on issuing the work arrangements for energy-conservation and emission-reduction in 2009	Guidance measures-GI Supporting measures-TS	SC	Notices
41	2009.07.22	Notice on the publication of the catalogue of technologies and products for import (2009)	Supporting measures-TS, FIS	NDRC, MOF, MOFCOM	Notices
42	2009.09.26	Notice on retraining excess capacity in some industries and repeated construction and guiding the healthy development of the industry	Guidance measures-GD Specification measures-PSP	SC	Opinions and Rules
43	2009.12.07	Notice on the establishment of standard propulsion group for photovoltaic power generation and industrialization	Specification measures-TSP	SAC	Notices
44	2009.12.11	Notice on the establishment of national solar photovoltaic products quality supervision and inspection center	Supervision measures-QS	AQSIQ, CNCA	Notices
45	2009.12.26	Renewable Energy Law of the People's Republic of China (2009 Amendment)	Guidance measures-GI, GD Supporting measures-IS, TS, PT, GS, FIS, FS Supervision measures-OSU	NPC	Laws
46	2009.12.31	Notice on Issuing the catalogue of preferential enterprise income tax for environmental protection and energy conservation and water saving projects (for Trial Implementation)	Supporting measures-FIS	MOF, NDRC, SAT	Notices
47	2010.04.12	Notice on organizing the declaring of application demonstration projects of solar photovoltaic in buildings in 2010	Supporting measures-PS	MOF, MOHURD	Notices
48	2010.05.07	Opinions on encouraging and guiding the healthy development of private investment	Guidance measures-GI Supporting measures-FS	SC	Opinions and Rules
49	2010.08.20	Notice on renewable energy price subsidies and quotas trading scheme from July to December in 2009	Guidance measures-GI Supporting measures-FIS, GS	NDRC, SERC	Notices
50	2010.09.03	Notice on organizing the training courses for new energy and renewable energy technologies	Supporting measures-PT	MOHURD	Notices
51	2010.09.21	Notice on strengthening the construction management of the golden sun demonstration project and solar photovoltaic building demonstration project	Guidance measures-GI Supporting measures-PS, FIS, GS Specification measures-TSP Supervision measures-OSU	MOF, MOST, MOHURD, NEA	Notices
52	2010.10.10	Decision on accelerating the cultivation and development of strategic emerging industries	Guidance measures-GI Supporting measures-GS	SC	Opinions and Rules
53	2010.12.28	Notice on the authorization of the national photovoltaic products quality supervision and Inspection Center in Chengdu	Supervision measures-QS	CNCA	Notices
54	2011.01.27	Notice on organizing the implementation of integrated demonstration of solar photovoltaic building applications	Guidance measures-GI Supporting measures-FIS Specification measures-TSP Supervision measures-OSU	MOF, MOHURD	Notices
55	2011.07.24	Notice on improving the feed-in tariff policy of solar photovoltaic power generation	Supporting measures-GS	NDRC	Notices
56	2011.08.12	Notice on strengthening the follow-up work management of solar photovoltaic building application demonstration	Supervision measures-OSU	MOF, MOHURD	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
57	2011.11.29	Notice of the General Office of the Ministry of Finance and the General Office of the Ministry of Housing and Urban-Rural Development on Organizing the Work of demonstrations for Application of Renewable Energy in Buildings in 2012	Supporting measures-PS	MOF, MOHURD	Notices
58	2012.01.01	Notice of the Ministry of Finance, the National Development and Reform Commission and the National Energy Administration on Issuing the Interim Measures for the Administration of the Collection and Use of the Renewable Energy Development Fund	Guidance measures-GI Supporting measures-FIS	MOF, NDRC, NEA	Measures
59	2012.02.13	Notice on organizing the implementation of demonstration projects of the state organs' rooftop photovoltaic power generation	Supporting measures-PS	GOASC	Notices
60	2012.03.14	Notice of the Ministry of Finance, National Development and Reform Commission, and National Energy Administration on Issuing the Interim Administrative Measures for Tariff Premium Subsidy Funds for Renewable Energy	Guidance measures-GI Supporting measures-FIS, GS	MOF, NDRC, NEA	Measures
61	2012.03.27	Notice on Issuing the "12th Five-Year Plan" special plan for the development of solar power generation technology	Guidance measures-GI Supporting measures-IS, TS, PT, FIS, FS, PS Specification measures-TSP	MOST	Measures
62	2012.07.07	Notice on Issuing the "12th Five-Year Plan" for the development of solar power generation	Guidance measures-GD Supporting measures-PS, TS, IS, GS Specification measures-OS, TSP, PSP Supervision measures-OSU	NEA	Measures
63	2012.07.09	Notice on Issuing the '12th Five-Year Plan' for the development of national strategic emerging industry	Supporting measures-IS, TS, PS	SC	Opinions and Rules
64	2012.09.14	Notice on declaring distributed photovoltaic power generation demonstration area	Guidance measures-GI Supporting measures-FIS, GS, PS, TS	NEA	Notices
65	2012.11.20	Notice on Issuing the scheme of quality supervision system for renewable energy power generation projects	Supervision measures-QS	NEA	Notices
66	2012.11.26	Notice on renewable energy price subsidies and quota trading schemes from October 2010 to April 2011	Guidance measures-GI Supporting measures-FIS, GS	NDRC, SERC	Notices
67	2012.12.12	Notice on the pre allocation of additional subsidies for renewable energy prices in 2012	Guidance measures-GI Supporting measures-FIS	MOF	Notices
68	2013.03.29	Notice on the Ministry of Finance on Allocating Additional Subsidies for Renewable Energy Electricity Prices	Guidance measures-GI Supporting measures-FIS	MOF	Notices
69	2013.07.04	Opinions on promoting the healthy development of photovoltaic industry	Guidance measures-GI Supporting measures-GS, FIS, FS, TS, PT Specification measures-TSP Supervision measures-OSU	SC	Opinions and Rules
70	2013.07.22	Notice on developing the supervision research for the consumption situation of wind power and solar photovoltaic power	Supervision measures-OSU	NEA	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
71	2013.07.24	Notice on the issues of implementing the subsidy policy according to the amount of electricity in the distributed photovoltaic power generation	Guidance measures-GI Supporting measures-FIS	MOF	Notices
72	2013.08.22	Opinions on supporting the financial Services in distributed Photovoltaic Generation	Guidance measures-GI Supporting measures-FS	NEA, CDB	Measures
73	2013.08.26	Notice on promoting the healthy development of PV industry by using price leverage	Guidance measures-GI Supporting measures-GS, FIS, GS Specification measures-OS	NDRC	Notices
74	2013.08.29	Interim Measures for the administration of photovoltaic power station projects	Guidance measures-GI Supporting measures-IS, GS, FIS Specification measures-TSP Supervision measures-QS, OSU	NEA	Measures
75	2013.09.10	Notice of the Ministry of Finance on Adjusting the Standards for the Collection of Surcharges on Renewable Energy Power Prices	Guidance measures-GI Supporting measures-FIS	MOF	Notices
76	2013.09.23	Notice of the Ministry of Finance and the State Administration of Taxation on the Value-added Tax Policy for Photovoltaic Power Generation	Guidance measures-GI Supporting measures-FIS	MOF, SAT	Notices
77	2013.10.11	Interim Measures for the administration of the norms announcement of the photovoltaic manufacturing industry	Guidance measures-GD Specification measures-TSP, PSP	MIIT	Measures
78	2013.11.18	Interim Measures for the administration of distributed generation projects	Guidance measures-GI Supporting measures-GS, FIS Specification measures-TSP Supervision measures-OSU	NEA	Measures
79	2013.11.19	Notice on the issues of the exemption of government funds for the spontaneous use of distributed photovoltaic power generation	Guidance measures-GI Supporting measures-FIS	MOF	Notices
80	2013.11.26	Notice of the National Energy Administration on Issuing the Interim Measures for the Administration of Distributed Power Generation	Supporting measures-GS Supervision measures-OSU	NEA	Measures
81	2014.01.17	Notice on Issuing the additional construction scale of photovoltaic power generation in 2014	Supporting measures-TS, GS Supervision measures-OSU	NEA	Notices
82	2014.02.08	Implementation opinions on strengthening the work of product testing and certification	Specification measures-TSP Supervision measures-QS	CNCA, NEA	Measures
83	2014.02.19	Notice on organizing the recommendation of key projects in the photovoltaic industry in 2014	Guidance measures-GI Supporting measures-FS, TS, PS	MIIT, CDB	Notices
84	2014.03.10	Notice on Issuing the work plan for strengthening the information monitoring of photovoltaic industry	Specification measures-OS Supervision measures-OSU	NEA	Notices
85	2014.04.21	Report on the work of energy conservation and emission reduction	Guidance measures-GI Supporting measures-GS	SC	Notices
86	2014.05.04	Notice on the authorization of the national quality supervision and Inspection Center for solar photovoltaic products in Guangdong	Supervision measures-QS	CNCA	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
87	2014.05.20	Notice on strengthening the information statistics and submission of photovoltaic power generation projects	Supervision measures-OSU	NEA	Notices
88	2014.06.07	Notice on Issuing the energy development strategy action plan from 2014 to 2020	Guidance measures-GI Supporting measures-IS, GS	SC	Notices
89	2014.07.01	Notice on Issuing grid scheduling agreement model text of wind and photovoltaic power station	Specification measures-OS	NEA, SAIC	Notices
90	2014.09.02	Notice of the National Energy Administration on Further Implementing Relevant Policies on Distributed Photovoltaic Power Generation	Guidance measures-GI,GD Supporting measures-IS, FIS, FS, GS, PS Specification measures-TSP Supervision measures-OSU	NEA	Notices
91	2014.09.10	Notice on the establishment of the national solar photovoltaic products quality supervision and Inspection Center in Guangdong	Supervision measures-QS	AQSIQ, CNCA	Notices
92	2014.10.09	Notice on Further Strengthening the Construction and Operation Management for Photovoltaic Power Stations	Guidance measures-GI,GD Supporting measures-PS, GS, FS Specification measures-TSP Supervision measures-OSU	NEA	Notices
93	2014.10.11	Notice on the implementation of the work plan for the photovoltaic poverty alleviation projects	Guidance measures-GI Supporting measures-FIS	NEA, SC	Notices
94	2014.10.15	Notice on increasing the construction scale of power generation in Xinjiang autonomous region and Xinjiang production and Construction Corps in 2014	Supporting measures-GS	NEA	Notices
95	2014.10.28	Notice on regulating the order of investment and development of photovoltaic power station	Guidance measures-GD Supporting measures-IS Specification measures-OS Supervision measures-OSU	NEA	Notices
96	2014.11.21	Notice on promoting the construction of distributed PV application demonstration area	Guidance measures-GI Supporting measures-FS, GS, PS, IS Specification measures-TSP,OS Supervision measures-OSU	NEA	Notices
97	2014.12.16	Notice on do a good job of connecting the network of Photovoltaic power generation projects in 2014	Supporting measures-GS Supervision measures-OSU	NEA	Notices
98	2014.12.16	Notice on doing well the preparation work of '13th Five-Year Plan' for the solar energy development	Guidance measures-GD Supporting measures-PS, IS	NEA	Notices
99	2014.12.30	Opinions of the Ministry of Industry and Information Technology on Further Optimizing the Market Environment for the Merger and Restructuring of Photovoltaic Enterprises	Guidance measures-GI Supporting measures-TS, FIS, FS Specification measures-PSP	MIIT	Measures
100	2015.01.09	Notice on the establishment of photovoltaic product testing and certification technical committee	Specification measures-TSP	CNCA,NEA	Notices
101	2015.03.15	Opinions on further deepening the reform of electric power system	Supporting measures-GS Specification measures-TSP	SC	Opinions and Rules
102	2015.03.16	Notice on Issuing the 2015 implementation plan for the construction of photovoltaic power generation	Guidance measures-GI Supporting measures-FIS, GS Supervision measures-OSU	NEA	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
103	2015.03.20	Guiding opinions on improving the operation of electric power and promoting the development of clean energy	Supporting measures-GS Supervision measures-OSU	NDRC, NEA	Measures
104	2015.03.31	Notice on carrying out the declaration of the norms of the photovoltaic manufacturing industry	Specification measures-PSP	MIIT	Notices
105	2015.04.02	Notice on Issuing the Interim Measures for the Administration of Special Funds for the Development of Renewable Energy	Guidance measures-GI Supporting measures-FIS	MOF	Measures
106	2015.04.07	Notice on carrying out the quality inspection for the national photovoltaic power generation project	Specification measures-TSP, OS	NEA	Notices
107	2015.04.13	Guiding opinions on further improving the “13th Five-Year” planning work for the development of renewable energy	Supporting measures-IS	NEA	Measures
108	2015.04.20	Notice on Issuing the standardization creation specification of safety production of photovoltaic enterprises	Specification measures-OS	NEA, SAWS	Notices
109	2015.06.01	Opinions on promoting the application of advanced photovoltaic technology products and industrial upgrading	Guidance measures-GI Supporting measures-FIS, TS Specification measures-PSP, TSP Supervision measures-QS, OSU	NEA, MIIT, CNCA	Measures
110	2015.09.06	Notice on the establishment of the International Electro-technical Commission’s mutual recognition system for renewable energy equipment certification	Specification measures-TSP	CNCA	Notices
111	2015.09.08	Notice on Issuing the statutes of photovoltaic products inspection and certification technical committee	Specification measures-TSP	CNCA	Notices
112	2015.09.24	Notice on increasing the construction scale of photovoltaic power stations in some areas in 2015	Supporting measures-GS	NEA	Notices
113	2015.09.28	Notice on implementing the information management of renewable energy power generation projects	Supervision measures-OSU	NEA	Notices
114	2015.10.28	Notice on carrying out the nearest consumptive pilot for renewable energy	Supervision measures-OSU	NDRC	Notices
115	2015.11.27	Notice on issues of the use of forest land in the construction of photovoltaic power stations	Guidance measures-GD	SFA	Notices
116	2015.12.02	Notice on issuing the control index of land use for photovoltaic power station project	Specification measures-OS	MOLR	Notices
117	2015.12.22	Notice on improving the benchmark price policy of onshore wind and photovoltaic power generation	Supporting measures-GS Specification measures-OS	NDRC	Notices
118	2016.01.01	Notice of the Ministry of Finance and the National Development and Reform Commission on Issues concerning Raising the Collection Rate of the Renewable Energy Development Fund	Guidance measures-GI Supporting measures-FIS	MOF, NDRC	Notices

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Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
119	2016.01.11	Notice on doing well the connection between PV power generation project and national renewable energy information management platform	Supervision measures-OSU	NEA	Notices
120	2016.02.05	Notice on doing well the consumptive work for the renewable energy in northeast, north and northwest Regions	Supervision measures-OSU	NEA	Notices
121	2016.02.29	Guiding opinions on establishing the guiding system for the development and utilization of renewable energy	Supporting measures-IS Supervision measures-OSU	NEA	Measures
122	2016.03.23	Opinions on implementing the poverty alleviation work of photovoltaic power generation	Guidance measures-GI Supporting measures-FS, FIS, GS Specification measures-TSP Supervision measures-OSU	NDRC, SC, NEA	Measures
123	2016.03.24	Notice of the National Development and Reform Commission on Issuing the Measures for the Administration of the Guaranteed Buyout of Electricity Generated by Renewable Energy Resources	Supporting measures-GS Supervision measures-OSU	NDRC	Measures
124	2016.04.14	Notice on Issuing the statistical report forms of renewable energy utilization	Supervision measures-OSU	NEA	Notices
125	2016.05.27	Notice on doing well the full acquisition management of wind power and photovoltaic power generation	Supporting measures-GS Specification measures-OS	NDRC, NEA	Notices
126	2016.06.03	Notice on Issuing the construction implementation plan of photovoltaic power generation in 2016	Guidance measures-GI Supporting measures-FIS Specification measures-TSP Supervision measures-OSU	NEA	Notices
127	2016.07.14	Trial measures on the preferential generation for the renewable energy peak unit	Supervision measures-OSU	NDRC, NEA	Measures
128	2016.07.25	Notice of the Ministry of Finance and the State Administration of Taxation on Continuing the Implementation of the Value-added Tax Policy for Photovoltaic Power Generation	Guidance measures-GI Supporting measures-FIS	MOF, SAT	Notices
129	2016.10.17	Notice on issuing the first batch of photovoltaic poverty alleviation projects	Guidance measures-GI, GD Supporting measures-FS, GS Supervision measures-OSU	NEA, SC	Notices
130	2016.10.27	Notice on Issuing the 13th Five-Year work plan for controlling greenhouse gas emissions	Guidance measures-GI	SC	Notices
131	2016.11.29	Notice on issuing the “13th Five-Year Plan” for the development of national strategic emerging industry	Guidance measures-GI Supporting measures-IS	SC	Opinions and Rules
132	2016.12.08	Notice on issuing the “13th Five-Year Plan” for the solar development	Guidance measures-GD Supporting measures-PS, TS, PT, GS Specification measures-OS, TSP Supervision measures-QS, OSU	NEA	Opinions and Rules
133	2016.12.10	Notice on issuing the “13th Five-Year Plan” for the development of renewable energy	Guidance measures-GD Supporting measures-IS, PS, TS, GS Specification measures-TSP Supervision measures-OSU	NDRC	Opinions and Rules

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
134	2016.12.26	Notice on adjusting the benchmark price of onshore wind and photovoltaic power generation	Guidance measures-GI Supporting measures-FIS, GS Specification measures-OS	NDRC	Notices
			Beijing		
135	2009.12.27	Guidance of accelerate the development and utilization of solar energy to promote industrial development	Guidance measures-GI, GDSupporting measures-FS, TS, PS Specification measures-TSP Supervision measures-OSU	DRC	Measures
136	2011.01.31	Notice on continue to declare solar photovoltaic building integration demonstration project application	Guidance measures-FIS Supporting measures-PS Specification measures-TSP	CC	Notices
137	2012.01.31	Notice on 2012 Beijing solar photovoltaic building demonstration	Supporting measures-FIS, PS Specification measures-TSP	CC	Notices
138	2012.11.12	Notice on continue to declare solar photovoltaic building integration demonstration project application	Supporting measures-FIS, PSSpecification measures-TSP	CC	Notices
139	2014.7.25	Notice on Issuing the Interim Measures for management of distributed photovoltaic power generation project in Beijing	Supporting measures-PS	DRC	Notices
140	2015.8.18	Notice on the issuance of Beijing distributed PV incentive fund management approach	Supporting measures-GS	DRC	Notices
			Tianjin province		
141	2011.02.12	Notice on price subsidies for renewable energy projects and additional funds advance	Supporting measures-GS	PB	Notices
142	2015.10.22	Notice on Further Regulating the Construction and Management of Photovoltaic Power Generation Projects	Supporting measures-GS Specification measures-OS Supervision measures-OSU	DRC	Notices
			Hebei province		
143	2010.10.22	Guiding opinions on promoting the development of photovoltaic industry	Guidance measures-GI, GDSupporting measures-FIS, FS, TS, GS, IS, PT Specification measures-TSP	PG	Measures
144	2011.08.24	Notice on Laiyuan Xintian Wind Energy Ltd solar power tariff	Supporting measures-GS	PB	Notices
145	2015.05.22	Notice on the construction of photovoltaic power generation project	Supporting measures-GS	DRC	Notices
146	2015.07.07	Notice on price policy in our province distributed photovoltaic application key demonstration village project	Supporting measures-GS	PB	Notices
147	2015.08.12	The guidance on further regulating the photovoltaic power generation project management	Guidance measures-GI Supporting measures-FIS, GS Specification measures-OS Supervision measures-OSU	DRC	Measures
148	2015.11.12	Notice on Issuing the action plan for the construction of renewable energy demonstration zone in Hebei, Zhangjiakou (2015–2017 years)	Supporting measures-IS, FIS, FS, PT	PG	Notices
149	2015.12.18	Notice on strengthening the construction of solar photovoltaic application work	Guidance measures-GI, GD Supporting measures-FIS Specification measures-TSP Supervision measures-OSU	CC	Notices
150	2016.04.29	Notice on poverty alleviation and development on the implementation of PV poverty alleviation program 2016	Supporting measures-PS	DRC	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
151	2016.10.14	Notice on the issuance of Hebei Province renewable energy development “13th Five-Year Plan”	Supporting measures-IS, PS, TS, GS Supervision measures-OSU Specification measures-TSP Guidance measures-GD, GI	DRC	Notices
152	2016.10.19	Notice on issuing the first batch of ordinary grid photovoltaic power generation project plan in 2016	Supporting measures-GS	DRC	Notices
153	2016.12.29	Notice on the third batch of ordinary grid photovoltaic power generation project plan	Supporting measures-GS	DRC	Notices
Shanxi province					
154	2010.10.27	Notice on approving the establishment of a notice of photovoltaic materials and Devices Engineering Technology Research Center	Supporting measures-TS	Provincial Department of science and technology	Notices
155	2014.02.08	The implementation opinions on promoting the healthy development of the PV industry	Supporting measures-FIS, FS, GS, PS Specification measures-TSP, PSP	PG	Measures
156	2016.04.18	Notice on issuing related to photovoltaic poverty alleviation project in 2016	Supporting measures-PS	PG	Notices
157	2016.06.17	Guiding opinions on concerning photovoltaic poverty alleviation work	Guidance measures-GI Supporting measures-PS, FIS, FS Specification measures-TSP Supervision measures-OSU	PG	Measures
158	2016.08.25	Notice on issuing indicators of photovoltaic power generation projects	Supporting measures-GS	DRC	Notices
Nei Monggol					
159	2013.12.31	Notice on the issuance of the Inner Mongolia Autonomous Region 2020 2013—solar power development plan	Supporting measures-IS, GS Supervision measures-OSU	DRC	Notices
160	2014.08.06	The opinions on promoting the development of photovoltaic industry	Supporting measures-TS, PS Specification measures-TSP	PG	Measures
161	2015.03.13	Guidance on the establishment of renewable energy protection of the acquisition of long-term mechanism	Guidance measures-GI Supporting measures-GS	PG	Measures
162	2016.01.20	Notice issued on the implementation of district 2015 Annual Supplement of photovoltaic power generation index construction scheme and relevant problems in construction projects	Specification measures-OS Supervision measures-OSU	DRC	Notices
163	2016.07.14	Notice on Further Strengthening the management of photovoltaic power generation projects in our region	Specification measures-OS	DRC	Notices
164	2016.07.28	Notice on the issuance of the Inner Mongolia Autonomous Region ordinary photovoltaic power plant project notice Competitive Allocation Trial Measures	Specification measures-OS, TSP	DRC	Notices
165	2016.09.13	Guidance on the implementation of the poverty relief work of photovoltaic power generation	Guidance measures-GI Supporting measures-FS, GS, PS Specification measures-TSP Supervision measures-QS	PG	Measures

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Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
Liaoning province					
166	2011.11.06	Notice on the implementation of solar photovoltaic subsidies	Supporting measures-GS	DRC	Notices
167	2016.02.22	Notice on implementation policy of tariff and tariff subsidy for distributed photovoltaic power generation projects	Supporting measures-GS	PB	Notices
Jilin province					
168	2012.06.13	Notice on printing and distributing the measures for quality acceptance of renewable energy construction application projects in Jilin province	Specification measures-OS	CC	Notices
Heilongjiang province					
169	2008.01.18	Heilongjiang Province, rural development and utilization of renewable energy regulations	Guidance measures-GD Supporting measures-FIS, FS, TS, PT Specification measures-PSP, TSP	PG	Opinions and Rules
170	2015.04.17	Regulations on the development and utilization of renewable energy in rural areas of Heilongjiang (2015 Amendment)	Guidance measures-GD Supporting measures-FIS, FS, TS, PT Specification measures-PSP, TSP	PG	Opinions and Rules
171	2016.06.21	Notices on the issuance of 2016 photovoltaic power plant project in Heilongjiang Province ordinary competitive allocation scheme	Specification measures-OS	DRC	Notices
Shanghai province					
172	2010.11.18	Notice on the allocation of renewable energy and new energy support funds for the city in 2010	Supporting measures-FIS	DRC	Notices
173	2013.11.22	Notice on promoting the healthy development of the PV industry on the implementation plan	Supporting measures-FS; TS; PT Specification measures-TSP	PG	Notices
174	2014.04.04	Notice on carrying out the declaration of scale application construction scale of distributed photovoltaic power generation in 2014	Supporting measures-GS	DRC	Notices
175	2014.07.01	Notice on issued 2014 annual distributed PV annual new construction scale	Supporting measures-GS	DRC	Notices
176	2014.10.27	Notice on printing and distributing the regulations for the management of photovoltaic power generation projects in Shanghai	Specification measures-OS Supervision measures-OSU	DRC	Notices
177	2015.07.06	Notice on issued 2015 annual implementation plan of the construction of photovoltaic power generation	Supporting measures-GS	DRC	Notices
178	2016.11.02	Notice on Issuing the measures for supporting the special funds for the development of renewable energy and new energy in Shanghai (2016 Revision)	Supporting measures-FIS, GS	DRC	Notices
Jiangsu province					
179	2009.06.19	Notice on Forwarding the provincial development and Reform Commission of Jiangsu province photovoltaic power generation propulsion views	Guidance measures-GI Supporting measures-FIS; FS; PT; PS; TS; Specification measures-TSP	DRC	Notices
180	2009.10.26	Notice on strengthening the construction of solar photovoltaic demonstration project management.	Specification measures-TSP Supervision measures-QS	CC	Notices

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Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
181	2012.06.08	Notice informed the Provincial Energy Bureau on photovoltaic power generation to continue to support the policy advice	Guidance measures-GI Supporting measures-GS; FS; TS	DRC	Notices
182	2014.08.06	Jiangsu Provincial Price Bureau on 2014 to determine the second number of grid connected photovoltaic power generation project tariff notice	Supporting measures-GS	PB	Notices
183	2014.10.20	Jiangsu Provincial Price Bureau on 2014 to determine the third number of grid connected photovoltaic power generation project tariff notice	Supporting measuresGS	PB	Notices
184	2014.10.25	The opinions on promoting the healthy development of distributed PV	Guidance measures-GI Supervision measures-OSU Specification measures-OS	DRC	Notices
185	2015.06.05	Notice on Pizhou Hu Wei photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
186	2015.07.31	Notice on Jiangsu Longchang photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
187	2015.10.09	Price Bureau of Jiangsu province to determine the Funing LIREN and other photovoltaic power generation projects on the electricity price notice	Supporting measures-GS	PB	Notices
188	2015.11.25	Notice of Jiangsu Provincial Price Bureau on determining the tariff of photovoltaic power generation projects	Supporting measures-GS	PB	Notices
189	2015.12.28	Notice on Jiangsu Haidong photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
190	2016.01.19	Notice on Jiangsu coastal GCL photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
191	2016.02.17	Notice on the determination of Baoying blessing the new photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
192	2016.10.13	Notice of Jiangsu Provincial Price Bureau on the determination of Guofeng new energy photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
193	2016.11.28	Notice of Jiangsu Provincial Price Bureau on Danyang Corning photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
194	2016.12.13	Notice of Jiangsu Provincial Price Bureau on Danyang Corning photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
Zhejiang province					
195	2012.05.30	Regulations for promoting the development and utilization of renewable energy in Zhejiang	Guidance measures-GI, GD Supporting measures-FIS, FS, GS, IS	PG	Opinions and Rules
196	2013.09.26	Implementation opinions on further accelerating the application of photovoltaic industry to promote the healthy development of the industry	Supporting measures-GS; FIS, FS, TS, Specification measures-TSP	PG	Measures
197	2015.04.27	Notice on Issuing the management measures of special funds for renewable energy development in Zhejiang	Supporting measures-FIS	PEA	Notices

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Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
198	2016.01.19	Notice on the further strengthening of the construction of renewable energy integration application work	Supporting measures-PS	CC	Notices
199	2016.07.13	Notice on the issuance of notice of both civil construction installation of solar photovoltaic system design guidelines	Specification measures-TSP	CC, PEA	Notices
200	2016.09.02	Opinion on promoting the implementation of the views of Zhejiang Province million households roof photovoltaic project construction	Guidance measures-GD Specification measures-TSP Supporting measures-GS, FS Supervision measures-QS	PG	Measures
Anhui province					
201	2011.08.10	Notice on strengthening the implementation and management of the national solar photovoltaic building application demonstration project	Guidance measures-GD Supervision measures-QS, OSU	CC	Notices
202	2012.01.06	Notice on the implementation of the 2012 solar photovoltaic building application demonstration	PS	CC/FB	Notices
203	2015.06.17	Guiding opinions on the implementation of photovoltaic poverty alleviation	Guidance measures-GI; Supporting measures-PS; FIS; FS	PG	Measures
Fujian province					
204	2008.12.20	Opinions on the joint implementation of LED and solar photovoltaic industry training base construction work	Supporting measures-PT	FB	Measures
205	2016.01.06	Notice on 2015 photovoltaic power plant project construction management work	Specification measures-OS	DRC	Notices
206	2016.11.14	Notice on 2016 photovoltaic power plant project construction supervision work	Specification measures-OS	DRC	Notices
207	2016.12.09	Notice on 2014–2015 years of photovoltaic construction and implementation plan of the project construction management	Specification measures-OS	DRC	Notices
Jiangxi province					
208	2012.03.29	Notice on holding a senior seminar on practice and development of solar photovoltaic industry	Supporting measures-PT	PG	Notice
209	2013	Notice on Printing and Distributing Implementation Plan of “10,000 Roofs Photovoltaic Generation Project of Jiangxi Province (Trial)”	Supporting measures-PS Specification measures-TSP Supervision measures-QS	NRC	Notice
210	2013.06.27	Notice on the work of demonstration project of 10,000 roofs photovoltaic power generation	Supporting measures-GS Supervision measures-OSU	PEA	Notice
211	2013.11.26	Notice on Speeding up Promotion of 10,000 Roofs Photovoltaic Power Generation Demonstration Projects	Supervision measures-OSU	PEA	Notice
212	2014.04.23	Notice on Printing and Distributing the Work Plan for Accelerating the Application of Photovoltaic Power Generation in the Province	Guidance measures-GI Supporting measures-PS, GS, FS	PG	Notice
213	2015.08.07	Notice on further improving the work of photovoltaic power generation applications	Supporting measures-GS Specification measures-TSP	PG	Notice

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Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
214	2009.09.14	Notice on the development of solar energy industry in Shandong province (2009–2011)	Guidance measures-GD Supporting measures-FIS, FS, TS, PS Specification measures-PSP	NRC	Notice
215	2010.07.01	Notice on support to accelerate the development of the views of the photovoltaic power generation	Supporting measures-GS, FIS, FS	PG	Notice
216	2011.07.14	Notice on further improvement of the pricing policy of photovoltaic power generation	Supporting measures-GS	PB	Notice
217	2013.10.24	Notice on Promoting the Healthy Development of Renewable Energy, Energy-saving and Environmental-friendly Power Generation Project by Price Policy	Supporting measures-GS	PB	Notice
218	2014.09.29	Opinion on Implementing Guo Fa (2013) No. 24 Document to Promote the Healthy Development of Photovoltaic Industry	Guidance measures-GI Supporting measures-FIS, FS, TS, GS Specification measures-TSP	PG	Opinion
219	2015.03.09	Notice on Further Strengthening the Construction and Operation of Photovoltaic Power Generation	Guidance measures-GI Supporting measures-GS Supervision measures-OSU	NRC/PEA	Notice
220	2015.08.25	Notice on Issuing Special Funds Investment Plan for Regional Strategic Promotion of Distributed Photovoltaic Power Generation Project	Supporting measures-FIS	NRC/FB	Notice
221	2015.10.22	Notice on Carrying out the Construction of Shandong Province Solar Energy Application Demonstration City (County)	Supporting measures-PS	NRC	Notice
222	2015.11.06	Notice on matters related to construction of photovoltaic power station in 2015	Supporting measures-GS	NRC	Notice
223	2016.06.23	Notice of accelerating the promotion of photovoltaic work in the province	Supporting measures-PS, FIS, FS, GS	NRC	Notice
Henan province					
224	2008.05.05	Notice on the grant of subsidy funds for the project of renewable energy construction application	Supporting measures-FIS	FB	Notice
225	2010.10.09	“Notice on Strengthening the Construction Management of Golden Sun Demonstration Project and Solar PV Building Application Demonstration Project”	Supporting measures-FIS, PS	NRC	Notice
Hunan province					
226	2009.11.12	Opinion on accelerating the application of photovoltaic power generation and lighting	Guidance measures-GD Supporting measures-PS, FIS, FS, TS, PT Specification measures-TSP	PG	Opinion
227	2016.01.21	Notice on Further Strengthening the Application and Management of Renewable Energy Buildings	Guidance measures-GD Supporting measures-FIS	CC	Notice
Hubei province					
228	2010.07.30	Rural renewable energy regulations	Guidance measures-GI	PG	Regulations
229	2013.10.21	Notice on Organizing Relevant Enterprises to Declare the Normative Bulletin of the Photovoltaic Manufacturing Industry	Specification measures-PSP	NRC	Notice

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Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
230	2014.05.08	Notice on Carrying out Demonstration Work of Demonstration of Application of Renewable Energy Building and Solar PV Building	Supervision measures-OSU	CC/FB	Notice
Guangdong province					
231	2014.03.05	The opinions of the general office of the people's Government of Guangdong Province on promoting the healthy development of the PV industry	Guidance measures-GI Supporting measures-FIS, FS, GS, PT, TS, IS Specification measures-PSP	PG	Measures
232	2014.03.26	Notice of the Guangdong provincial development and Reform Commission issued in 2014 on the annual new construction scale photovoltaic power generation	Supporting measures-GS	DRC	Notices
233	2014.08.20	On the issuance of Guangdong province solar photovoltaic development plan (2014–2020) Notice	Guidance measures-GI, GD Supporting measures-FIS, FS, GS, IS Supervision measures-OSU	DRC	Notices
234	2015.01.12	Notice of the Guangdong provincial development and Reform Commission on doing a good job in preparation of solar energy development planning “in 13th Five-Year”	Supporting measures-IS	DRC	Notices
235	2015.06.02	Notice of the Guangdong provincial development and Reform Commission issued on 2015 in Guangdong Province, the construction of photovoltaic power generation project	Supporting measures-GS Supervision measures-OSU	DRC	Notices
Guangxi province					
236	2016.01.22	Notice of the the Guangxi Zhuang Autonomous Region development and Reform Commission on the improvement of the area of photovoltaic power plant project construction management work	Supervision measures-OSU	DRC	Notices
Sichuan province					
237	2016.01.28	Sichuan provincial development and Reform Commission forwards the national development and Reform Commission on the improvement of onshore wind power photovoltaic power generation benchmark price policy notice notice	Supporting measures-GS	DRC	Notices
Guizhou province					
238	2010.10.10	Notice on the organization declared the 2010 provincial renewable energy construction application demonstration city and rural areas of the County demonstration special fund project	Supporting measures-FIS	CC/FB	Notices
239	2011.06.15	Notice on the organization to declare the provincial city of application of renewable energy in rural areas and Building Demonstration County demonstration special fund project	Supporting measures-FIS	CC/FB	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
Yunnan province					
240	2011.04.01	The measures for the implementation of the access system of renewable energy power generation project in Yunnan Province	Supporting measures-GS	DRC	Measures
241	2012.01.08	Notice on Application of special fund project for renewable energy development in 2012	Supporting measures-FIS	FB	Notices
242	2014.01.13	Notice on Application of special fund project for renewable energy development in 2014	Supporting measures-FIS	FB	Notices
243	2014.04.01	Notice of Yunnan Provincial People's Government on printing and distributing the implementation plan of promoting the healthy development of photovoltaic industry in Yunnan	Guidance measures-GI, GD Supporting measures-GS, FIS, FS Specification measures-TSP, PSP	PG	Notices
Shaanxi province					
244	2009.09.02	Notice of the Ministry of finance of Shaanxi province and the Ministry of housing and urban rural development on Issuing the guidelines for the application of provincial solar photovoltaic building application demonstration projects	Supporting measures-FIS	FB/CC	Notices
245	2009.10.14	Notice of Shaanxi provincial Ministry of industry and information technology on declaring the special project of solar photovoltaic and semiconductor lighting industry development in Shaanxi Province in 2009	Supporting measures-FIS	DRC	Notices
246	2010.05.05	Notice of the Shaanxi provincial development and Reform Commission on photovoltaic power plant in our province provide information about franchise rights for the project	Supporting measures-IS	DRC	Notices
247	2011.05.13	Notice of the Shaanxi provincial development and Reform Commission to submit relevant materials about the "12th Five-Year" solar power generation project	Guidance measures-GI	DRC	Notices
248	2011.07.11	Notice on the issuance of the 2011 provincial solar photovoltaic and photothermal building demonstration project reporting guidelines.	Supporting measures-FIS	CC/FB	Notices
249	2012.05.02	Notice of Shaanxi Provincial Department of housing and urban rural construction on 2012 issued by the provincial solar photovoltaic and photothermal building demonstration project reporting guidelines.	Supporting measures-FIS	CC	Notices
250	2012.06.15	Notice of Shaanxi provincial development and Reform Commission on the 2012 development plan of grid connected photovoltaic power generation project organization	Supporting measures-IS	DRC	Notices
251	2012.06.25	Notice on accelerating the construction of solar photovoltaic applications work.	Guidance measures-GI, GD Specification measures-TSP	CC	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
252	2013.07.18	To vigorously promote the development of the solar power industry to speed up the notice	Guidance measures-GI Supporting measures-FIS, FS	DRC	Notices
253	2013.09.24	Notice of Shaanxi provincial development and Reform Commission on speeding up the construction of photovoltaic power generation projects	Supporting measures-GS Supervision measures-OSU	DRC	Notices
254	2014.12.04	The People's Government of Shaanxi Province on promoting the implementation of the views of distributed photovoltaic power generation demonstration	Guidance measures-GD Supporting measures-PS, GS, FIS, FS	PG	Measures
255	2015.01.16	Notice on the 2014 annual provincial renewable energy demonstration project management and acceptance related matters	Supervision measures-QS, OSU	CC	Notices
Gansu province					
256	2012.06.15	Gansu provincial development and Reform Commission on Dongfang Electric (Jiuquan) approved the solar power generation Co. Ltd. in Suzhou District Dong Dong Tan 9 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
257	2012.06.19	Approved by the Gansu provincial development and Reform Commission on the approval of the Gansu Long Chang photovoltaic power company limited Jinchuan district 15 MW photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
258	2012.07.20	Gansu provincial development and Reform Commission on the zkenergy (Jiuquan) Amperex Technology Limited approved the 9 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
259	2012.07.20	Approved by the Gansu provincial development and Reform Commission on the approval of Dong Dong Tan Huadian new energy Jiuquan Suzhou 9 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
260	2012.07.30	Approved by the Gansu provincial development and Reform Commission on the approval of Huadian new Energy Developments Ltd Jiayuguan 9 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
261	2012.08.22	Approved by the Gansu provincial development and Reform Commission on the approval of Xigou mine of Gansu Shenzhou photovoltaic power company limited Jiayuguan 9 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
262	2012.08.22	Approved provincial development and Reform Commission on hydropower and new energy development limited liability company ganzhouborough approved 50 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
263	2012.09.29	Approved by the Gansu provincial development and Reform Commission on China Hydropower Construction Group New Energy Development Co. Ltd. Liangzhou district approved 50 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
264	2012.10.24	Approved by the Gansu provincial development and Reform Commission on the approval of CHINT photovoltaic power generation Co. Ltd. Aksay Aksay county 10 MW grid connected photovoltaic power generation project	Guidance measures-GD Supporting measures-GS	DRC	Notice
265	2012.10.30	Gansu provincial development and Reform Commission approved the approval of the 9 MW grid connected photovoltaic power generation project in Wuwei Liangzhou District of the Yellow River Gansu hydropower Co., Ltd.	Guidance measures-GD Supporting measures-GS	DRC	Notice
266	2013.04.17	Notice of the Ministry of housing and urban rural development of Gansu on strengthening the management of national renewable energy construction application demonstration project	Supervision measures-QS, OSU	CC	Notices
267	2013.06.24	Regarding the development of renewable energy construction application of special information disclosure work notice	Supervision measures-OSU	CC	Notices
268	2013.12.31	Gansu province to implement the implementation of the State Council on promoting the healthy development of photovoltaic industry several opinions implementation plan	Supporting measures-GS, TS, FIS, FS, PT	PG	Notices
269	2014.03.10	Notice of Gansu provincial industry and Information Committee on organizing and recommending key projects of photovoltaic industry in 2014	Supporting measures-FS	DRC	Notices
Qinghai province					
270	2008.04.08	Guidance on using solar building	Supporting measures-FIS, TS, PS	CC	Measures
271	2010.01.25	Notice of 2008 7 month run public renewable energy independent power system maintenance cost subsidies	Supporting measures-FIS	DRC	Notices
272	2010.04.08	Notice of the Qinghai provincial development and Reform Commission agreed to carry out Chinese Water Conservancy Investment Corporation Golmud 10 MW photovoltaic power grid work	Supporting measures-GS	DRC	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
273	2010.04.08	Notice of Qinghai provincial development and Reform Commission on the development of Golmud 10 MW grid connected photovoltaic power station of Limited by Share Ltd	Supporting measures-GS	DRC	Notices
274	2010.04.25	Qinghai provincial development and Reform Commission on the approval of notice to carry out SDIC Golmud photovoltaic power generation Co. Ltd. Golmud two 30 MW grid connected photovoltaic power plant work	Supporting measures-GS	DRC	Notices
275	2010.05.06	Qinghai provincial development and Reform Commission on the approval of China Guangdong Nuclear Power Solar Energy Development Company Limited (Dachaidan) Notice tin Tieshan two 30 MW photovoltaic power grid work	Supporting measures-GS	DRC	Notices
276	2011.08.04	Notice of the Qinghai provincial development and Reform Commission on the relevant issues concerning the first half of the province in 2009 renewable energy price subsidies under the	Supporting measures-FIS	DRC	Notices
277	2011.10.10	Notice of the Qinghai provincial development and Reform Commission on the province from January to September 2010 renewable energy price subsidies related matters	Supporting measures-FIS	DRC	Notices
278	2011.12.30	Notice of Qinghai provincial development and Reform Commission on the province in 2011 the completion of photovoltaic power tariff	Supporting measures-GS	DRC	Notices
279	2012.07.05	Approved on Golmud Huadian Solar Power Co. Ltd. Golmud two 20 MW grid connected photovoltaic power generation project environmental impact report	Guidance measures-GD	DRC	Notice
280	2014.04.01	The opinions of the general office of the People's Government of Qinghai Province on promoting the healthy development of photovoltaic industry in Qinghai	Supporting measures-TS, FIS, FS, GS	PG	Measures
281	2015.02.03	Qinghai provincial development and Reform Commission on notice of the distributed photovoltaic power generation	Supporting measures-GS Supervision measures-OSU	DRC	Notices
282	2015.06.29	Notify the office of Qinghai Provincial People's government poverty alleviation Bureau and other departments of Qinghai Province on 2015 PV poor pilot scheme	Supporting measures-FIS, GS	PG	Notices
283	2016.09.18	Notice of the Qinghai provincial development and Reform Commission on the issuance of Qinghai Province in 2016 the first batch of ordinary scale photovoltaic power plant project bidding scheme index	Supervision measures-OSU	DRC	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
Ningxia province					
284	2010.04.20	Approved by the the Ningxia Hui Autonomous Region Bureau on my area of Ningxia sun Hill four solar photovoltaic power station temporary tariff	Supporting measures-GS	PB	Notice
285	2010.08.02	On the issuance of the Ningxia Hui Autonomous Region planning and architectural applications of renewable energy development (2010–2020) Notice	Guidance measures-GI, GD Supporting measures-FIS, FS, IS, PT Specification measures-TSP Supervision measures-QS, OSU	PG	Notices
286	2014.08.22	Notice of the the Ningxia Hui Autonomous Region Bureau of Yongning County of Tiexi Hui Min Ning town primary school 90 kW distributed photovoltaic power generation projects electricity price	Supporting measures-GS	PB	Notices
287	2015.11.25	The Ningxia Hui Autonomous Region Bureau of price notice on renewable energy power generation projects of Ningxia Yanchi wind farm (Chen Jiliang) capital Gan 49.5 MW wind power project	Supporting measures-GS	PB	Notices
288	2015.12.30	Notice of the the Ningxia Hui Autonomous Region Bureau of Wuzhong City Baita wind power limited Wind 1 wind farms two phase expansion project and other renewable energy power generation projects electricity price	Supporting measures-GS	PB	Notices
289	2015.12.31	The Ningxia Hui Autonomous Region Bureau of Wuzhong Longyuan Wind Power Co. Ltd (3 Yanchi pond, Su Bu Jing, Hua Ma Chi) Notice of wind and other renewable energy power generation projects electricity price	Supporting measures-GS	PB	Notices
290	2016.01.05	Notice of the general office of the People's Government of the Ningxia Hui Autonomous Region on Issuing the guiding opinions on the allocation of resources for photovoltaic power station projects and for the record and construction management of photovoltaic power station projects	Specification measures-TSP	PB	Notices
291	2016.01.08	Notice of the the Ningxia Hui Autonomous Region Bureau of Beijing Helan ponds photovoltaic demonstration project and Guoxin Yanchi photovoltaic and livestock processing integration projects tariff	Supporting measures-GS	PB	Notices
292	2016.02.03	The Ningxia Hui Autonomous Region Price Bureau, autonomous region Price Bureau on Ningxia Bao Bao central two phase photovoltaic power station and other renewable energy generation projects on the electricity price notice	Supporting measures-GS	PB	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
293	2016.03.24	The Ningxia Hui Autonomous Region Price Bureau on division three Pingluo 50 MWp photovoltaic power plant and other renewable energy power generation projects tariff notification	Supporting measures-GS	PB	Notices
294	2016.06.07	Notice of the the Ningxia Hui Autonomous Region People's Government Office forwarded the autonomous region development and Reform Commission and other departments on the opinions to further standardize the construction management of photovoltaic power station	Specification measures-OS	DRC	Notices
Xinjiang province					
295	2011.12.01	Regarding the development of new electronic materials, notify the basic survey of solar photovoltaic industry	Supporting measures-IS	DRC	Notices
296	2012.03.16	On the issuance of the Xinjiang Uygur Autonomous Region solar energy photovoltaic industry development plan (2011–2015) Notice	Supporting measures-IS, GS, FIS, PT	PG	Notices
297	2013.08.16	Notice on accelerating Xinjiang without electricity power supply engineering and photovoltaic independent power supply project EIA related matters	Guidance measures-GD	DRC	Notices
298	2014.03.03	Notice of the Xinjiang autonomous region development and Reform Commission and the Ministry of Finance on printing and distributing the administrative measures for the independent power supply project of photovoltaic power construction in Xinjiang without electricity area	Supervision measuresOSU	DRC	Notices
Hainan province					
299	2008.09.25	Opinions on promoting the large-scale utilization of solar energy in Hainan	Guidance measures-GI, GD Supporting measures-FIS, FS, TS Specification measures-TSP	DRC	Measures
300	2012.12.29	Notice of Hainan Provincial Price Bureau of Haikou national hi tech Development Zone, photovoltaic power generation demonstration project tariff, etc.	Supporting measures-GS	PB	Notices
301	2013.07.26	Notice of Hainan Provincial Price Bureau on cross-strait new energy cooperation Hainan Aerospace 50 MW photovoltaic power generation demonstration of golden sun demonstration project, electricity price	Supporting measures-GS	PB	Notices
302	2013.12.24	Hainan Province Price Bureau of Hainan City Economic Development Zone, Jinsheng building materials mall concentrated photovoltaic power generation projects such as tariff notification	Supporting measures-GS	PB	Notices
303	2013.12.27	Notice of Hainan Provincial Price Bureau on Ledong Xiangshui 20 MW photovoltaic power plant electricity price	Supporting measures-GS	PB	Notices

Table A2. Cont.

Num	Time	Policy Name	Policy Measure	Policy Department	Policy Type
304	2014.09.26	Hainan Provincial Price Bureau on the approval of the sea star (Yangpu) aquatic food Co., Ltd. rooftop photovoltaic power generation project tariff notice	Supporting measures-GS	PB	Notices
Chongqing province					
305	2009.05.13	Notice on the declaration of solar photovoltaic building demonstration project	Supporting measures-FIS	CC	Notices
306	2009.07.13	Notice on recollecting the demonstration project of renewable energy construction in our city	Supporting measures-FIS	CC	Notices
307	2009.07.27	organization notice to declare the construction of renewable energy demonstration city	Guidance measures-GD Supporting measures-FIS	CC	Notices

Source: [33].

References

1. International Energy Agency Photovoltaic Power Systems Programme. Annual Report 2016. Available online: http://www.iea-pvps.org/fileadmin/dam/public/report/statistics/IEA-PVPS_-_A_Snapshot_of_Global_PV_-_1992--2016__1_.pdf (accessed on 1 June 2017).
2. BP. BP Statistical Review of World Energy 2017 Underpinning Data. Available online: <http://www.bp.com/statisticalreview> (accessed on 1 June 2017).
3. Liu, D.; Shiroyama, H. Development of photovoltaic power generation in China: A transition perspective. *Renew. Sustain. Energy Rev.* **2013**, *25*, 782–792. [CrossRef]
4. Zhi, Q.; Sun, H.; Li, Y.; Xu, Y.; Su, J. China's solar photovoltaic policy: An analysis based on policy instruments. *Appl. Energy* **2014**, *129*, 308–319. [CrossRef]
5. Tour, A.D.L.; Glachant, M.; Ménière, Y. Innovation and international technology transfer: The case of the Chinese photovoltaic industry. *Energy Policy* **2011**, *39*, 761–770. [CrossRef]
6. Sun, H.; Qiang, Z.; Wang, Y.; Yao, Q.; Su, J. China's solar photovoltaic industry development: The status quo, problems and approaches. *Appl. Energy* **2014**, *118*, 221–230. [CrossRef]
7. Li, S.; Wang, J.; Liu, Q.; Li, L.; Hua, Y.; Liu, W. Analysis of Status of Photovoltaic and Wind Power Abandoned in China. *J. Power Energy Eng.* **2017**, *5*, 91–100. [CrossRef]
8. Grau, T.; Huo, M.; Neuhoff, K. Survey of photovoltaic industry and policy in Germany and China. *Energy Policy* **2012**, *51*, 20–37. [CrossRef]
9. Huo, M.L.; Zhang, D.W. Lessons from photovoltaic policies in China for future development. *Energy Policy* **2012**, *51*, 38–45. [CrossRef]
10. Zhang, S.; He, Y. Analysis on the development and policy of solar PV power in China. *Renew. Sustain. Energy Rev.* **2013**, *21*, 393–401. [CrossRef]
11. Zou, H.; Du, H.; Ren, J.; Sovacool, B.K.; Zhang, Y.; Mao, G. Market dynamics, innovation, and transition in China's solar photovoltaic (PV) industry: A critical review. *Renew. Sustain. Energy Rev.* **2017**, *69*, 197–206. [CrossRef]
12. Kayser, D. Solar photovoltaic projects in China: High investment risks and the need for institutional response. *Appl. Energy* **2016**, *174*, 144–152. [CrossRef]
13. Dusonchet, L.; Telaretti, E. Economic analysis of different supporting policies for the production of electrical energy by solar photovoltaics in western European Union countries. *Energy Policy* **2010**, *38*, 3297–3308. [CrossRef]
14. Sarasa-Maestro, C.J.; Dufo-López, R.; Bernal-Agustín, J.L. Photovoltaic remuneration policies in the European Union. *Energy Policy* **2013**, *55*, 317–328. [CrossRef]
15. Shrimali, G.; Jenner, S. The impact of state policy on deployment and cost of solar photovoltaic technology in the US: A sector-specific empirical analysis. *Renew. Energy* **2013**, *60*, 679–690. [CrossRef]
16. Sarzynski, A.; Larrieu, J.; Shrimali, G. The impact of state financial incentives on market deployment of solar technology. *Energy Policy* **2012**, *46*, 550–557. [CrossRef]

17. Kwan, C.L. Influence of local environmental, social, economic and political variables on the spatial distribution of residential solar PV arrays across the United States. *Energy Policy* **2012**, *47*, 332–344. [[CrossRef](#)]
18. Zhang, S.; Zhao, X.; Andrews-Speed, P.; He, Y. The development trajectories of wind power and solar PV power in China: A comparison and policy recommendations. *Renew. Sustain. Energy Rev.* **2013**, *26*, 322–331. [[CrossRef](#)]
19. Zhang, M.; Zhou, D.; Zhou, P. A real option model for renewable energy policy evaluation with application to solar PV power generation in China. *Renew. Sustain. Energy Rev.* **2014**, *40*, 944–955. [[CrossRef](#)]
20. Zhao, X.; Zeng, Y.; Zhao, D. Distributed solar photovoltaics in China: Policies and economic performance. *Energy* **2015**, *88*, 572–583. [[CrossRef](#)]
21. Yuan, C.; Liu, S.; Yang, Y.; Chen, D.; Fang, Z.; Shui, L. An analysis on investment policy effect of China's photovoltaic industry based on feedback model. *Appl. Energy* **2014**, *135*, 423–428. [[CrossRef](#)]
22. Guo, X.; Guo, X.; Lund, H. China's photovoltaic power development under policy incentives: A system dynamics analysis. *Energy* **2015**, *93*, 589–598. [[CrossRef](#)]
23. Li, L.; Chi, T.; Zhang, M.; Wang, S. Multi-Layered Capital Subsidy Policy for the PV Industry in China Considering Regional Differences. *Sustainability* **2016**, *8*, 45. [[CrossRef](#)]
24. Rothwell, R.; Zegveld, W. *Industrial Innovation and Public Policy: Preparing for the 1980s and the 1990s*; F. Pinter: London, UK, 1981.
25. Gabriele, A. S&T Policies and Technical Progress in China's Industry. *Rev. Int. Political Econ.* **2002**, *9*, 333–373.
26. Su, Y.S.; Lin, C.J.; Li, C.Y. An assessment of innovation policy in Taiwan's electric vehicle industry. *Int. J. Technol. Manag.* **2016**, *72*, 210–229. [[CrossRef](#)]
27. Breslin, S. Foreign direct investment in the People's Republic of China: Preferences, policies and performance. *Policy Soc.* **2006**, *25*, 9–38. [[CrossRef](#)]
28. Huang, C. Organization, programme and structure: An analysis of the Chinese innovation policy framework. *R&D Manag.* **2010**, *34*, 367–387.
29. Peng, J.S.; Sun, W.X.; Zhong, W.G. The evolution of Chinese technological and innovational policies and the empirical research on the performance (1978–2006). *Sci. Res. Manag.* **2008**, *29*, 134–150.
30. Wang, X.Z.; Peng, Z.G.; Gao, W.; Ji, S.B. The policy evolution and effect evaluation of wind power industry in China. *Stud. Sci. Sci.* **2016**, *34*, 1817–1829.
31. Schneider, A.; Ingram, H. Systematically Pinching Ideas: A Comparative Approach to Policy Design. *J. Public Policy* **1988**, *8*, 61–80. [[CrossRef](#)]
32. Peters, B.G. Policy Instruments and Public Management: Bridging the Gaps. *J. Public Adm. Res. Theory* **2000**, *10*, 35–47. [[CrossRef](#)]
33. The Law Information Database of Peking University. Available online: <http://www.pkulaw.cn/> (accessed on 15 June 2017).
34. Menz, F.C.; Vachon, S. The effectiveness of different policy regimes for promoting wind power: Experiences from the states. *Energy Policy* **2006**, *34*, 1786–1796. [[CrossRef](#)]
35. Delmas, M.A.; Montes-Sancho, M.J. US state policies for renewable energy: Context and effectiveness. *Soc. Sci. Electron. Publ.* **2011**, *39*, 2273–2288.



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