

Relative importance of determinants of solar photovoltaic industry in China

-Questionnaire-

Introduction

Thank you for your participation in this questionnaire. We have identified you as one of the major experts working on solar photovoltaic industry in China.

In the 14th Five-Year Plan, the Chinese government is increasingly aware of the importance of effective development of the solar photovoltaic industry in solving the shortage of energy supply among local provinces. This study sets out to explore the relative importance of the factors of solar photovoltaic industry in China. At this stage of the research, we have literature review about the Chinese solar photovoltaic industry and identified 22 factors that are broadly categorized into factor condition, demand condition, firm strategy, structure and rivalry, related and support industries, government, and chance. In order to analyze the relative importance of the factors, we kindly ask you to express your perception of the presented factors.

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- * **To return the questionnaire, you have the following options:**
- If you have Adobe Reader installed, you can fill out the answering sections directly in this document, then save the changes and upon completion return it via email to bb53419003@ms.nagasaki-u.ac.jp
- You can print out the form, fill out the blanks per hand and then scan and email the document to the above mentioned addresses.

Expert Responder Profile

Name: _____

Company/Organization: _____

Department/Position: _____

Province: _____

Email: _____

Phone: _____

*** In order to fill in please click just above the line**

Confidentiality

Your response will be treated confidential, and the results are used for academic reasons only. Your response will be treated confidentially (name of the interviewee and affiliations are not going to be cited in any publicly available text) and the results are used for academic purposes only.

You may reserve your right to anonymity if you wish to do so.

Instruction

Summary of the introduction:

- 1. Please evaluate the relative importance of each factor comparing with another factor using scale 1 to 9.**
- 2. If you have any comment on the presented factors, please write in the comment section provided next to the brief explanation of each factor.**

This questionnaire asks you to evaluate relative importance of six categories (factor condition, demand condition, related and support industries, firm strategy, structure and rivalry, government and chance) and factors that constitute each category on a scale from 1 to 9 (equally important to extremely more important than the others) for each of them.

Below is an example of how to answer the question. The example compares the relative importance of criteria A to criteria B when conducting a solar photovoltaic industry in China. If you think factor condition (criteria A) are very strongly more important compared to demand condition (criteria B), then please click “7” on the criteria A side. Likewise, for the second question, if you think chance (criteria B) are moderately more important compared to government (criteria A), please click “3” on

the criteria B side.

*Example Criteria A	9 Extreme	8	7 Very Strong	6	5 Strong	4	3 Moderate	2	1 Equally	2	3 Moderate	4	5 Strong	6	7 Very Strong	8	9 Extreme	Criteria B
Factor condition	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Demand condition
Government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Chance

In the following pages, first you are asked to compare the broad categories: **factor condition; demand condition; firm strategy, structure and rivalry; related and support industries; government; chance**. And final the factors that constitute the categories. A brief explanation on each category and factor is provided. There is also comment section next to each brief explanation, in which we would greatly appreciate your thoughts/suggestions/ideas with respect to the factors presented.

1. Evaluation of the six Broad Categories

Based on the short description of each category with lists of factors in each category provided below, please make a careful evaluation of which category is more important when conducting solar photovoltaic industry in China.

Category	Brief Explanation	Comment Section
Factor condition	Natural resources, scientists, infrastructure, labor cost	
Demand condition	Domestic market, overall market installed capacity and environmental pressure, local acceptance	
Firm strategy, structure and rivalry	Industry rules, industry competition, industry environment	
Related and support industries	Photovoltaic manufacturing, grid construction, supporting firms	
Government	Legislation, policies, economic incentives and taxes	
Chance	Industry advantages and industry challenges	

[illegible]

2. Evaluation of factor condition

Category	Brief Explanation	Comment Section
Natural resources	This refers to the duration and period of solar radiation	
Mineral resources reserves	This refers to the resource potential of silicon, which is one of the most important raw materials for photovoltaic power generation	
Labor cost	This refers to the labor cost of installing, operating, and maintaining solar photovoltaic power generation	
Scientific research and technology	It is one of the important key factors in the development of photovoltaic power generation projects	
Acquiring land	How easy it is to obtain the land required for the development of solar photovoltaic projects	

[illegible]

3. Evaluation of demand condition

Category	Brief Explanation	Comment Section
Energy supply gap (environmental pressure)	Conventional power can not meet the growing power demand, the demand in the power market stimulates the rapid development of photovoltaic power generation	
New installed capacity of solar photovoltaic power generation (market scale)	The newly installed capacity of solar photovoltaic power generation is one of the important indicators of the capacity scale in this field	
Photovoltaic power consumption capacity (local acceptance)	This capacity is identified as the local acceptance level, and the local residents' acceptance of solar photovoltaic power generation projects	
Export volume of photovoltaic products (foreign demand status)	It reflects the demand situation of related foreign industries, which indirectly stimulates the development of the local photovoltaic power generation industry	

Criteria A	9 Extreme	8	7 Very Strong	6	5 Strong	4	3 Moderate	2	1 Equally	2	3 Moderate	4	5 Strong	6	7 Very Strong	8	9 Extreme	Criteria B
Energy supply gap (environmental pressure)																		New installed capacity of solar photovoltaic power generation (market scale)
Energy supply gap (environmental pressure)																		Photovoltaic power consumption capacity (local acceptance)
Energy supply gap (environmental pressure)																		Export volume of photovoltaic products (foreign demand status)
New installed capacity of solar photovoltaic power generation (market scale)																		Photovoltaic power consumption capacity (local acceptance)
New installed capacity of solar photovoltaic power generation (market scale)																		Export volume of photovoltaic products (foreign demand status)
Photovoltaic power consumption capacity (local acceptance)																		Export volume of photovoltaic products (foreign demand status)

4. Evaluation of firm strategy, structure and rivalry

Category	Brief Explanation	Comment Section
Reasonable and effective development plans for photovoltaic power generation enterprises (a reasonable structured renewable energy development plan)	An enterprise has a reasonable and effective renewable energy development plan and encourages consistent and stable strategic investment in photovoltaic power generation projects. The more effective the photovoltaic power generation enterprise's strategy, the more dynamic and competitive the industry will be. The strategy, management, and planning of photovoltaic power generation companies play an irreplaceable role in analyzing the competitiveness of the industry	
Interest rate risk	It refers to the loss caused by future interest rate changes in the photovoltaic industry. Interest rate is the price of funds, it refers to the adjustment lever of the money market capital supply and demand relationship. In China, the interest rate is often subject to the management behavior of the central bank. However, monetary policy and the interest rate levels of other countries or regions have changed due to the influence	

	of many factors	
Grid-connected photovoltaic systems (external environmental conditions)	Power generation industry. Combining grid planning with power plant planning and formulating relevant technical standards are more conducive to the promotion and implementation of the photovoltaic power generation industry	

Criteria A	9 Extreme	8	7 Very Strong	6	5 Strong	4	3 Moderate	2	1 Equally	2	3 Moderate	4	5 Strong	6	7 Very Strong	8	9 Extreme	Criteria B
Reasonable and effective development plans for photovoltaic power generation enterprises (a	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interest rate risk
Reasonable and effective development plans for photovoltaic power generation enterprises (a	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	Grid-connected photovoltaic systems (external environmental conditions)
Interest rate risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Grid-connected photovoltaic systems (external environmental conditions)

5. Evaluation of related and support industries

Category	Brief Explanation	Comment Section
Photovoltaic equipment manufacturing	It refers to the manufacturing industry provided by the photovoltaic industry and related electronic industries that benefit from the photovoltaic industry. These related and supporting industries will have an impact on the photovoltaic industry	
Photovoltaic power station	Micro-grids, grid energy storage, and smart grids must be developed to ensure the safety, stability, and reliability of photovoltaic power stations	
Tax incentives	The renewable energy industry policy adopted by the Chinese government, the tax incentives for photovoltaic power generation projects include tax exemption or tax reduction. Renewable energy-related enterprises enjoy tax incentives in terms of equipment depreciation	

[illegible]

6. Evaluation of government

Category	Brief Explanation	Comment Section
Policies issued by local governments	The photovoltaic power generation industry also relies on local government policies that affect demand prospects, local government policies have a clear banner color and accelerate the commercialization of the photovoltaic power generation industry to a certain extent, such as bidding policies and the renewable energy portfolio standard	
Tax reduction and exemption	The three major taxes affecting China's photovoltaic industry are value-added tax, customs duty, and corporate income tax. Value-added tax and customs duties are exempted within the prescribed scope, and corporate income tax rates vary according to region	
Financial subsidy intensity	The financial department arranges subsidies for special funds for renewable energy, including subsidies for grid power generation projects, subsidies for independent power generation projects, subsidies for photovoltaic technology industrialization demonstration projects, and	

	subsidies for photovoltaic power generation infrastructure construction	
China's central government photovoltaic power generation target	The photovoltaic power generation target established by the Chinese government, which can formulate long-term or short-term plans for the needs and feasibility of different regions in China to provide government commitment indicators for consumers and producers in the photovoltaic power generation industry.	
Feed-in tariff	It is a policy that can provide a fixed long-term price guarantee for local photovoltaic power generation companies	

[illegible]

7. Evaluation of chance

Category	Brief Explanation	Comment Section
Opportunities brough by the 531 Photovoltaic New Deal	It brings new opportunities to the photovoltaic power generation industry, the photovoltaic power generation industry can be market oriented, and the degree of dependence on government policies is reduced. It also brings heavy losses to some enterprises.	
Prospects of the photovoltaic industry	Photovoltaic power generation shows promise in reducing environmental pressure, which is mainly reflected in the environmental capacity of the region and the environmental and social impacts related to the production and consumption of photovoltaic power generation	

Criteria A	9 Extreme	8	7 Very Strong	6	5 Strong	4	3 Moderate	2	1 Equally	2	3 Moderate	4	5 Strong	6	7 Very Strong	8	9 Extreme	Criteria B
Opportunities brought by the 531 Photovoltaic New Deal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Prospects of the photovoltaic industry

Comments/Remarks:

If there are any other factors that you think are important to when conduction solar photovoltaic industry in China, please write in this section.

(*Click below to write comments)

Would you like to receive the final results of this study?

Yes: ☐

No: ☐

And finally, thank you very much for your participation.