



**Asia-Pacific
Economic Cooperation**

2017/EWG54/007

Agenda Item: 5a

Notable Energy Developments - China

Purpose: Information

Submitted by: China



**54th Energy Working Group Meeting
Wellington, New Zealand
22-23 November 2017**



**Asia-Pacific
Economic Cooperation**

Notable Energy Developments since EWG53

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APEC EWG 54

November 22-23, 2017

Wellington, New Zealand

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Energy Cooperation



**Asia-Pacific
Economic Cooperation**

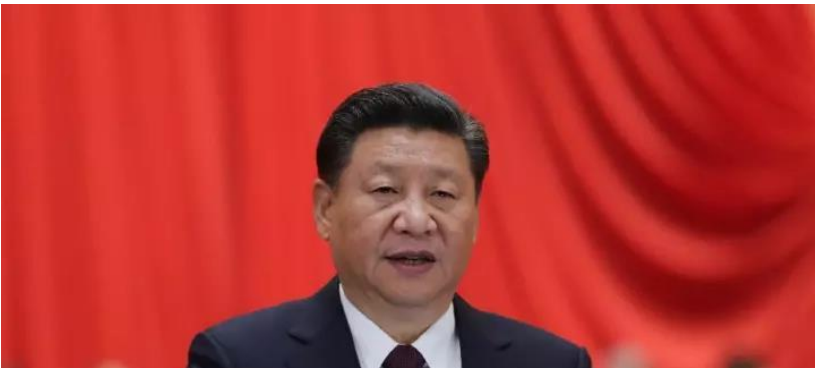
01

Energy Situation for China in 2017



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Report Delivered at 19th CPC National Congress

- ✓ *We must continue the Beautiful China initiative to create good working and living environments for our people.*
 - ✓ *We will promote a revolution in energy production and consumption, and build an energy sector that is clean, low-carbon, safe, and efficient.*
- 
- ✓ *We will step up efforts to establish a legal and policy framework that promotes green production and consumption, and promote a sound economic structure that facilitates green, low-carbon, and circular development. We will create a market-based system for green technology innovation, develop green finance, and spur the development of energy-saving and environmental protection industries as well as clean production and clean energy industries.*

——President Xi Jinping



Notable Energy Development Features

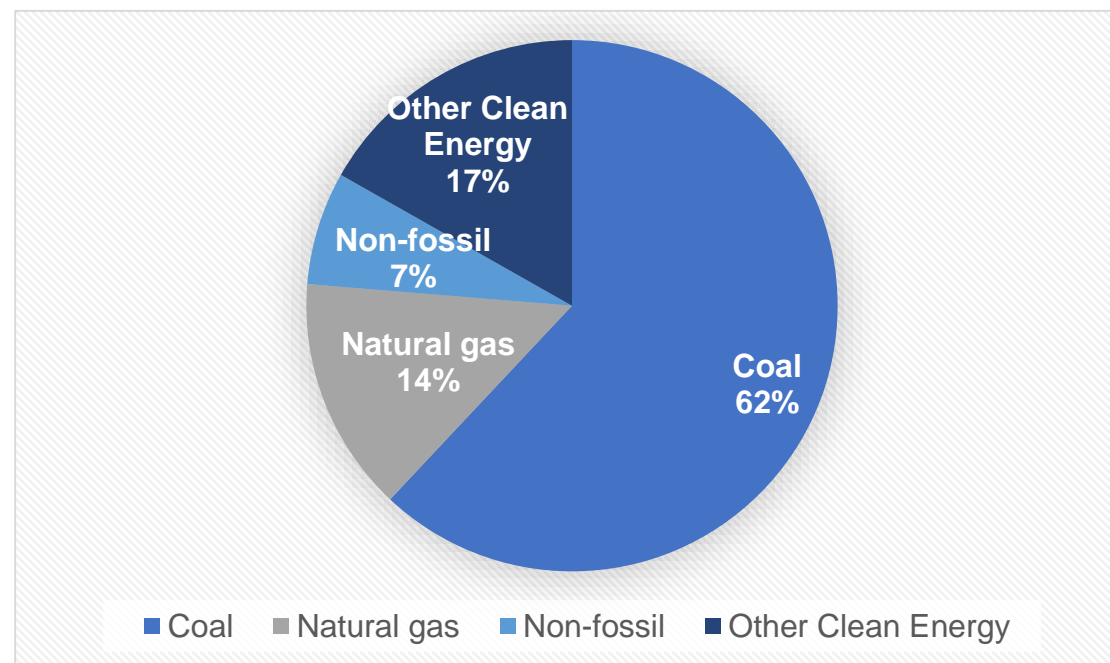
I. Energy consumption recovers

Energy source	Total consumption in Q1-Q3	Growth rate	Industry	Total profit in Q1-Q3 (billion RMB)	Profit comparison with last year
Coal	2.81 billion tons	-	Coal mining	226.2	↑
Petroleum	440 million tons	3.9%	Oil and gas mining	32.8	↓
Natural gas	171 billion m ³	15.7%			
Electricity	4690 billion kWh	6.9%	Electric power and Heat production and Supply	259.3	↓



Notable Energy Development Features

II. Energy structure optimization continues



Structure of Energy Consumption

Coal consumption remains the largest share but decreased to 62%;
The proportion of clean energy consumption continues to increase.



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Notable Energy Development Features

III. The quality of energy supply improves

- **Promote the supply-side structural reform**
 1. Over-fulfilling the annual target of cut overcapacity of coal ;
 2. Achieving the phased objectives of preventing overcapacity of coal;
 3. Accelerating the upgrading of refined oil quality.
 4. Decreasing the curtailment of wind and solar power.

- **China plans to roll out the use of bioethanol in gasoline nationally by 2020**
 - a five-year plan
 - aiming to increase ethanol production to four million tons
 - to cut emissions and fossil fuel consumption
 - E10, containing 10 percent of bioethanol



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Notable Energy Development Features

IV. Energy innovation speeds up



China self-developed third-generation nuclear power station “Hualong One”



China first successfully mines flammable ice from the South Sea

首批多能互补集成优化示范工程项目名单

类别	序号	工程名称	建设地
能源	1	北京丽泽金融商务区多能互补集成优化示范工程	北京市丽泽金融商务区
	2	张家口“奥运风光城”多能互补集成优化示范工程	河北省张家口市涿源县
	3	廊坊经济开发区多能互补集成优化示范工程	河北省廊坊市经济开发区
	4	廊坊中信国安第一城多能互补集成优化示范工程	河北省廊坊市香河县
	5	大同经济开发区多能互补集成优化示范工程	山西省大同经济技术开发区
	6	通辽扎哈调多能互补集成优化示范工程	内蒙古自治区通辽市扎鲁特旗扎哈调工业园区
	7	苏州工业园区多能互补集成优化示范工程	江苏省苏州市工业园区
	8	南部新城经济新区多能互补集成优化示范工程	江苏省南部新城经济新区
	9	合肥空港经济示范区多能互补集成优化示范工程	安徽省合肥市空港经济示范区
	10	青岛中德生态园多能互补集成优化示范工程	山东省青岛市经济开发区
		武汉光谷科技城多能互补集成优化示范工程	湖北省武汉市东湖高新区光谷科技城

1st Batch of Multi-energy Complementary and Integrated Optimization Projects (23)

首批“互联网+”智慧能源（能源互联网）示范项目入选名单

序号	项目名称	申请单位
1	北京延庆能源互联网综合示范区	中关村科技园延庆园管理委员会
2	能源互联网试点示范园区	苏州工业园区管理委员会
3	厦门火炬开发区“一区多园”“互联网+”智慧能源+智能制造产业融合试点示范	厦门国家火炬高技术产业开发管理委员会
4	京能海淀北部新区能源互联网示范工程	京能首都能源互联网项目管理有限公司（北京能源集团有限责任公司）
5	崇明能源互联网综合示范项目	崇明发改委等
6	浙江嘉兴城市能源互联网综合试点示范项目	国网浙江省电力公司等
7	天府新区能源互联网示范项目	四川省电力公司等

1st Batch of 'Internet plus's Smart Energy Projects (55)

附件：新能源微电网示范项目名单

序号	项目名称	建设单位	建设内容	装机容量	并网时间
1	北京延庆能源互联网综合示范区	中关村科技园延庆园管理委员会	延庆能源互联网综合示范区	100MW	2017年
2	苏州工业园区能源互联网试点示范园区	苏州工业园区管理委员会	苏州工业园区能源互联网试点示范园区	100MW	2017年
3	厦门火炬开发区“一区多园”“互联网+”智慧能源+智能制造产业融合试点示范	厦门国家火炬高技术产业开发管理委员会	厦门火炬开发区“一区多园”“互联网+”智慧能源+智能制造产业融合试点示范	100MW	2017年
4	京能海淀北部新区能源互联网示范工程	京能首都能源互联网项目管理有限公司	京能海淀北部新区能源互联网示范工程	100MW	2017年
5	崇明能源互联网综合示范项目	崇明发改委等	崇明能源互联网综合示范项目	100MW	2017年
6	浙江嘉兴城市能源互联网综合试点示范项目	国网浙江省电力公司等	浙江嘉兴城市能源互联网综合试点示范项目	100MW	2017年
7	天府新区能源互联网示范项目	四川省电力公司等	天府新区能源互联网示范项目	100MW	2017年

1st Batch of New Energy Microgrid Projects (28)

The image shows a collage of Chinese government websites and a document. At the top left is the National Energy Administration (国家能源局) website. To its right is the National Development and Reform Commission (国家发展和改革委员会) website. Below these is the State Council (国务院) website. On the right side, there is a document titled "国家能源局文件" (National Energy Administration Document) and "国务院扶贫开发领导小组办公室文件" (State Administration for the Administration of Poverty Alleviation and Development Document). The document is titled "国家发展改革委 财政部 国家能源局关于试行可再生能源绿色电力证书核发及自愿认购交易制度的通知" (Notice on Issuance and Self-Declaration of Renewable Energy Green Electricity Certificate Issuance and Trading System). The document number is 发改能源〔2017〕132号. The notice is dated 2017-02-06. The document content includes the following points:

- 一、建立可再生能源绿色电力证书自愿认购体系。可再生能源绿色电力证书自愿认购体系是指国家可再生能源技术发展和新能源开发利用水平提高，可再生能源发电利用和消纳能力持续提升，对促进社会公共、推动能源转型升级具有重要意义。鼓励自愿认购机制，企业事业单位、社会团体和个人可在国家绿色电力证书核发和认购平台上自愿认购绿色电力证书，作为绿色电力证书证明。
- 二、试行可再生能源绿色电力证书核发工作。绿色电力证书是国家对发电企业每千瓦时可再生能源上网电量所给予的补贴凭证，是可再生能源发电量和消纳情况的证明，也是可再生能源发电企业参与绿色电力证书交易、从市场获取补贴的依据。绿色电力证书由国家能源局核发，由发电企业向国家能源局申请，由国家能源局核发。绿色电力证书由国家能源局核发，由发电企业向国家能源局申请，由国家能源局核发。绿色电力证书由国家能源局核发，由发电企业向国家能源局申请，由国家能源局核发。
- 三、完善绿色电力证书的自愿认购机制。绿色电力证书自2017年7月1日起正式开展认购工作，认购前核发不基于证书持有人的可再生能源自愿认购机制。绿色电力证书由发电企业自行认购或委托其他机构认购。

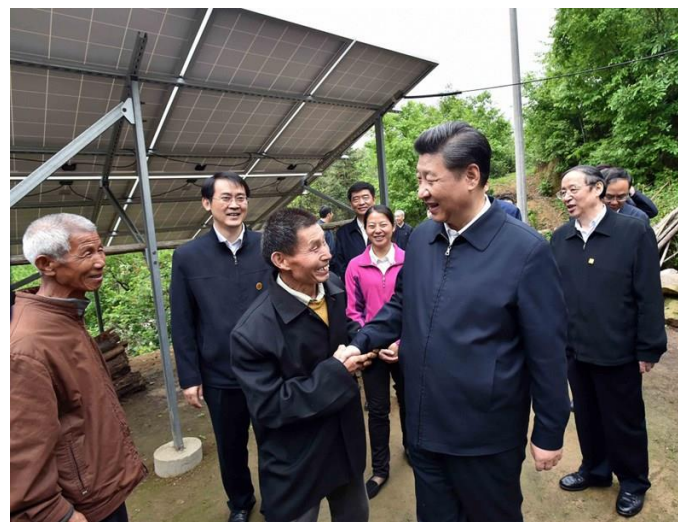


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Notable Energy Development Features

V. Energy sharing development and expansion accelerates

1. Promoting clean heating in northern China;
2. Enhancing the compatibility between power grid and urban development;
3. Significantly improving the level of rural energy utilization;
4. Speeding up the pace of utilization of alternative energy.



President Xi Jinping go to Anhui to understand the construction operation of Photovoltaic power generation poverty alleviation station



Four departments (the Ministry of Finance, Housing, Urban and Rural Construction, the Ministry of Environmental Protection, the National Energy Board) to promote the northern winter clean heating pilot 12 city prize 21.9 billion yuan (Sep. 2017)



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02

Network of Chinese Participation in APEC Energy Cooperation



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Chinese Cooperation under the APEC Framework

The number of APEC funded projects for China is increasing, and the total number is in the second place.

China has actively participated in the Energy Working Group in the past 10 years.

In the future, China has to strengthen cooperation with other economies.

Establish the Network of Chinese Participation in APEC Energy Cooperation

Network of Chinese Participation in APEC Energy Cooperation

Objectives

1. Further standardize the Chinese Participation in APEC Energy Cooperation;
2. Promote Chinese cooperation in APEC Energy Working Group and enhance the impact of working achievements.

Significance

1. Establish a standardized communication and management mechanism by integrating the advantageous resources in the field of energy in China;
2. Under the APEC mechanism, to guide Chinese units to actively participate in the project declaration and implementation; coordinate the management of Chinese participation in all kinds of meetings and various activities;
3. Provide technical and intellectual support for the NEA's work in the APEC Energy Working Group and contribute to the APEC Energy Ministers' Meeting and Leaders' Meeting.

国家能源局综合司文件

国能综通国际（2017）81号

国家能源局综合司关于公布中国参与 APEC能源合作伙伴网络成员单位的通知

各有关单位：

今年7月17日我局下发《国家能源局综合司关于建立中国参与APEC能源合作伙伴网络的通知》（国能综通国际（2017）59号）后，国内相关领域技术机构、大中型企业等单位积极申请加入。我局对申请单位进行了审核，现筛选出符合要求的35家单位作为APEC能源合作伙伴网络成员单位。同时，我局从技术实力、国际合作经验、APEC工作熟悉程度等多个方面进行了综合评价，择优选出6家单位作为APEC能源工作组下设专家组及任务组国内对口单位。

请各成员单位和国内对口单位按照要求创造良好工作条件，制订详细工作计划，为我国开展APEC能源工作组相关工作提供技术和智力支撑，并积极为APEC能源部长会议和领导人峰会提供工作建议。

附件：中国参与APEC能源合作伙伴网络成员单位名单



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Symposium on Chinese Participation in APEC Energy Cooperation

The Symposium was held on September 21, 2017 in Tianjin to let the members understand the APEC and EWG working group as well as the establishment background and working mechanism. MS. Wei Xiaowei, Director of Division, Department of International Cooperation, National Energy Administration and representatives from the network attend this symposium.



**Symposium on Chinese Participation
in APEC Energy Cooperation**

2017.9.21 Tianjin · China



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First Batch Members' Name list

Including 6 Counterparts and 30 Members

NO.	Organization	NO.	Organization	NO.	Organization
1	Energy Research Institute National Development and Reform Commission	13	Yunkai Electric Company	25	China Electric Power Research Institute (CEPRI) Renewable Energy Research Center
2	Electric Power Planning & Engineering Institute	14	Guojin Dingneng (Beijing) Electric Power Technology Co. Ltd.	26	SUS Environment Co., Ltd.
3	China National Institute of Standardization	15	HY Power Technology Co., Ltd.	27	National Institute for Occupational Safety (China Coal Information Institute)
4	PetroChina Planning and Engineering Institute	16	Beijing Shanghe Touzi Touziyouxiangongsi	28	ZoneCharge Co., Ltd.
5	Tianjin University	17	Beijing Maisidafu Technologies Co., Ltd.	29	China Academy of Building Research
6	Tianjin University (APEC Sustainable Energy Center)	18	China Everbright International Limited	30	State Grid Energy Research Institute
7	China Renewable Energy Engineering Institute	19	CECEP Consulting Co., Ltd.	31	Dalian University of Technology
8	China State Construction Engr. Corp. Technical Center	20	Tellhow Sci-Tech Co., Ltd	32	Qingdao University of Science and Technology Shale oil and gas Research Institution
9	Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences	21	Dynavolt Renewable Energy Technology Co., Ltd.	33	Hangzhou Normal University
10	International Center on Small Hydro Power (ICSHP)	22	China Coal Processing & Utilization Association	34	Tianjin Innovative Finance Low Carbon Institute
11	China New Energy Chamber of Commerce	23	Rita Power Co., Ltd.	35	CECEP Green Carbon (Beijing) Investment and Development Co., Ltd.
12	Hanergy Holding Group	24	China Electric Power Research Institute (CEPRI) Power Distribution Department	36	Dalian Xi Aote Solar Energy Technology Co., Ltd.



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Chinese Counterparts

EGs/TFs	Counterparts
EGEDA	Energy Research Institute National Development and Reform Commission
EGNRET	Electric Power Planning & Engineering Institute
EGEE&C	China National Institute of Standardization
EGCFE (Oil & Gas)	PetroChina Planning and Engineering Institute
EGCFE (Coal)	Tianjin University
LCMT-TF	
ER-TF	China Renewable Energy Engineering Institute



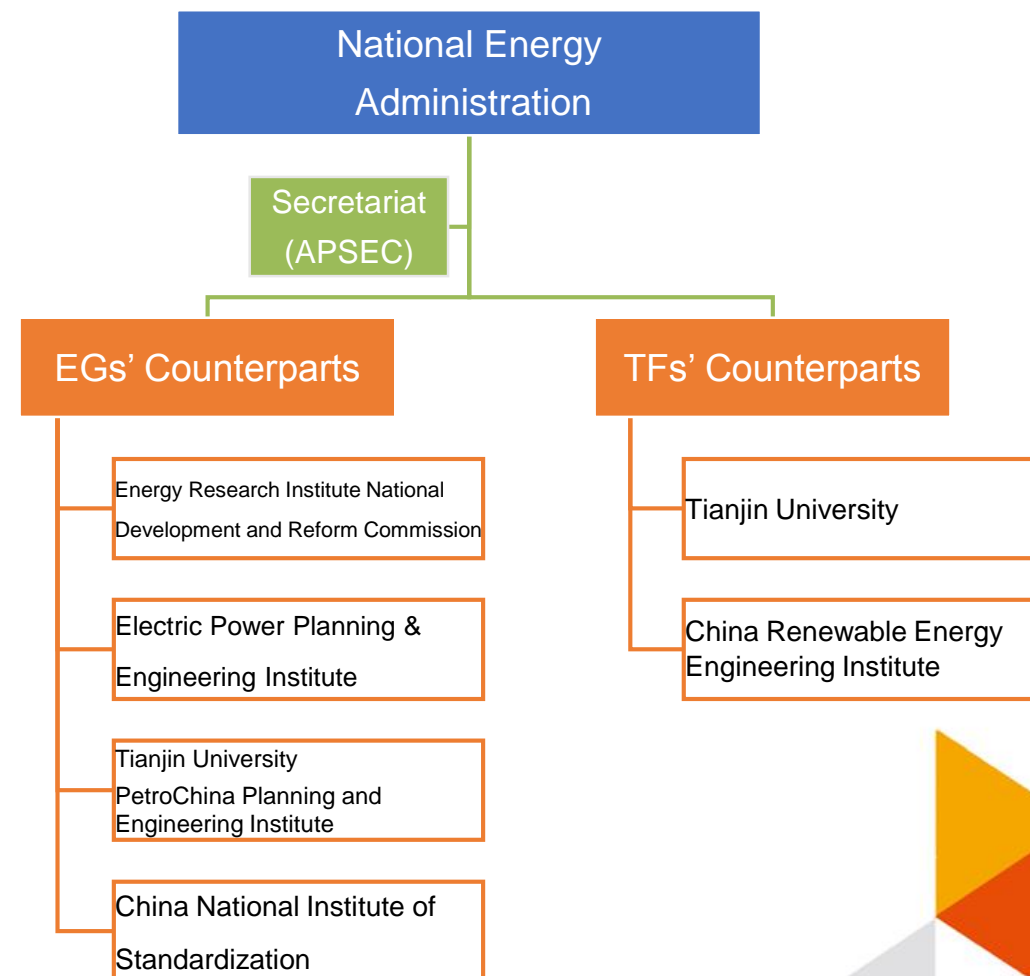
电力规划设计总院
Electric Power Planning & Engineering Institute





Responsibilities for Counterparts

- Put forward suggestion to National Energy Administration on participating in APEC energy related activities;
- Conduct technical review on proposals for APEC funded projects to be applied in the field of energy;
- Conduct technical evaluation on the best practice cases to be proposed in the field of energy;
- Participate in APEC Energy Working Group and associated meetings;
- Complete other work assigned by International Department of National Energy Administration.





Work Progress

Since the network established, China is concentrating on promoting the Chinese cooperation in APEC Energy Working Group.

- Compile the *Regulation of Chinese Participation in APEC Energy Cooperation (Trial Implementation)*;
- Learn the newly processed information from APEC and EWG to strengthen the cooperation
- Build the communication platform;
- Organize Chinese Counterparts to apply for the Session 1 2018 APEC Funded projects.

Appendix A

APEC Concept Note
Please submit through APEC Secretariat Program Director. Concept Notes of more than 3 pages (including title page) or incomplete submissions will not be considered.

Project Title:	Policy and technology development for renewable energy in Asia-Pacific region
Fund Source (Select one):	<input type="checkbox"/> General Project Account (GPA) <input type="checkbox"/> Trade and Investment Liberalization and Facilitation Special Account (TILF) <input type="checkbox"/> APEC Support Fund (ASF) – General Fund <input checked="" type="checkbox"/> APEC Support Fund (ASF) – Sub-Fund: <u>Energy Efficiency</u>
APEC forum:	Policy and technology development for renewable energy in Asia-Pacific region
Proposing APEC economy:	China
Co-sponsoring economies:	None
Expected start date:	19.Oct.2018
Expected completion date:	19.Oct.2018
Project summary:	The project policy and technology development for renewable energy in Asia-Pacific region will focus on the renewable energy development, relevant policy that could guarantee the rapid growth of renewable energy such as wind and solar PV, and will also concerns about the technology aspect. A one day workshop will be held in mid-October 2018, in Beijing. Experts from government departments, enterprises including power grid companies, power generation companies, manufacturing companies and utility supply companies, universities, research institutes will be invited, 10 to 12 experts are planned to be invited to give presentations.
Describe the project in under 150 words. Your summary should include the project topic, planned activities, timing and location:	
<small>(Summary must be no longer than the box provided. Cover sheet must fit on one page)</small>	
Total cost of proposal: (APEC funding + self-funding): USD 150,000	Total amount being sought from APEC (USD): 100,000 By category: Travel: 20,000 Labor costs: 20,000 Hosting: 40,000 Publication & distribution: 10,000 Other: 10,000 <small>(See Guidebook on APEC Projects, Ch. 9 to ensure all proposed costs are allowable)</small>

Working Report Monthly

(October 2017, Issue 6)

APEC Sustainable Energy Center October 31, 2017

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Thank you for your attention!