

SINO-RUSSIAN OIL AND GAS COOPERATION

The Reality and Implications

KEUN-WOOK PAIK



THE OXFORD
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To the memory of my late father Jee-Kwon Paik

LIST OF TABLES

1.1	Comparison of China and Russia, 2010	3
1.2	Sino-Soviet/Russian Oil and Gas Cooperation, 1989–99	10
2.1	Russia's Oil and Gas Exports	21
2.2	Consolidated Budget Revenue from the Oil and Gas Sector	22
2.3	Russia's Oil Production by Regions, 2008	29
2.4	Oil Production in Siberia and Far East up to 2030	30
2.5	Oil Exports to Pacific Market: 2010–2030	31
2.6	Structure of Charges to the Federal Budget for Exploration in East Siberia, 2007–2020	34
2.7	Investment in Exploration, 2005–2020	35
2.8	East Siberia's Oil and Gas Production by Company, 2008	37
2.9	Economic Indicators of the Vankor Project using the Northern and Southern Routes	55
2.10	Vankorneft's Operating Highlights	58
2.11	Main Producing Fields for ESPO	62
2.12	Needed Resource Base in the ESPO Area	70
A.2.1	Russian Oil Industry Indicators	72
A.2.2	Russia's Crude Oil and Condensate Production by Company	73
A.2.3	Russia's Oil and Gas Sector Capital Spending	73
A.2.4	Oil Production in Siberia and Far East up to 2030	74
A.2.5	Subsoil Users in East Siberia and the Republic of Sakha	74
3.1	Russia's Gas Production by Regions, 2008	77
3.2	Natural Gas Production in Siberia and the Far East up to 2030	78
3.3	Natural Gas Exports to the Pacific Market, 2010–2030	79
3.4	The Vostok-50 Scenario	88
3.5	Strategic Gas Balance Indicators to 2030	92
3.6	Gas Production Forecast by Russian Region	93
3.7	Russia's Gas Balance until 2030	94
3.8	Gas Production in Siberia and the Far East up to 2030	94
3.9	Natural Gas Composition of the East Siberian and Yakutia Gas Fields	107
A.3.1	Russian Gas Industry Indicators	138

A.3.2	Russia's Gas and Condensate Production by Company	138
A.3.3	East Siberia's Gas Production by Company, 2008	139
A.3.4	Gas Production in Siberia and the Far East up to 2030	139
A.3.5	Fields in the Sakha Republic, 2010	140
4.1	Primary Energy Production and Consumption in China	143
4.2	Chinese NOCs, 2010	154
4.3	China's Crude Oil Production	157
4.4	China's Oil Reserves Evaluation Results	158
4.5	Forecast of Oil Reserves by Area	159
4.6	Projected Oil Production of China's north-eastern Oilfields, 2005–2015	161
4.7	Oil Fields in the Tarim Basin	163
4.8	China's Crude Oil Imports by Region, 1998–2010	168
4.9	China's Crude Oil Imports from Russia and Kazakhstan, 2001–10	168
4.10	China's Crude Oil and Oil Product Pipelines, 2007–2010	173
4.11	CNPC and PetroChina's Companies Involved in Pipeline Business	174
4.12	SINOPEC's Oil Products Pipelines	175
4.13	China's Refining Bases with Capacity Exceeding 10 mt/y	179
4.14	First and Second Phase of SPR in China	181
5.1	China's Gas Reserves Evaluation Results	190
5.2	China's Natural Gas Resources according to the Third Survey, 2003	191
5.3	Natural Gas Resources by Basin	192
5.4	Natural Gas Production	193
5.5	Natural Gas Production Projections	194
5.6	Gas Demand Projections	200
5.7	Natural Gas Consumption by Region	203
5.8	Natural Gas Consumption Mix by Region in 2030	203
5.9	China's Natural Gas Consumption Mix, 1995–2030	204
5.10	Benchmark Price of Grade I Natural Gas, 1 January 2006	208
5.11	Ex-Plant Prices by Gas Field and by Sector, 2008	210
5.12	Ordos–Beijing Pipeline Gas, 2008	211
5.13	WEP I Gas, 2008	211
5.14	Natural Gas Price in Major Chinese Cities, 2008	212
5.15	Producer and Gate Prices of the Sichuan-to-East Pipeline (SEP), as of 2009	215
5.16	Producer and Gate Prices of the WEP I Pipeline	216

5.17	Residential towngas price for the major cities, May 2009	216
5.18	Estimated Imported Gas Price	217
5.19	Gas Price Estimation in Shanghai, 2009	217
5.20	Gas Price Estimation in Guangdong, 2009	218
5.21	Pipeline Transmission Tariffs	219
5.22	China's Ex-factory Benchmark Price by Major Gas Fields: 2007 and 2010	221
5.23	Gate Prices by Source to Shanghai	222
5.24	Natural Gas Sales Volume by End Use in 2010	226
5.25	Kunlun Gas Acquisitions in 2009	230
5.26	PetroChina's Gas Pipelines in Operation between 2001 and 2009	232
5.27	SDPC Working Group for the West-East Pipeline Project	234
5.28	China's LNG Import Projects	255
5.29	Existing Long-term LNG Sales and Purchase Agreements	256
5.30	Comparison between the deals by CNPC and CEP	259
A.5.1	Gas fields in the Tarim Basin	264
A.5.2	China's Domestic LNG Facilities	276
6.1	Major Chinese Cross-border Oil and Gas Acquisitions, 2006-2010	283
6.2	Value of Chinese Overseas Petroleum Investment, 1992-2009	285
6.3	Conventional Oil and Natural Gas Resources in the Caspian by Country, end-2000	298
6.4	Turkmenistan's Gas Production and Export	299
7.1	China's North-Eastern Pipelines	320
7.2	China's North-Eastern Refineries	321
7.3	Russia's Contribution to FSU Crude Exports	337
7.4	ESPO Specs Comparison	342
7.5	Transneft's Tariffs, 1998-2010	345
7.6	The Mis-match of Chinese and Russian Approaches: the Story of the 2000s	381
A.7.1	Review of Gazprom's Asian Policy	383
A.7.2	Sino-Russian vs Sino-Central Asian Republics' Oil and Gas Cooperation	389
8.1	Sino-Russian Oil Trading Projection, 2020 and 2030	399
8.2	Sino-Russian Gas Trading Projection, 2020 and 2030	399
8.3	The Characteristics of China's Central Asian Model vs the Russian Model	402

LIST OF MAPS AND FIGURES

Maps

2.1	East Siberia and Russia's Far East	40
2.2	Vankor Field and ESPO	57
2.3	Sakhalin Offshore blocks	65
3.1	Eastern Gas Programme	89
3.2	Gas and Oil Fields in the Sakha Republic	135
5.1	WEP Corridor	239
A.5.1	China's Gas Distribution by Basin	265
A.5.2	China's Gas Pipeline Network Development: 2000, 2010 and 2020	278
A.5.3	China's Gas Supply Sources: Envisaged during the Second half of the 1990s	279
6.1	Kazakh Oil Pipeline to China	295
6.2	Central Asia–China Gas Pipeline	307
7.1	Altai Gas to China	359

Figures

A.4.1	The Evolution of the Regulatory and Industrial Framework (1976–1993)	184
A.4.2	The Regulatory and Industrial Framework (1978–1993)	185
A.4.3,	The New Regulatory Framework and Industrial Structure	186
A.4.4	The Regulatory Framework (1998–2003)	187
A.4.5	The Regulatory Framework (2007)	188

ACRONYMS AND UNITS OF MEASURE

API	American Petroleum Institute
APR	Asia–Pacific Region
ASOC	Anglo-Siberian Oil Company
bbl	standard barrel of crude oil (159 litres)
bcf	billion cubic feet
bcm	billion Cubic Metres
bn	billion
boe	Barrel of Oil Equivalent
bt	billion tonnes
btoe	billion tonnes of oil equivalent
btsce	billion Tons of standard coal equivalent
CAGR	Compound annual growth rate
CBM	Coalbed Methane
CDB	China Development Bank
CEC	China Electricity Council
CEP	Chubu Electric Power
CGA	China Gas Association
China Gas	China Gas Holdings Ltd
CHPP	Combined Heat and Power Plant
CIC	China Investment Corporation
CIECC	China International Engineering Consulting Corporation
CIF	Cost, Insurance and Freight
CITIC	China International Trust and Investment Corporation
CNG	Compressed Natural Gas
CNPC	China National Petroleum Corporation
CNPC E&D	CNPC Exploration and Development Company Limited
CNPCI	CNPC International Limited
CNODC	China National Oil and Gas Exploration and Development Corporation
CNOOC	China National Offshore Oil Corporation
CNUOC	China National United Oil Corporation
COSL	China Oilfield Services Limited
CPCIA	China Petroleum and Chemical Industry Association

CPIC	China Petroleum International (Exploration & Development) Company
CPPE	PetroChina Petroleum Pipeline Company
CPPEI	China Petroleum Planning and Engineering Institute
CPPLB	Petroleum Pipeline Bureau, CNPC
CR Gas	China Resources Gas Group Limited
CREPC	Chinese-Russian Eastern Petrochemical Company
CUCBM	China United Coalbed Methane Corporation
DME	Dimethyl Ether
DOI	Declaration Of Intentions
DRC	Development Research Centre, the State Council
EAGC	East Asia Gas Company
EBRD	European Bank for Reconstruction and Development
EGP	Eastern Gas Programme
ELG	Energy Leading Group
ENL	Exxon Neftegaz Limited
EPC	Engineering, Procurement and Construction
ERI	Energy Research Institute, NDRC
EOR	Enhanced Oil Recovery
ESOGC	East Siberian Oil and Gas Company
ESGC or VSGK	East Siberian Gas Company
ESPO oil pipeline	East Siberia Pacific–Ocean oil pipeline
FES	Commission on the Fuel and Energy Sector
FOB	Free on Board
FS	Feasibility study
FSO	Floating Storage and Offloading
FSU	Former Soviet Union
FTS	Federal Tariff Services
FYP	Five Year Plan
GAIL	Gas Authority of India Limited
GDP	Gross Domestic Product
GIIC	Guanghui Industrial Investment Corporation
GIV	Gazprom Invest Vostok
GW	Gigawatt
HOA	Heads of Agreements
IEA	International Energy Agency
IGNG	Institute of Oil and Gas Geology, Siberian Division, Russian Academy of Sciences
IMF	International Monetary Fund

IOC	Irkutsk Oil Company
IOCs	International Oil Companies
IRR	Internal Rate of Return
Japex	Japan Petroleum Exploration
kWh	kilowatt-hour
JBIC	Japan Bank for International Cooperation
JOGMEC	Japan Oil, Gas and Metals National Corporation
JPDO	Japan Pipeline Development Organization
JSPC	Japan Sakhalin Pipeline Company
LNG	Liquefied Natural Gas
LSAW	Longitudinal Submerged Arc-Welded
LIBOR	London Interbank Offered Rate
m ³	cubic metre
mb/d	Million Barrels Per Day
Mcf	Thousand cubic feet
mcm	million cubic metres
MEDT	Ministry of Economic Development and Trade
METI	Ministry of Economy, Industry and Energy
MFE	Ministry of Fuel and Energy
MIE or Minpromenergo	Ministry of Industry and Energy
MIIT	Ministry of Industry and Information Technology
MLNR	Ministry of Land & Natural Resources, China
mmbtu	Million metric British Thermal Units
MMCF	Million cubic feet
mn	million
MNR	Ministry of Natural Resources, Russia
MOF	Ministry of Finance
MPa	MegaPascal
mt	Million Tonnes
mtce	million tonnes of coal equivalent
mtsce	Million Tonnes Standard Coal Equivalent
mtoc	Million Tonnes of Oil Equivalent
mtpa	million tonnes per annum
NAGPF	Northeast Asian Gas & Pipeline Forum
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NEB	National Energy Bureau
NEC	National Energy Commission
NIGEC	National Iranian Gas Exports Company
NIOC	National Iranian Oil Company
NPRC	National Petroleum Reserve Centre

NPT	Nadym–Pur–Taz
OIES	Oxford Institute of Energy Studies
ONGC	India’s Oil & Natural Gas Corporation
OPEC	Organization of Petroleum Exporting Countries
PetroChina	PetroChina Company Limited
PJ	petajoule
PKI	PetroKazakhstan Inc.
PM	Prime Minister
PPP	Purchasing Power Parity
PRC	People’s Republic of China
PSA	Production Sharing Agreement
RCA	Russian and Central Asia
RES	Russia’s East Siberia
ROA UES	Russian Unified Energy System Correct
Rosnedra	Federal Agency for Subsoil Use
Rosprirodnadzor (RPN)	Federal Natural Resources Management Service
Rostekhnadzor	Federal Service for Environmental, Technological and Nuclear Supervision
RZD	Russian Railways Co
SETC	State Economic and Trade Commission
SAFE	State Administration of Foreign Exchange
SALM	Single Anchor Leg Mooring
SASAC	State Assets Supervision and Administration Commission
SDPC	State Development Planning Commission
SEIC	Sakhalin Energy Investment Company
SEO	State Energy Office
SEP	Sichuan-to-East pipeline
SKV gas pipeline	Sakhalin–Khabarovsk–Vladivostok gas pipeline
SIDANCO	Siberian Far East Petroleum Company Limited
SINOPEC	China Petroleum and Chemical Corporation
SLOC	Sea Lanes of Communication
SMNG	Sakhalinmorneftegaz
SNIIGGIMS	Siberian Research Institute of Geology, Geophysics and Minerals
SNG	Synthetic Natural Gas
SOC	Sakhalin Oil Company
SODECO	Sakhalin Oil and Gas Development Co Limited
SOMO	State Oil Marketing Organization, Iraq
SPR	Strategic Petroleum Reserves

SSAW	Spiral Submerged Arc-Welded
STN	Sakhatransneftegaz
SUEK	Siberian Coal and Energy Company
tcf	Trillion cubic feet
tcm	Trillion Cubic Metres
Towngas	Hong Kong and China Gas Co Limited
TNK	Tyumen Oil Company
toe	Tonnes of Oil Equivalent
Trans-Asia Gas	Trans-Asia Gas Pipeline Company Limited
UES	Unified Electricity System
UGSS	Unified Gas Supply System
UNIPEC	China International United Petroleum & Chemicals Co Limited
UNDP GTI	United Nations Development Programme Greater Tumen Initiative
UOG	United Oil Group Limited
VAT	Value Added Tax
VCNG	Verkhnechonskneftegaz
VE	Vostok Energy
VIOCs	Vertically Integrated Oil Companies
VLCC	Very Large Crude Carriers
VNIGRI	All-Russian Petroleum Research Exploration Institute
Xinao Gas	Xinao Gas Holdings Limited
WEP	West–East Gas Pipeline
YNAD/YNAR	Yamal-Nenets Autonomous District or Region
YPCL	Shaanxi Yanchang Petroleum (Group) Co Limited
YTZ	Yurubcheno-Tokhomszkaya Zone
ZPGC	Zhuhai Pipeline Gas Company

ENDNOTES

The endnotes following each chapter contain additional details and references. References with named authors are abbreviated to Author's name, date of publication, and, where appropriate, page number(s). In references to books, chapters of books, and journals the date given is the year; for other periodicals it is the day, month, and year. The full versions of these references are shown in the Bibliography. References to articles without a named author are also found in the endnotes but do not appear in the Bibliography. These authorless references come mostly from the publications listed below. References which are purely web addresses, without more details, also appear in the endnotes. Multiple references in a single endnote are separated by semi-colons.

References from newspapers and bulletins without named authors come largely from the following publications:

<i>AFP</i>	<i>Agence France Presse</i>
<i>AP</i>	<i>The Associated Press</i>
<i>AT</i>	<i>Asia Times</i>
<i>CD</i>	<i>China Daily</i>
<i>CER</i>	<i>China Energy Report, Dow Jones</i>
<i>China ERW</i>	<i>China Energy Report Weekly, Interfax (until 2 June 2010)</i>
<i>China EW</i>	<i>China Energy Weekly, Interfax (from 3 June 2010)</i>
<i>China OGP</i>	<i>China Oil, Gas & Petrochemicals</i>
<i>CSJ</i>	<i>China Securities Journal, Xinhua News Agency</i>
<i>EDM</i>	<i>Eurasia Daily Monitor</i>
<i>FT</i>	<i>Financial Times</i>
<i>IGR</i>	<i>International Gas Report, Platts</i>
<i>MT</i>	<i>Moscow Times</i>
<i>NYT</i>	<i>The New York Times</i>
<i>OGJ</i>	<i>Oil & Gas Journal</i>
<i>RPI</i>	<i>Russian Petroleum Investor</i>
<i>Russia & CIS OGW</i>	<i>Russia & CIS Oil and Gas Weekly, Interfax</i>
<i>WSJ</i>	<i>The Wall Street Journal</i>

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PREFACE

A generation has passed since the government of the world's most populous nation made its momentous decision to pursue industrialization on a scale never seen before. China already has, on some calculations, the world's largest economy, and certainly consumes more primary energy than any other country; its need for imports of energy is vast and growing.

Twenty years ago, the rulers of the USSR, the other former centre of world communism, politically collapsed, leaving a rusting industrial economy in a state of crisis; but the legacy of the new regime which emerged from this collapse was massive reserves of oil and gas. Dr Keun-Wook Paik's book chronicles how, from these two starting points, China and Russia have approached the building of a new relationship, a relationship which has major consequences for the economy and politics of both Asia and the world. This book concentrates on aspects of the new Sino-Russian relationship connected with the countries' respective oil and gas sectors.

Dr Paik's account is based on unrivalled knowledge gained from 25 years specializing in this subject. In this book, after describing the separate development of the energy sectors of both countries during these years, he concentrates on understanding the many oil- and gas-related issues which enter into the new relationship between China and Russia – one which has had both conventional and unconventional aspects and which has produced both collaboration and conflict.

Although China has made considerable efforts to make the most effective use of its modest energy resources, the question of large-scale imports of oil and then gas have been at the centre of the Chinese leaders' concerns. They have employed important policy initiatives, aimed at extending the sources from which they import oil and gas, thereby demonstrating that China has more alternatives sources of supply than was first supposed. The interconnection of two powers (China and Russia) has been converted into a more complex one which includes the Central Asian republics, which have become important energy suppliers to China, as well as countries where the export of Chinese capital has begun to play an important role in promoting energy exports to China. These include not only Russia and the Central Asian republics but also countries much further afield.

An unresolved mystery runs through Dr Paik's story: why, despite