# Contents

**List of Illustrations** xi

**Foreword** xiii

1 **Introduction** 1
   - Russia’s Contested “Energy Weapon” 1
   - Soviet Natural Gas and the Hidden Integration of Europe 2
   - Dependence in the Making: A Systems Perspective 5
   - The Political Nature of the East-West Gas Trade 7
   - Outline of the Book 8

2 **Before Siberia: The Rise of the Soviet Natural Gas Industry** 13
   - Soviet Power and Natural Gas for the Whole Country 13
   - The Cold War Duel 15
   - Soviet System-Building: Interconnecting the Republics 20
   - The Rise and Stagnation of the Pipe and Equipment Industry 23
   - “A Big Surplus for Export”? 26

3 **Toward an Export Strategy** 31
   - From Central Asia to Siberia 31
   - Glavgaz and the West European Natural Gas Scene 34
   - Considering Exports: Opportunities and Risks 36
   - Seeking Cooperation with Italy and Austria 38
   - The Export Strategy Takes Shape 40

4 **Austria: The Pioneer** 45
   - The Austrian Fuel Complex: Nazi and Soviet Legacies 45
   - From SMV to ÖMV 46
   - Toward Imports: ÖMV versus Austria Ferngas 48
   - Rudolf Lukesch’s Vision 50
   - The Six-Days War as a Disturbing Event 55
   - Negotiating the Gas Price 58
   - The Contract 63

5 **Bavaria’s Quest for Energy Independence** 67
   - Natural Gas and the Politics of Isolation 67
   - Otto Schedl’s Struggle against North German Coal 69
   - Toward Gas Imports: Negotiating Algeria 70
   - Soviet Gas for Bavaria? The Austrian Connection 73
   - Manipulated Conditions 75
   - Egon Bahr and the Steel Companies as Supporters 79
Contents

Alexei Sorokin’s Charm Offensive 81
The Soviet Option Fades Away 86

6 From Contract to Flow: The Soviet-Austrian Experience 89
Interconnecting Austria, Czechoslovakia, and the Soviet Union 89
Importing Soviet Gas in Practice 91
The Galician Challenge 95
Ukraine as a Victim 97
Scaling Up Exports 101
The Unseen Crisis 102

7 Willy Brandt: Natural Gas as Ostpolitik 105
Toward a New Eastern Policy 106
What Role for Soviet Natural Gas? 109
From Politics to Business: Negotiating Price and Volumes 112
Finalizing the Contract 118
Shell and Esso: Lobbying against Unwelcome Competition 122
Seeking Coordination with Italy and France 125
The Significance of the Soviet-German Natural Gas Deal 129
From European to American Imports of Soviet Natural Gas? 131

8 Constructing the Export Infrastructure 135
Siberian Megalomania 135
Arctic System-Building 138
The Ukrainian Crisis and Kortunov’s Death 143
Desperation and Chaos 147

9 Trusting the Enemy: Importing Soviet Gas in Practice 151
Enabling Transit through Czechoslovakia and Austria 155
Doubts in Bavaria 154
In Case of Emergency 156
On the Verge of Breakdown 159
Perceived Success 162

10 Scale Up or Phase Out? 167
A Turbulent Energy Era 167
Involving Iran 172
Doubts in the Kremlin 177
Envisaging the “Yamal” Pipeline 179
Opposition from the United States 184
The Compressor Embargo 188
Europe’s Contested Vulnerability 190

11 From Soviet to Russian Natural Gas 197
Surging Dependence 197
The Biggest Geopolitical Disaster of the Twentieth Century? 202
Intentional Disruptions 204
Managing Dependence 210
The “Molotov-Ribbentrop” Pipeline 212
12 Conclusion 217
   Dependence in Retrospect: Four Phases 218
   Energy Weapons: Real and Imagined 220
   Understanding Europe's Enthusiasm 224
   A Gradual Learning Process 226
   The Evolution of a Transnational System 229
   The Soviet Union as a Victim 232
   A Long Duration 233

Acknowledgments 237
Notes 239
Bibliography 263
Index 269
1

Introduction

Russia’s Contested “Energy Weapon”

How and why do countries become dependent on each other for something as vital as their energy supply? How do they build and maintain critical levels of trust across political, military, and ideological divides? And how do they cope with uncertainty and risk in these relations?

Europe’s dependence on Russian natural gas has in recent years become a fiercely debated issue in European politics. The actual and potential consequences of far-reaching energy imports from the “big bear” have become a subject of growing concern not only among importing nations, but also at the level of the European Union. The gas trade has come to decisively influence EU-Russia relations and there is nowadays hardly any aspect of these that can be discussed without, directly or indirectly, taking into account natural gas. The recent “gas crises”—notably in 2006 and 2009—in which several EU member states faced acute gas shortages as a consequence of disputes between Russia and Ukraine over the extension of import and transit contracts have, in the eyes of many analysts, proved the reality of Europe’s vulnerability. Moreover, some have interpreted Russia’s gas disputes with Ukraine and several other ex-Soviet republics as part of a wider Russian ambition to regain political and economic influence in its “near abroad.” According to this interpretation, Russian natural gas has become an “energy weapon” analogous to the OPEC’s “oil weapon”, and the argument is that such a weapon might be—and is possibly already being—used not only against Ukraine and other former Soviet republics, but also against Western Europe.¹

Others, challenging this view, emphasize that Russian gas exports, to an overwhelming extent, take the form of undramatic business relations and technical cooperation from which both Russia and the EU profit, and that the frequent disputes with former Soviet republics have centered on economic rather than political issues, typically linked to the problem of nonpayment. Moreover, to the extent that the gas trade is political, it may be argued that this is not an extraordinary thing. Despite the Western ideal of an international economy based on free, depoliticized market relations, close links between politics and economics are in actual practice part and parcel of international
energy is one of many fields in which international trade is not a “purely economic” phenomenon. Furthermore, since natural gas emits only half as much carbon dioxide as coal (which it often replaces), Russian gas can be argued to make an important contribution to combating climate change. The main threat, according to this view, is not that Russia, for political reasons, would deliberately disrupt its gas supplies to Europe, but rather that its gas industry might fail to make the necessary investments in pipelines and gas fields and that it, as a result, will not be able to live up to and further expand its export commitments.  

Independent of perspective, the importance of Russian natural gas for Europe’s energy supply is unlikely to decrease in coming decades. This is because of the expected depletion of North Sea and other intra-European gas resources, which are currently considered guarantors of Western Europe’s security of supply and a necessary counterweight to imports from non-European sources. Gas production within the EU peaked in 1996 and has been in a phase of steady decline since around 2004. The International Energy Agency (IEA) expects gas production within the EU to decrease from 196 billion cubic meters (bcm) in 2009 to 89 bcm in 2035. The only factor that could possibly reverse this trend would be a European revolution in unconventional gas production, the probability of which is difficult to assess at the present time. Norwegian gas production will continue to increase from today’s level of around 100 bcm, but not by more than 10–20 bcm, and a production peak will be reached within a decade or two. At the same time, the main scenario predicts that the EU’s demand for natural gas will continue to increase, from 508 bcm in 2009 to a level of around 629 bcm in 2035.  This anticipated growth is closely related to European energy and climate policies, in which a gradual phase-out of coal for electricity generation plays an important role. Following the 2011 Fukushima disaster in Japan, it appears probable that natural gas, together with renewable energy sources, will replace much of Europe’s nuclear power as well.

Against this background, most analysts now agree that if Europe’s future energy demand is to be met, Russia’s natural gas is direly needed. Other non-European gas suppliers – and, possibly, intra-European shale gas – may alleviate the situation to a certain extent, but even so any decrease in Europe’s demand for Russian gas seems unrealistic. Economic recession may slow demand on the short term, but in the long run imports from the East will most probably have to increase. At the same time, growing competition from China and other countries for Siberia’s gas may change the traditional logic of Russian-European interdependence in the field of natural gas. Nobody knows how this development will influence EU-Russia relations and, more generally, the overall political landscape in Europe.

**Soviet Natural Gas and the Hidden Integration of Europe**

How and why did Western Europe become such a massive importer of Russian natural gas? Clearly, today’s dependence did not emerge overnight. The crucial formative period of the East-West gas trade can be located in the decade 1965–1975—that is, in the midst of the Cold War. Intense negotiations
between the Soviet Union and Italy, Austria, West Germany, Finland, and Sweden gained momentum in 1966–1967, and a number of key pioneering agreements were reached in the period from 1968 to 1970. First deliveries started to Austria as early as 1968 and to West Germany, Italy, and Finland in 1973–1974. France followed suit in 1976. Strikingly, several West European countries and regions were connected with the communist pipeline system of Eastern Europe before linking up with the grids of other EC and NATO member states.

At the time when the Berlin Wall fell and the Soviet Union collapsed, Soviet natural gas had become one of the most important sources of fuel in Western Europe. “Red” gas was taken into use on a large scale by a wide range of industrial enterprises, by power plants, by the municipal sector, and by millions of households. This was made possible through the construction of one of Europe’s most critical and expensive infrastructures, which for its part formed a most remarkable case of East-West relations and of what has been labeled the “hidden integration” of Europe in the Cold War era. In no other field did Western and Eastern Europe develop such close material relations during this era as in natural gas. Indeed, the gradually deepened gas trade and the construction of ever larger pipelines, generating far-reaching dependencies and vulnerabilities on both sides, ran counter to the fundamental logic of the Cold War. From the perspective of natural gas, the “Iron Curtain” takes on a new meaning and Europe looks different from what we are being told in much of the general historical literature.

Despite this peculiar and paradoxical development, and notwithstanding the central importance of Russian gas in current European and Russian affairs, little attention has been paid to their historical underpinnings. On one hand, the export of Soviet natural gas—and of Soviet oil—is often explicitly mentioned as an interesting phenomenon in the earlier literature on European postwar and Cold War history. On the other, it has, in practice,

Table 1.1 West European dependence on Russian natural gas as of 2011, by country (bcm, measured at 0 degrees centigrade)

<table>
<thead>
<tr>
<th></th>
<th>Domestic</th>
<th>Russian</th>
<th>Other</th>
<th>Dependence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1.6</td>
<td>4.9</td>
<td>4.7</td>
<td>44</td>
</tr>
<tr>
<td>Belgium</td>
<td>7.4</td>
<td>21.9</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Finland</td>
<td>3.8</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.7</td>
<td>8.6</td>
<td>38.3</td>
<td>18</td>
</tr>
<tr>
<td>Germany</td>
<td>10.0</td>
<td>30.8</td>
<td>53.2</td>
<td>33</td>
</tr>
<tr>
<td>Greece*</td>
<td>0.0</td>
<td>2.1</td>
<td>1.8</td>
<td>53</td>
</tr>
<tr>
<td>Italy</td>
<td>7.7</td>
<td>15.4</td>
<td>54.1</td>
<td>20</td>
</tr>
<tr>
<td>Netherlands</td>
<td>64.2</td>
<td>4.0</td>
<td>9.6</td>
<td>5</td>
</tr>
<tr>
<td>Switzerland*</td>
<td>0.3</td>
<td>3.3</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>0.7</td>
<td>23.5</td>
<td>18.3</td>
<td>55</td>
</tr>
</tbody>
</table>

* Figures for 2010.

remained a “black box,” discussed only in passing in connection with political or economic analyses of, for example, German chancellor Willy Brandt’s New Eastern Policy, cooperation between Italy and the Soviet Union in the automotive sector, or in relation to the NATO’s embargo policies concerning West European exports to the communist bloc of large-diameter steel pipes and advanced compressor technology. In other words, East-West natural gas relations have never been subject to an in-depth historical inquiry in their own right. As a result, we do not know how and why Europe’s dependence on Russian natural gas has actually come about.

The aim of this book is to fill this gap. *Red Gas* investigates how and why governments, businesses, engineers, and other actors sought to promote—and oppose—the establishment of an extensive East-West natural gas system at odds with Europe’s formal political, military, and ideological divisions. It explains why political leaders and energy companies in several West European countries prioritized the integration of their gas supply systems with those of communist Eastern Europe, rather than first and foremost seeking integration with their Western neighbors. The book reveals how a variety of actors on either side of the Iron Curtain managed—and sometimes failed—to build and maintain sufficient levels of trust across military and ideological divides and how they used natural gas relations for a variety of purposes other than for the access to a high-quality fuel. At the center of the narrative stands the fear of unwanted consequences of energy dependence and the perceived vulnerability of actors to supply interruptions and price shocks, and the opportunities that the gas
trade seemed to offer politically, economically, and environmentally—in an age obsessed with its ever-growing thirst for fuel.

Building on primary documentary sources from Russian, Ukrainian, German, and Austrian archives, the book centers empirically on the period from the mid-1960s, when the first gas export agreements were negotiated and the first East-West pipelines built, to the years around 1990, when the Berlin Wall fell, the Soviet Union collapsed, and the Cold War ended. It uncovers the complex formation of energy trade strategies from the side of governments and businesses in both the Soviet Union and the importing Western nations, and the complex process of negotiating the East-West gas contracts. The book unpacks the major conflicts between key players—both across borders and domestically—in their struggle to shape Europe’s energetic future. It also tells the story of how Soviet and West European stakeholders—with mixed success—approached the task of actually creating—materially and institutionally—the new trans-European pipeline infrastructure, and of using it in practice. An underlying argument, of relevance for policymakers and analysts of today, is that we will not be able to understand the dynamic nature of Europe’s current energy dependence, let alone properly deal with it, in the absence of a thorough historical understanding of how today’s situation has come about.

**Dependence in the Making: A Systems Perspective**

How and why does a large technical system (LTS) such as the East-West gas grid come into being? Earlier studies of LTS\(^6\) have stressed the importance of scrutinizing the activities of “system-builders” and their evolution over time. System-builders are the actors who, by definition, have the most far-reaching power to shape a system’s evolution—and to kick it off in the first place. System-builders may be technically oriented innovators, but more often they are passionate business leaders or centrally placed governmental actors who have the necessary ability, mandate, and connections to bring about major infrastructural projects, turning diffuse and often controversial visions into material reality. One of their key challenges is to mobilize sufficiently strong actor networks. Having a talent in viewing the system in its totality, spotting the links between its diverse technical, political, and economic components, the successful system-builder identifies “reverse salients” in the form of weak components and links, and turns these—analytically and discursively—into “critical problems” that must be solved for the system to come about and expand along desired lines.\(^7\)

When system-building takes place in a transnational context, however, it is an extremely demanding process to master, due to differences in standards, regulations, political traditions, and business culture in the countries involved.\(^8\) Crucially, system-builders setting out to cooperate with “the other” have to accept that they cannot to the same degree take control over the system-building process as they may be used to in their national environments. East-West system-building in the Cold War context formed an extreme case of transnationalization, dependent as it was on what I call “system-building coalitions” that cut across the Cold War’s most radical political, ideological, and military divides.
Yet transnational system-building sometimes becomes an even more
dynamic process than system-building in a national context. Red Gas shows
that effective coalitions of system-builders may turn the apparent problems
of cross-border tensions and disparities into opportunities for accelerated
development and growth. Natural gas system-builders in East and West spotted
what I call “complementary reverse salients,” or problems on either side
that “fitted” each other and could be resolved precisely through increased
transnational cooperation and integration. In the 1960s, for example, vast
volumes of natural gas had been discovered in the Soviet Union, but the
growth of the domestic Soviet gas system was retarded by the inability of the
domestic steel industry to produce high-quality steel pipe. West European
system-builders, for their part, knew how to build pipes, but lacked large
domestic gas resources. This asymmetrical situation motivated actors in East
and West to work out a countertrade arrangement in which Soviet natural
gas was exported to Western Europe in return for West European deliveries of
large-diameter steel pipe. Transnational coalitions of system-builders working
together on resolving complementary reverse salients constituted the
most fundamental driver of Europe’s evolving energy dependence through-
out the Cold War period.

Europe’s dependence grew at a steady pace through processes of gradual
learning and positive feedback. Initially, there was great suspicion on either
side. In such a situation it was of a certain importance that East-West gas
system-builders could point to exports of red gas across the Iron Curtain
not as a totally new phenomenon, but as a logical follow-up on exports of
Soviet oil. Moreover, gas system-builders effectively exploited the opportuni-
ties offered by early, inexpensive pilot projects as test cases for the future.
Pilot projects and experiences of earlier cooperation helped system-builders
assure themselves that they were dealing with a system with which they could
communicate and cooperate in a meaningful way. To borrow a concept from
social systems theory, this made it easier for “resonance” to be generated.
Resonance between Soviet and West European systems in turn made it easier
for system-builders to build trust.  

For resonance and trust to be retained, the Soviet Union also needed to show
that it could provide the gas in the agreed quantity and quality, while the
importers needed to demonstrate their ability to receive and pay for the gas.
Failure to do either were bound to reduce the prospects for further expansion
of the system. As it turned out, the Soviet Union was so obsessed with the need
to ensure its Western partners of its reliability as an exporter that the country’s
own gas users were left to freeze when sufficient gas was not available.

Having survived its formative phase, transnational system-building became
a self-reinforcing process, generating a virtuous circle of positive feedback that
inspired actors on either side to gradually scale up their commitments and
visions. Ultimately, through its development over nearly half a century, the
system became a mature transnational infrastructure with a very high level
of what students of large technical systems call “momentum.” A high level
of momentum made attempts to alter the system’s direction of development
exceedingly difficult.

In some cases, such as in connection with US-led opposition to expansion
of the East-West gas trade in the early 1980s, Soviet gas exports became subject
Introduction

7
to major public and political debates, and demands for radical change—and even abandonment—of the system were voiced. By then, however, the system had grown so powerful that these demands had little chance of materializing. The robustness of the system was reconfirmed in 1989–1991, when the Berlin Wall fell, the Soviet Union collapsed, and the political map of Europe was radically redrawn. These extreme political and economic upheavals notwithstanding, the East-West gas system—and Western Europe’s dependence on Russian gas—remained in place and continued to grow. The difficulty to “change direction” is clearly disturbing to actors who, in our own time, consider Europe’s dependence on Russian natural gas problematic and wish to “do something” about it.10

The Political Nature of the East-West Gas Trade

How political have Russia’s gas exports been? Red Gas argues that economic considerations were always more important than political ones in bringing about and sustaining the gas flow between East and West. In the absence of profit expectations, neither the Soviet Union nor Western Europe’s importers would have supported the creation of the system. At the same time, the book argues that Soviet natural gas, to a certain extent, did function, and was perceived of, as an “energy weapon” and that it continues do so in an age when the gas is no longer red. The relative importance of this political dimension in relation to economic considerations has been greatly exaggerated and the true nature of the “weapon” misunderstood by many analysts, but this does not mean that it has been non-existent.

The evidence suggests that we need to broaden our view and adopt a conceptualization of “energy weapons” that reaches beyond the much-debated nightmare of politically motivated supply disruptions. An energy weapon can be so much more. This book thus widens the weapon metaphor to include issues such as dumping of red gas on Western markets, “divide and rule” strategies in which some customer countries were favored over others in Soviet attempts to splinter the Western world, rhetorical practices in which natural gas exports served to strengthen the Soviet Union’s legitimacy on the international arena, and so on. While there is no evidence that the Soviet Union, up to its collapse in 1991, ever aimed to make use of the threat of supply disruptions for political blackmail, the empirical material does support the view that it sought to divide Western Europe by offering natural gas to some countries but not to others, and that national prestige was an important concern when Moscow set out to negotiate its export contracts. After the collapse of communism, politically motivated supply disruptions did occur, though usually in combination with other, less political motives.

Importantly, actors were often unaware of the real motives of their partners beyond the Iron Curtain. West Europeans were highly suspicious of Moscow’s intentions, and all importers took into account politically motivated supply disruptions and aggressive price dumping as a real risk when negotiating with the Soviets and building the import infrastructure. Huge investments were made in technical facilities whose purpose was to reduce the adverse impact of unexpected Soviet moves. Whether or not the Soviet gas weapon “actually”
Red Gas

existed, its socially constructed reality thus had a very tangible impact on the physical characteristics of the European gas system.

As it turned out, Western Europe’s expensive back-up pipelines, emergency gas storage facilities, gas-quality transformation stations, and other precautionary measures did find their role in the rapidly growing East-West gas trade. The reason, however, was not that Moscow intentionally disrupted supplies, but that the export pipelines built on Soviet territory were plagued by recurring technical failures. In the construction phase of export pipelines, the everyday chaos of what was allegedly a “centrally planned economy” ensured that key equipment was often missing and that projects rarely had a chance of living up to the timetables specified in the export contracts. Seeking to enforce the deadlines, decision makers allowed pipelines and compressor stations along the international transmission routes to be built in a haste by a workforce that during the most sensitive construction phases largely consisted of probationers and conditionally released prisoners. The disastrous quality of pipelines and compressor stations built in the 1960s and 1970s inevitably gave rise to repeated technical failures and accidents later on.

Paradoxically, the real victims of the failures were not Western Europe’s, but the Soviet Union’s gas users. Northwestern Siberia was the world’s largest gas region, but lack of pipeline capacity nevertheless made gas a scarce resource in the red empire. Soviet gas users, therefore, had to compete with West European importers for insufficient volumes of gas. Moscow, desperately seeking to ensure the West of its reliability as a partner, opted to sacrifice domestic supplies rather than cut exports. The result of this highly political choice, in terms of human suffering and industrial productivity, was devastating.

To the extent that East-West natural gas system-building was a political activity, this was true not only as far as the Soviet Union was concerned, but also in terms of West European interests. It is no coincidence that the formative phase of Soviet natural gas exports overlaps with a period of détente in East-West relations. Not only did the favorable geopolitical climate in the late 1960s and early 1970s make it easier for proponents of the East-West gas trade to mobilize support for their visions, but red gas was in itself identified as a foreign policy tool with great potential to improve the relations between the capitalist and the communist world. In some cases Western governments even subsidized the construction of pipelines across the Iron Curtain for political reasons. In the end, the perceived political opportunities were seen to far outweigh the perceived political risks.

Outline of the Book

Red Gas tells the story of East-West natural gas relations from both a Soviet and a Western perspective. It takes into account a vast body of empirical evidence from “both sides” and in original languages. The ambition has been to document Soviet natural gas exports to Western Europe from the perspective of those people and organizations who have been—or tried to be—central in envisioning, negotiating, planning, building, operating, and
using the transnational gas infrastructure. The structure of the book reflects this symmetry ambition.

Chapter 2 sets the stage by outlining the historical emergence of the Soviet Union as a major natural gas producer and the rise of natural gas as a “typical communist” fuel with a special role to play in building socialism. Chapter 3 follows this up by analyzing the fierce internal debate in the Soviet Union on how to exploit the country’s rapidly growing gas resources in the best way. It was in this context that the first export strategy took shape. By 1966, Moscow had made up its mind to enter the West European gas market, and negotiations were initiated with Italy, Austria, France, Finland, and Sweden.

Austria became the first capitalist country to conclude a gas agreement with the Soviet Union. Chapter 4 traces the complex negotiation process that led up to this pioneering deal. The talks took place in parallel with Austria’s eager attempts to associate itself more closely with the European Economic Community (EEC), a development that was fiercely opposed by Moscow, and Soviet-Austrian natural gas relations thus became linked to a broader struggle about Austria’s position in Cold War Europe. The historical contract, of great significance for the future of both Austria’s and Europe’s energy supply, was eventually signed in June 1968.

West Germany also bordered on the Iron Curtain and thus seemed strategically positioned to import natural gas from East European sources. In the context of the Cold War, however, a West German import of Soviet gas was bound to become much more controversial than Austria’s. Germany was, in Soviet perspective, a country full of “revenge-seeking passions,” still dominated politically and economically by “former Nazis and even war criminals,” as Brezhnev put it at the 1966 Party Congress. The German federal government, for its part, still followed a policy of refusing to recognize East Germany as a sovereign state and the postwar borders in the east. The anti-Soviet sentiments were notable. Chapter 5 inquires how, in spite of these difficult relations, an import of Soviet gas to Germany and the construction of a transnational pipeline infrastructure for this purpose became a major topic of internal debate in the Federal Republic. The project failed to materialize, but the discussions served as a useful preparation for later negotiations.

Chapter 6 analyzes how the first Soviet gas exports worked (and how they did not work) in practice. Exports to Austria commenced in September 1968, just ten days after the Warsaw Pact’s military invasion of Czechoslovakia, through which the gas was to be transited. The chapter shows how the Soviet gas ministry’s system-building efforts took the form of constant crisis management in the chaos of the centralized Soviet economy. It also documents how domestic gas users—particularly in Ukraine, Belarus, Lithuania, and Latvia—faced unwanted competition from customers abroad for the same scarce gas resources.

In the aftermath of the Czechoslovakian invasion, renewed negotiations were initiated between the Soviet Union and several West European countries. Moscow, now in need of rebuilding its international legitimacy and prestige, was even more eager than before to bring about natural gas exports. Most Western countries similarly judged that efforts to improve East-West relations, following the 1968 events, must not be given up, but rather intensified.
Unsuccessful earlier negotiations with Italy, France, Finland, and Sweden were revived. In addition, Germany seemed to become seriously interested in Soviet natural gas. Chapter 7 shows how German foreign minister—and later chancellor—Willy Brandt’s close collaborator Egon Bahr identified natural gas as a vehicle in launching a new German Eastern policy (Ostpolitik). The chapter reconstructs the dramatic negotiations that eventually led to a first Soviet-German contract. It also traces the attempts from the side of the German, Italian, and French governments to coordinate their negotiations and thereby improve their bargaining power vis-à-vis the Soviet side, and the opposition from the Netherlands, the main competing exporter, along with several international oil companies.

Chapter 8 unveils how the Soviet Union, having signed export contracts with Germany, Italy, France, and Finland took on the immense task of bringing Ukrainian and Siberian gas in large quantities to Western Europe. The stakes were now much higher than in the initial Soviet-Austrian export arrangement. The construction of the export pipeline infrastructure was integrated into the overall Soviet system-building effort. It was a chaotic process and the Siberian pipelines were in the end delayed by many years. The export infrastructure that actually materialized looked very different from the one originally planned. In particular, Ukrainian gas came to play a more important role in meeting export obligations, an arrangement that caused severe gas shortages throughout the westernmost Soviet regions as the Kremlin, struggling to retain its reputation in Western Europe as a reliable exporter, prioritized deliveries across the Iron Curtain. Chapter 9 analyzes the same development but from a Western perspective, focusing on the practical experience of importing large quantities of Soviet gas to Germany and Italy.

The perceived functionality of the East-West gas trade stimulated further export contracts. Chapter 10 investigates how increased deliveries of Soviet gas became highly attractive following the 1973/1974 oil crisis. Moreover, a large contract was successfully negotiated according to which the Soviet Union was to play an important role as a transiteer of natural gas from faraway Iran to Europe. This was followed by a more contested West European vision of a further doubling of red gas imports. Coinciding with a period of increased East-West tension, these efforts were vehemently opposed by US president Reagan. For the first time, imports of “red” gas became subject to a vivid international and public debate, in which widely differing views of Europe’s vulnerability clashed against each other. In the end, Washington was not able to prevent the Europeans from radically scaling up the East-West natural gas system.

Chapter 11, finally, analyzes the period from the late 1980s to the present. The fall of the Berlin Wall and the collapse of the Soviet Union made the future of the East-West gas trade difficult to predict. Immense difficulties to establish a stable institutional framework for trading gas among the former Soviet republics gave rise to repeated intentional supply cutoffs to Ukraine and Belarus, through which Russian natural gas was transited to Western Europe. Despite the seemingly insurmountable problems, the period saw a further steep increase in Russian gas exports.
Index

Abdessalam, Belaid, 73, 170
Adenauer, Konrad, 76, 85
Aderklaa, 45
Adriatic Sea, 48, 70, 72–3, 172
AEG-Kanis, 189–90
Aerohydrodynamics Research Institute (Russia), 16
Afghanistan, 40, 184, 220
AGA, see American Gas Association
Algeria, 28–9, 34–9, 48–50, 52, 55, 57–8, 62, 70–3, 77, 87, 90, 116, 125, 132, 158–9, 169–70, 177, 187–8, 190–2, 202, 207, 217–18, 225
Algerian LNG, 48, 71–2, 77, 169–70, 187
Algiers, 73, 87
Allardt, Helmut, 121
Alps, 39, 70, 154
Alstom-Atlantique, 190
American Gas Association (AGA), 27
von Amerongen, Otto Wolff, 126, 129
Angola, 171
anticorrosion technology, 24, 39
Arab countries, 57–8, 168–70, 219, 228–9
Arctic system-building, 138–43
Armenia, 21–2, 205, 207
Arndt, Klaus Dieter, 107–8, 110
Astara, 172, 174
Auersthal, 46, 50
Augsburg, 71, 157
and border opening with Hungary, 203
and gas transit enablement, 151–4
and interest in Yamal gas, 188
and Iranian deal, 177
and Trans-Austria pipeline, 171, 193, 207, 209, 231
Austria Ferngas, 48–50, 55, 59, 62, 64–5, 72, 158, 230
Austrian Control Bank, 63
Austrian State Treaty, 46–7, 54
Azerbaijan, 21, 40, 147, 172, 174, 205–7
Azovstal metallurgical plant, 16
Bahr, Egon, 74, 76, 79–88, 106–8, 110, 118–20, 130, 174, 218, 226
Baibakov, Nikolai, 13, 15–17, 33, 41–2, 178
Baltic Sea, 133, 190, 202, 205–6, 212, 214–15, 216, 220, 232
Baltic states, 21, 41, 96–102, 133, 136, 138–9, 144, 163, 180, 205–6, 208, 214–16, 223
Baranovsky, Yuri, 63
BASF, 212, 215
see also Wintershall
Bashkiria, 17, 198
Bauer, Ludwig, 52, 56, 94, 132, 163, 177, 183
Bauer, Ludwig, 52, 56, 94, 132, 163, 177, 183
Baier, Ludwig, 52, 56, 94, 132, 163, 177, 183
Baier, Ludwig, 52, 56, 94, 132, 163, 177, 183
Baier, Ludwig, 52, 56, 94, 132, 163, 177, 183
Baier, Ludwig, 52, 56, 94, 132, 163, 177, 183
and Yamal pipeline, 182
Bavarian Ministry of Economy, 73, 82, 110, 116, 155, 159, 166
Bavarian Radio, 155
Bayerische Ferngas AG, see Bayerngas
Bayerngas (Bayerische Ferngas AG), 71–2, 77, 82, 110–12, 116, 119, 154–9, 162–5, 173, 182, 193, 230
Belarusian-Polish link, 213–15
Belgium, 3, 34–5, 60, 72, 131–3, 158, 170–3, 175, 180, 182, 199, 218–19
Berlin Wall, 3, 5, 7, 10, 29, 33, 109, 203, 217, 220
van Beveren, Jos, 56, 81–2
Black Sea, 21, 209
Bock, Fritz, 55
Bogomyakov, G. P., 178
Bokserman, Yuli, 24–5, 100, 137
Bonn, 58, 74, 75, 86, 106, 108, 112, 115, 123, 126, 157
Bosnia-Herzegovina, 172
Brandt, Willy, 4, 10, 74, 76, 78, 80, 82–4, 86–8, 105–8, 118–21, 135, 174–5, 218, 226
Bratislava, 35, 50, 90, 210
Bratstvo (Brotherhood) pipeline, 35, 39, 50, 59, 66, 90, 127, 135, 144, 149, 151, 159–60, 162, 164, 171, 212
Braudel, Fernand, 234–5
Brezhnev, Leonid, 9, 34, 37, 40–1, 67–8, 87, 142, 161, 170, 174, 182–5
Britain, see United Kingdom
Brown & Root, 133
de Bruijne, Dirk, 123
Brunet, Jean-Claude, 126
Bryansk, 21
Budapest appeal, 105–6, 108
Cameroon, 185
Cape of Good Hope, 175
carbon dioxide, 2, 167, 201
Carinthia, 154
Carter, Jimmy, 185
Caspian Sea, 21, 31
Caucasus, 21, 145, 183
Central Asia, 22–4, 26, 28, 31–4, 40, 42, 95, 136, 139, 144–5, 209
Central Committee of the Soviet Communist Party, 17, 139–40, 147, 161, 164
Central European Pipeline (CEL), 70
Chapelle, Jean, 127
Chelyabinsk, 23–4
Chernobyl disaster, 201, 225
China, 2, 75, 190
Christian Democratic Union (Germany), 74–5, 84, 106, 120
Christian Social Union (Bavaria), 74
CIS (Commonwealth of Independent States), 204, 206, 210, 224, 232
Clark, 91
CoCom, 24, 26
Cold War, 2–6, 26, 74, 184, 197, 203–4, 210, 212, 217–22, 224, 229, 232–4
Cologne, 80, 108, 112
COMECON, 35, 171
compressor embargo, 188–90
compressor technology, 4, 8, 23, 25–7, 42, 46, 91–3, 97, 99–100, 128, 142–50, 152, 154, 164–5, 171–2, 179, 188–90, 198–9, 231
conditioning facility, 157, 231
Congress of the Soviet Communist Party 1956, 15, 21
1961, 19
1966, 9, 41
1971, 142
1981, 185
Connole, William R., 27–8, 35
de Corval, Gérard, 28
countertrade, 6, 24, 36, 42, 55, 61, 72, 78, 81–2, 90, 131, 139, 142, 150, 182, 184, 230, 231
couture, Jean, 126
Creusot-Loire, 189
Cuban missile crisis, 29, 33, 217
compressor technology, 26
Soviet invasion of, 9, 105–6, 108, 134, 184, 218
transit pipeline construction, 152
**Index**

d’Estaing, Valéry Giscard, 170
Danube River, 77, 90, 231
Dashava gas field (in western Ukraine), 13–14, 20–1, 24–5, 96, 98–102, 146
Davignon, Viscount Etienne, 193
détente, 8, 35–6, 52, 74, 83–4, 105–6, 109, 120, 150, 168
Dikanka, 98, 148
Dinkov, Vasily, 101
Distrigas (USA), 133
Distrigaz (Belgium), 158, 172, 175, 180, 188
DIW, see German Institute of Economic Research (Deutsches Institut für Wirtschaftsforschung)
Dnepropetrovsk, 20–1
von Dohnanyi, Klaus, 107, 109, 111–13, 115–16, 118–20, 122–3, 126
Donets basin (Donbass), 20
Dresser, 189–90
Drogobych, 161
Druzhba (Friendship) oil pipeline, 35, 152
dumping of gas, 7, 221
Düsseldorf, 81–2
Dymshits, Venyamin, 147–9, 161–2
E.ON group, 215
East Germany, 9, 74, 85, 135, 161, 171, 205–6, 234
East Prussia, 21
East-West industrial exchange program, 27
Eastern bloc, 46, 67, 203
EC, see European Communities
EC Commission, 117
EEC, see European Economic Community
Efremovka-Kiev pipeline, 98–101
Ekofisk gas field, 192
El Paso Natural Gas, 133, 175
Emden, 192
Emmel, Egon, 109
Energy Charter, 211
energy weapon, 1–2, 7, 11, 37, 191, 220–4
Engine of Revolution, 25
environmental characteristics of natural gas, 14, 47, 167, 178, 195, 198, 205, 219, 225
Erhard, Ludwig, 74, 76, 85
Essen, 69, 115, 129, 174
Esso, 28, 69, 71, 73, 76, 122–6, 131, 169, 225
Estonia, 21, 148, 205, 207–8, 216
EU-Russia Summit, 211
EURATOM, 67
Eurogasco, 45
European Coal and Steel Community, 67, 107
European Communities (EC), 3, 107, 117, 122, 127–8, 190–3, 211
European Economic Community (EEC), 9, 51–4, 67, 168, 191, 222, 225–6, 231–2
Europol, 213, 216
Exhibition of Achievements of the National Economy (VDNKh), 26
Federal Geological Survey (Bundesanstalt für Bodenforschung), 124
Federal Republic of Germany, see Germany
Finland, 3, 9–10, 57, 67, 89, 131–3, 135, 138, 147, 151, 163, 166, 169, 200, 202, 212, 214, 218, 219, 222, 224, 226–8, 234
Finsider, 24, 52, 55
five-year plan, 23, 142, 152, 207
Ford, Gerald, 171
Foreign Trade Bank of the USSR, 63
Frankfurt, 81, 110
French-Algerian conflict, 34
Friderichs, Hans, 159, 177, 181
Friendship of the Peoples system, 21, 205
Fukushima disaster, 2, 225
Fulda, 165
Funcke, Friedrich, 123

Galician gas fields, 13–14, 20–1, 23, 36, 95–102, 135, 138, 144–5, 161, 216
Gas-Union, 71, 158, 173
Gasunie, 180, 188, 191, 193, 215
see also NAM Gas Export
Gasversorgung Süddeutschland (GVS), 71, 156–8, 173
Gaz de France (GdF), 34, 39, 55, 57, 65, 128, 132, 158, 173–4, 176, 180, 187–8, 195, 201, 210, 224–5, 230
Gazli gas field (in Uzbekistan), 23
Gazovaya promyshlennost (journal), 18, 25, 32, 137
Gazprom, 204, 206, 208–15, 223
GdF, see Gaz de France
Gebersdorf, 165
Geilenkeuser, Hans, 155
General Electric, 179, 189
Genova, 70
Georgia, 21–2, 205
German Institute of Economic Research (Deutsches Institut für Wirtschaftsforschung) (DIW), 107, 110
German-Soviet negotiations, 105–34
Germany (Federal Republic of), 2–3, 9, 53, 57–8, 67–8, 74, 78, 82, 84, 87, 106, 108–9, 120, 122, 135–9, 146, 149–51, 161, 166, 180, 189, 212, 219, 221–2, 226, 228
Giprospetsgaz, 40–1
Girotti, Raffaele, 163
Glasgow, 190
Glavgaz SSSR, 15, 17, 19–22, 24–7, 31–6, 38–40
Gomulka, Wladyslaw, 78
Gorbachev, Mikhail, 205
Gorky (Nizhny Novgorod), 25
Görzyca, 213

Gossnab (Soviet State Committee for Material-Technical Supply), 148, 161–2, 207
grand coalition (in Austria), 54
grand coalition (in Germany), 74, 120–1
Greece, 3, 199–200, 212, 234
Greifswald, 215
Gromyko, Andrei, 119, 130
GVS, see Gasversorgung Süddeutschland
H-Gas, see high-calorific gas
Haferkamp, Wilhelm, 107
The Hague, 117
Haig, Alexander, 185
Hallstein Doctrine, 75, 78
Hamburg, 57, 81, 107, 190, 227
Handelsblatt, 155
Hassi R’Mel gas field (in Algeria), 28
Heitzer, Hans, 73, 115, 155–6
Hess, Axel, 126
Hessen, 69, 165
high-calorific gas (H-Gas), 114, 157, 165–6
Hitler, Adolf, 13–14, 51, 68
Hoesch, 121
Hungary, 39, 43, 52, 54–5, 65, 68, 153, 171–2, 203, 206
Hveding, Vidkun, 192
hydrogen sulfide, 39
Iberian peninsula, 72, 200
IGAT-1 pipeline, 172, 175, 182, 206
IGAT-2 pipeline, 172–7, 182, 206
IGU, see International Gas Union
Ingolstadt, 70–1, 165
intentional disruptions, 8, 10, 181, 192, 204–9, 211, 220, 223, 232
International Energy Agency (IEA), 2, 200
International Gas Union (IGU), 26–7, 57, 81–2, 108, 229
Iran, 10, 38, 40–2, 172–7, 180–3, 185–6, 191, 194, 202, 206–7, 219–20
Iranian national gas company (NIGC), 172, 174–5
Iranian Revolution, 182, 185, 206, 219–20
Iraq, 57
isolation, politics of, 67–9
Israel, 57–8, 170, 190
Italy, 3, 38–40, 42–3, 49–50, 52–8, 60–6, 70–1, 77–8, 105, 125–33, 153–4
and Austrian gas contract, 60–6
and Austrian gas price negotiations, 60–2
and Bavarian plans, 70–1, 77–8
and Mingazprom, 42
and Six-Days War, 55–8
and Willy Brandt, 125–33
Izvestiya, 137
Japan, 2, 39, 40, 57, 89, 133, 172, 218
Jaumann, Anton, 158–9, 165–6
John Brown Engineering, 189, 198
Johnson, Lyndon, 84, 86
Jonava, 161
Kaliningrad (Königsberg), 21, 214
Kalush, 97
Kamenets-Podolsk, 97
Kangan gas field (in Iran), 172, 175
Karadag gas field (in Azerbaijan), 21–2
Kaun, Heinrich, 82–3, 108
Kazan, 20
Kekkonen, Urho, 163
Khartoum, 216
Kharkov, 21, 162
Khrushchev, Nikita, 15, 18, 24–5, 27, 29, 32–5, 41, 197
Kiesinger, Kurt Georg, 74, 84, 86–7, 106, 118, 120–1, 127
Kissinger, Henry, 171
Klaipėda, 21
Klaus, Josef, 54
Koller, Herbert, 51–2, 65
Komi ASSR, 138–47, 163, 176, 179, 183
Königsberg, see Kaliningrad
Koper, 48, 72
Kortunov, Alexei, 15–28, 31, 33–4, 36, 38, 40–2, 56, 81, 92, 97, 99–100, 138–9, 142–9, 153, 178, 222–3
and Arctic system-building, 139, 142–3
death of, and Ukrainian crisis, 143–7
defining export strategy, 31, 33–4, 36, 38, 40–2
eyearly life of, 16–17
and rise of the Soviet gas industry, 15–28
and the Soviet-Austrian gas trade, 92, 97, 99–100
Kosovo, 203
Kosygin, Alexei, 34, 40–2, 62, 119, 142, 147, 160, 162, 164
Kozyrev, Andrei, 208
Krzatmuller, Emil, 123
Körning, Rudolf, 80–1
Kursk, 21
Kuwait, 57
Kuybyshev (Samara), 20
Kuzmin, Mikhail, 160
L-Gas, see low-calorific gas
Lambsdorff, Otto Graf, 181–2
Lanc, Erwin, 163
Landshut, 71, 165
Lantzke, Ulf, 107, 109, 111–12, 118, 125, 127–30, 173
large technical system (LTS), 5–7, 195, 220, 223, 229–32
Latvia, 9, 21, 95–7, 99, 138, 146–7, 205–6, 208, 228, 232–3
Lenin Prize, 26
Leningrad, 20, 25–6, 41, 100, 108, 132, 138–9, 145, 163, 189, 198
see also St. Petersburg
Libya, 34–5, 38, 55, 57, 60, 62, 115–16, 169, 224, 232
Liepaja, 21
Liesen, Klaus, 131, 156, 181–3
Linz, 47–8, 51, 53, 74, 77–8
liquefied natural gas (LNG), 34, 39, 48–9, 58, 71–2, 77, 116, 125, 132–3, 158, 169–73, 175–6, 185, 187, 192, 200, 205
liquid petroleum gas (LPG), 39–40
Lithuania, 9, 21, 95–6, 99, 138, 146–7, 161, 204–5, 208, 228, 232
Livorno, 190
LNG, see liquefied natural gas
low-calorific gas (L-Gas), 114, 157, 165
LPG, see liquid petroleum gas
LTS, see large technical system
Lukesch, Rudolf, 50–4, 56–8, 65, 74, 78–9
Lvov, 95–6, 160–2
Lwówek, 213
Lyashko, Alexander, 162, 164
Mannesmann, 24, 52, 55–6, 65, 79–82, 84, 86, 100, 121, 140, 143, 189
Mannesmann-Röhrenwerke, 121
Manshulo, Andrei, 109
Mao Zedong, 75
Marseille, 58, 70
Marshall Plan, 37, 47
Mashevor, Piotr, 160
Matzen gas field and storage facility, 91, 94, 102, 169
Medvedev, Dmitry, 223–4
Medvezhye gas field (in Siberia), 140–1, 143, 179
Medvezhye-Nadym pipeline, 141
Metalimex, 50, 59, 93
Middle East, 57, 70, 200
Mikoyan, Anastas, 34
Minenergo (Soviet Ministry of Energy), 33, 149
export strategy of, 135–8
Ministry for Construction of Oil and Gas Facilities, see Minneftegazstroii
Ministry of Chemical Industry (Soviet Union), 102, 161
Ministry of Economy and Finance (France), 127
Ministry of Education and Science (Germany), 120
Ministry of Ferrous Metallurgy (Soviet Union), 24, 161
Ministry of Food Industry (Soviet Union), 102
Ministry of Foreign Trade (Soviet Union), 24, 36–7, 39, 42, 53, 56, 63, 99, 109, 111, 131, 133, 175, 178, 184, 227
Ministry of Gas Industry, see Mingazprom
Ministry of Geology (Soviet Union), 32, 34
Ministry of Heavy Machine Building (Soviet Union), 146, 149
Ministry of Industry (France), 126
Ministry of Interior (Soviet Union), 149
Ministry of Petrochemical Machine Building (Soviet Union), 149
Minneftegazstroii (Soviet Ministry for Construction of Oil and Gas Facilities), 147–9, 160–1, 177–8, 183, 197
Minsk, 21, 96, 99–102, 140, 146
Mitterand, François, 187
Mitterer, Leo, 152–3
Mobil Oil, 70
Moldova, 21, 205, 220, 223
Molotov-Ribbentrop Pact, 13, 216
Mommsen, Ernst Wolf, 79–81
Monfalcone, 158, 172
Moscow, 14, 20–1, 23, 25–6, 33, 55–6, 61, 109, 112, 116, 119, 126, 130, 131, 133, 145, 149, 160, 162, 175, 181–4, 214
Munich, 70–1, 73, 82, 87, 111, 118, 155–6, 159, 165
Nadym-Ukhta-Torzhok route, 140
Naftogaz, 208, 210, 213
Nagorno-Karabakh, 205
NAM Gas Export, 55, 60, 69, 71, 80
see also Gasunie
National Iranian Oil Company (NIOC), 182
NATO, see North Atlantic Treaty Organization
Nazih, Hassan, 182
Nazism, 9, 13, 45–6, 51, 68–9, 74, 95, 106
Neef, Fritz, 80
NEGP (North European Gas Pipeline), see Nord Stream
neoliberalism, 202
Neporozhnii, Piotr, 160
Neste (Finland), 132, 214
Index


Nevsky machine-building factory (in Leningrad), 25–6, 189, 198

NIGC, see Iranian national gas company

Nigeria, 185, 200

NIOC, see National Iranian Oil Company

NIOGAS, 47, 48, 65

Nixon, Richard, 118, 124–5, 171

Nord Stream pipeline, 214–17, 232

North Africa, 28, 57, 71–2

see also Algeria; Libya

North Atlantic Treaty Organization (NATO), 3–4, 33, 36, 39, 52, 67–8, 74–5, 130, 190, 222, 229

pipe embargo (1962), 36, 39, 52, 74–5

North German coal, 68–72, 74, 76, 78

North Ossetia, 205

North Sea gas, 2, 28, 62, 107, 157, 165–6, 201–2

North Star project, 133, 171

Northern Lights system (Siyanie severa), 138–43, 179, 183

Norway, 2, 168, 191–2, 201–2, 206–7, 212, 214, 224, 231–2, 234

Nuovo Pignone, 189–90, 199

Nuremberg (Nürnberg), 157, 159, 165–6

Oberlaa, 45

Oberösterreichische Ferngas (OÖ Ferngas), 47, 48, 50, 65

Occidental Petroleum, 133

October Revolution, 14, 25, 145

Odessa, 21

Odvarka, Josef, 160

ÖIAG, 51

Oil and Gas journal, 4, 20, 49, 98, 127, 136, 139, 147, 176, 217


see also Arab oil embargo

oil crisis (1979), 185–7, 220

Oil Ministry (Soviet Union), 15, 147


versus Austria Ferngas, 48–50

and Austrian-Soviet contract, 63–6

and Bavaria, 70

and Iranian deal, 177, 180, 183

and price negotiations, 58–63

and Rudolf Lukesch, 51–4

and Six-Days War, 55–8

and Yamal pipeline, 188

and Yugoslavia, 171–2

OÖ Ferngas, see Oberösterreichische Ferngas

Orange Revolution (in Ukraine), 214–15

Order of Lenin, 17

Orenburg, 171, 176, 180

Organization of Petroleum Exporting Countries (OPEC), 1, 219

Ortoli, François-Xavier, 127

Orudzhev, Sabit, 147–9, 159–60, 159–60, 162, 164, 178, 181

Osipov, Nikolai, 56, 58, 111–13, 115–18, 121, 129, 154, 163, 174, 181, 224

Ostpolitik (German Eastern policy), 4, 10, 78, 83–4, 88, 106, 118, 120, 122, 226

Ostrogozhsk, 145

Panhandle-Hugoton gas field (USA), 28

Parkinson, Cecil, 202


People’s Party (ÖVP, in Austria), 54

Perle, Richard, 192

Persian Gulf, 175

Petrol gas company (Yugoslavia), 171, 195

pipe industry, 4, 6, 17, 23–6, 33, 36, 42–3, 51–2, 62, 75, 97, 109, 113, 139, 143, 159, 184

and Arctic system-building, 139

rise and stagnation of, 6, 8, 23–6

Plessner, Norbert, 77, 86, 110, 116–19, 123–4, 126, 130, 173–4
Podgorny, Nikolai, 34, 53–4, 73
Poland, 13–14, 21, 78, 82, 95, 100, 135, 138, 171, 187–8, 206, 212–16, 220
Politik der Bewegung (Policy of Movement), 68, 84
Poltava, 98
Pompidou, Georges, 127
Poznań, 213
Prague Spring, 91, 184
Pravda, 15
price negotiations
Austria-Soviet Union, 58–63
Germany-Soviet Union, 112–18
Pritchard (American company), 91
Prodi, Romano, 211
Putin, Vladimir, 203, 213, 223–4
Qatar, 200
Reagan, Ronald, 10, 184–5, 188–90, 192–3, 220
Riga, 21, 96, 99–100, 146, 206
Rolls-Royce, 179
Romania, 39, 52, 68, 78, 171, 199
Rosenheim, 77
Rovno, 97, 101, 161
Ruben, Vitalii, 96–7, 99, 146–7
Runge, Hans Carsten, 123
Rusk, Dean, 84
Ruská, 90
Rubenko, Alexander, 41
Saar Ferngas, 71, 158, 173
Sackmann, Franz, 86
Saharan gas, 28, 34–5, 48, 58, 60, 72, 158, 170, 187, 192–3, 200
see also Algerian LNG
St. Petersburg, 215
see also Leningrad
Salzgitter Ferngas, 121, 174
Samara, see Kuybyshev
Saratov, 13–14, 20, 25
Saudi Arabia, 57
Scheel, Walter, 120
Schelberger, Herbert, 112–19, 121–4, 129, 131, 159
Schiller, Karl, 74, 76, 78–81, 84, 86, 107, 109–10, 118, 120, 127, 129
Schlieker, Willy, 76–7
Schloss Hernstein-Berndorf, 58, 60
Schmidt, Helmut, 175, 191
Schröder, Gerhard, 68
Schwarz, Hans-Otto, 82
Scotland, 189–90
Sedín, Ivan, 13–15
Serbia, 172
Shcherbina, Boris, 34, 137, 178
Shebelinka gas field (in eastern Ukraine), 21, 98–9, 144–9, 159, 161, 163
Shell, 28, 45, 69, 71, 73, 76, 122–6, 131, 163, 169, 225
Siberia, 2, 8, 10, 31–43, 55–8, 67, 95, 99, 117, 121, 133–47, 150, 155–6, 163, 167, 171, 176–9, 183–92, 197–9, 203, 212, 217, 233–4
and Arctic system-building, 138–43
and Austrian-Soviet contract, 55–6
and Brezhnev, 185–6
and Galician gas, 95
and Finland, 163
and Iran, 176, 183
and Ukranian crisis, 143–7
and United States, 133, 171, 186, 190–2
and Yamal pipeline, 188, 190–2
Sidorenko, Alexander, 34, 148–9
Six-Days War, 55–8
Sleipner gas field (off Norway), 201
Slochteren gas field (in the Netherlands), 28, 34, 48, 81
Slovakia, 203, 213
see also Czechoslovakia
SMV (Soviet Mineral Oil Administration), 46–8
Social Democratic Party (SPÖ, in Austria), 54, 74, 84, 107, 120, 165, 226
socialism, 9, 14, 19, 35, 39, 68, 171–2, 187
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Société Commerciale du Methane Saharien (COMES), 28</td>
</tr>
<tr>
<td>Solidarność, 187</td>
</tr>
<tr>
<td>see also Lech Walesa</td>
</tr>
<tr>
<td>Sonatrach, 34, 55, 72–3, 87–8, 90, 170, 187, 191, 225</td>
</tr>
<tr>
<td>Sopex, 172, 175</td>
</tr>
<tr>
<td>Sorsa, Kalevi, 163</td>
</tr>
<tr>
<td>Soviet-Austrian Commission for Economic Cooperation, 132</td>
</tr>
<tr>
<td>Soviet Council of Ministers, 24, 34, 41–2, 90, 95, 100–1, 138, 140, 143, 147–9, 153, 160, 182</td>
</tr>
<tr>
<td>Soviet-Finnish agreement (1971), 132</td>
</tr>
<tr>
<td>Soviet Ministry of Foreign Trade, 56, 109, 131–3, 133</td>
</tr>
<tr>
<td>Soyuz (Union) pipeline, 171, 177, 180</td>
</tr>
<tr>
<td>Soyuznefteexport, 63–5, 116, 132, 227</td>
</tr>
<tr>
<td>Spain, 35, 49, 71, 131–3, 171, 195, 200–1, 219</td>
</tr>
<tr>
<td>Sputnik satellite, 17</td>
</tr>
<tr>
<td>Stalin, Josef, 13–15</td>
</tr>
<tr>
<td>Stance, Maruice, 133</td>
</tr>
<tr>
<td>Staribacher, Josef, 163, 188</td>
</tr>
<tr>
<td>State Committee for Material-Technical Supply, see Gossnab</td>
</tr>
<tr>
<td>State Planning Commission, see Gosplan</td>
</tr>
<tr>
<td>Statfjord gas field (off Norway), 192</td>
</tr>
<tr>
<td>Stavropol, 20, 26</td>
</tr>
<tr>
<td>Stavropol-Moscow-Leningrad pipeline, 26</td>
</tr>
<tr>
<td>Steeg, Helga, 200</td>
</tr>
<tr>
<td>Steirische Ferngas, 47, 48, 50, 65</td>
</tr>
<tr>
<td>Stockholm Environmental Conference, 167</td>
</tr>
<tr>
<td>Strauss, Franz-Josef, 84, 86</td>
</tr>
<tr>
<td>Streibl, Max, 182</td>
</tr>
<tr>
<td>Styria, 47, 154, 172</td>
</tr>
<tr>
<td>see also Steirische Ferngas</td>
</tr>
<tr>
<td>Südostdeutsche Ferngas AG, 45</td>
</tr>
<tr>
<td>Suez canal, 57</td>
</tr>
<tr>
<td>sulfur dioxide, 167</td>
</tr>
<tr>
<td>surplus for export, 26–9, 35</td>
</tr>
<tr>
<td>Sverdlovsk, 23–4</td>
</tr>
<tr>
<td>Sweden, 3, 9–10, 64, 67, 89, 131–3, 171, 199, 201–2, 206, 214, 216, 218–19, 222, 226</td>
</tr>
<tr>
<td>Swissgas, 158</td>
</tr>
<tr>
<td>Switzerland, 3, 34–5, 39, 69, 72, 126–7, 131–3, 153, 158, 171, 199, 219</td>
</tr>
<tr>
<td>synthetic oil production, 69</td>
</tr>
<tr>
<td>Arctic, 138–43</td>
</tr>
<tr>
<td>coalitions, 5</td>
</tr>
<tr>
<td>and Lenin, 14</td>
</tr>
<tr>
<td>Ukrainian, 144, 147, 150, 155</td>
</tr>
<tr>
<td>Western, 27–8</td>
</tr>
<tr>
<td>TAL, see Trans-Alpine Pipeline</td>
</tr>
<tr>
<td>Tallesbrunn gas field and storage facility (in Austria), 169</td>
</tr>
<tr>
<td>Tarvisio, 61, 154</td>
</tr>
<tr>
<td>Tbilisi, 22</td>
</tr>
<tr>
<td>TDOs, see Temporary Denial Orders</td>
</tr>
<tr>
<td>Technical Works of Stuttgart, 82</td>
</tr>
<tr>
<td>Temporary Denial Orders (TDOs), 190</td>
</tr>
<tr>
<td>TEN, see Trans-European Networks</td>
</tr>
<tr>
<td>Tenneco, 133</td>
</tr>
<tr>
<td>Ternopol, 98, 144</td>
</tr>
<tr>
<td>Texas Eastern Transmission, 133</td>
</tr>
<tr>
<td>Thatcher, Margaret, 189, 200</td>
</tr>
<tr>
<td>Three Mile Island, 185</td>
</tr>
<tr>
<td>Thyssen, 52–3, 55–6, 65, 79, 81–2, 86, 121</td>
</tr>
<tr>
<td>Thyssengas, 48, 69, 80–1, 130, 174</td>
</tr>
<tr>
<td>Titarenko, Alexei, 161</td>
</tr>
<tr>
<td>Tolloy, Giusto, 58</td>
</tr>
<tr>
<td>Tončić-Sorinj, Lujo, 56</td>
</tr>
<tr>
<td>Trans-Alpine Pipeline (TAL), 70</td>
</tr>
<tr>
<td>Trans-Austria pipeline, 171, 193, 207, 209, 231</td>
</tr>
<tr>
<td>Trans-Canada pipeline, 23</td>
</tr>
<tr>
<td>Trans-European Networks (TEN), 213</td>
</tr>
<tr>
<td>Trans-European Pipeline, 5, 39, 55–6, 58–9, 61, 65–6, 77, 80, 86, 105, 126, 129</td>
</tr>
<tr>
<td>Trans-Mediterranean pipeline, 187, 192–3, 202</td>
</tr>
</tbody>
</table>
Trans-Saharan pipeline, 200
transit through Czechoslovakia and
Austria, 151–4
Trefgarne, Lord, 202
Trieste, 43, 70, 177
Troll gas field (off Norway), 201, 214
Tsarapkin, Semyon, 106, 108, 115
Tuimazinsk, 17
Turkey, 3, 172–3, 199–200, 209, 212, 234
Turkmenistan, 183, 209
Tyrol, 77
Tyumen, 31–4, 38, 40–1, 136–9, 142–3, 178–9, 197
Ufa, 20
and Austrian-Soviet contract, 90, 95–103
and Kortunov’s death, 143–7
and regional gas crisis (1969), 101
as victim, 97–101
Ukrainian Council of Ministers, 95, 100–1, 148–9, 160
Ukhta-Torzhok pipeline, 138–9, 143
Ulbricht, Walter, 78, 83
Ulm, 157
UNECe, see United Nations Economic Committee for Europe
United Austrian Iron and Steel Works, see VÖEST
United Kingdom, 34–5, 37, 57, 62, 71, 115, 189, 192, 200–2, 214–15, 218
United Nations, and Afghanistan, 184
United Nations Economic Committee for Europe (UNECe), 26–8, 230
United States, 6, 18–19, 24–7, 37, 45, 84, 91–2, 131–4, 155, 171, 184–8, 191
compressor technology, 25–7
and opposition to Yamal pipeline, 184–8
and pipe manufacturing, 24
and political relations with the Soviet Union, 133
Urals, 22–4, 26, 32–3, 38, 40, 136, 179
Urengoi gas field (in Siberia), 133, 140, 179, 185, 198–9, 225, 231
Urengoi-Uzhgorod export pipeline, 225, 231
see also Yamal pipeline
den Uyl, Joop, 169
Uzbekistan, 22, 23, 40, 145
Uzhgorod, 90, 100–1, 144, 146–9, 159, 161, 163, 171, 183, 198, 225, 231
Vacuum Oil, 45
Valdai-Latvia pipeline, 146–7
VDNKh, see Exhibition of Achievements of the National Economy
VGW (Verband der deutschen Gas- und Wasserwerke), 81–2
Vienna, 45, 58, 60, 63, 113–14, 153
Vienna Public Works (Wiener Stadtwerke), 47–8, 65
Vilnius, 21, 96, 146, 204
VNG, 205–6
VÖEST (United Austrian Iron and Steel Works), 51–6, 58–61, 65, 74, 78, 81, 99
Vojvodina, 172
Volchov, Stanislav, 108, 112, 114, 119
Volga, 20–1, 31
Vonhoff, Hendrik, 191, 193
Vuktylskoe gas field (in Komi ASSR), 138, 143
Vuktylskoe-Ukhta-Torzhok pipeline, 143
Vyakhirev, Rem, 209
Vyborg, 215
Waidhaus, 114, 159
Waldheim, Kurt, 62
Walesa, Lech, 187, 212
Wandel durch Annäherung (change through rapprochement), 74
Warsaw Pact, 9, 78, 91–2, 105, 218
Wedekind, Gerhard, 110, 112, 123
Wehner, Herbert, 86
Weise, Jürgen, 117
Wiener Elektrizitätswerke, 45
Wiener Stadtwerke, see Vienna Public Works
Wilhelmshaven, 170
Wingas, 206, 212–13
## Index

**Wintershall,** 205–6, 211–12, 215  
*see also* BASF

**Wodak, Walter,** 61

**Woratz, Gerhard,** 78, 107

**World War II,** 13, 28–9, 69

**Würzburg,** 157, 165–6

**Yamal pipeline,** 179–95, 197–200, 217–19, 222, 229  
and compressor embargo, 188–90  
envisaging, 179–83  
and Europe’s contested vulnerability, 190–5  
and United States opposition, 184–8

**Yamal-Nenets national region,** 137, 180, 198

**Yamburg gas field (in Siberia),** 180, 198

**Yeltsin, Boris,** 212, 223

**Yerevan,** 22

**Yugoslavia,** 39, 48–9, 52, 54–5, 65, 72–3, 87, 153, 158, 169, 171–2, 190, 193, 203, 231, 234

**Yushchenko, Viktor,** 215

**Zeebrugge,** 201

**Zwerndorf gas field (in Austria and Czechoslovakia),** 47, 50, 59, 93