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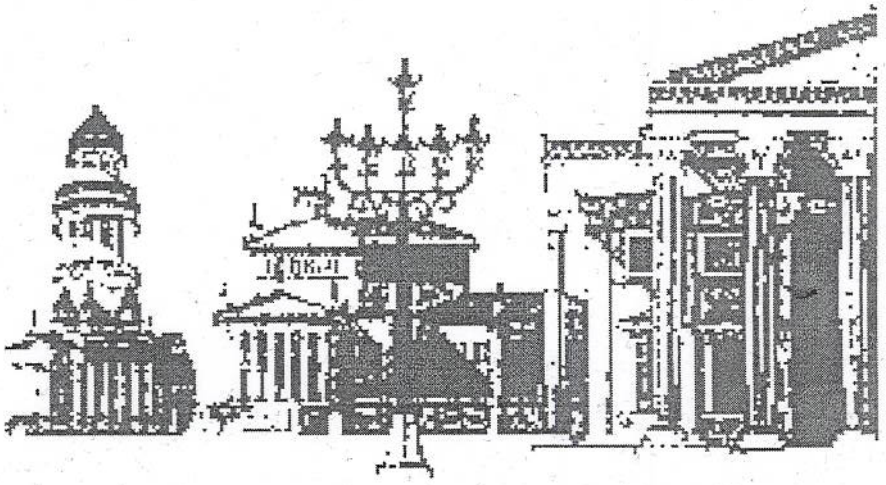

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GESELLSCHAFT FUR ENERGIEWISSENSCHAFT UND
ENERGIEPOLITIK e.V.
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MIDDLE EAST, RUSSIA AND *CASPIAN REGION* – NEW GEOPOLITICS FOR OIL & GAS FLOWS IN THE EASTERN HEMISPHERE

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1996 Proved oil reserves: World & Caspian region

	Bln Bbl	Bln t	% of total
Middle East	654,0	89,6	59,7
North America	87,7	12,0	8,0
Latin America	68,0	9,3	6,2
Africa	56,9	7,8	5,2
Asia	45,1	6,2	4,1
Europe (excl. CIS)	18,5	2,5	1,7
CIS, incl.	165,5	22,7	15,1
Russia	136,5	18,7	12,5
Caspian region	29,0	4,0	2,6
Total	1095,7	150,1	100,0

OIL & GAS RESERVES IN THE CASPIAN REGION, Bln t.c.e.
(US Energy Information Administration)

Countries	Oil			Gas			Oil and Gas		
	Proved	Possible	Total	Proved	Possible	Total	Proved	Possible	Total
Azerbaijan	0.7-2.2	5.4	6.1-7.6	0.4	1.3	1.7	1.1-2.6	6.7	7.8-9.3
Iran	0	2.4	2.4	0	0.4	0.4	0	2.8	2.8
Kazakstan	2.0-3.2	17	19.0-20.2	2.0-3.1	3.3	5.3-6.4	4.0-6.3	20.3	24.3-26.6
Russia	0.04	1.0	1.0	-	-	-	-	-	-
Turkmenia	0.3-0.3	6.4	6.7	3.7-5.8	5.9	9.6-11.7	4.0-6.1	12.3	16.3-18.4
Total	3.0-5.7	32.2	35.2	-	-	-	-	-	-
Total excl. Russia	3.0-5.7	31.2	34.2-36.9	6.1-9.3	10.9	17.0-20.2	9.1-15.0	42.1	51.1-57.1

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OIL & GAS RESOURCES OF THE CASPIAN SEA AREA, mean D1 estimates, main delimitation scenarios, Bln t.c.e.
(RF Ministry of Natural Resources)

States	Scenario 1			Scen. 2	Scen. 3	Scen. 4	Scen. 5
	Sea level –26m	Sea level –27m	Sea level –28m	Sea level –28m			
Azerbaijan	*3.7*	*3.7*	*3.7*	4.0	*3.7*	*3.7*	*3.7*
Iran	*1.0*	*1.0*	*1.0*	2.6	*1.0*	*1.0*	*1.0*
Kazakstan	9.0	8.0	6.3	4.5	*4.1*	6.2	6.1
Russia	2.2	2.1	*2.0*	2.6	4.1	2.6	2.7
Turkmenia	2.2	2.2	2.2	2.6	*2.1*	2.2	2.2
Total	18.1	17.0	15.2	16.3	*15.0*	15.7	15.7

Note: Maximum estimates, *minimum estimates*

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Scenario 1: Oil & gas resources are divided between five pre-Caspian states on the sectoral basis using the mean line principle. In conditional Russian-Kazakh sector such division (different mean lines) is made using three different Caspian sea-level marks.

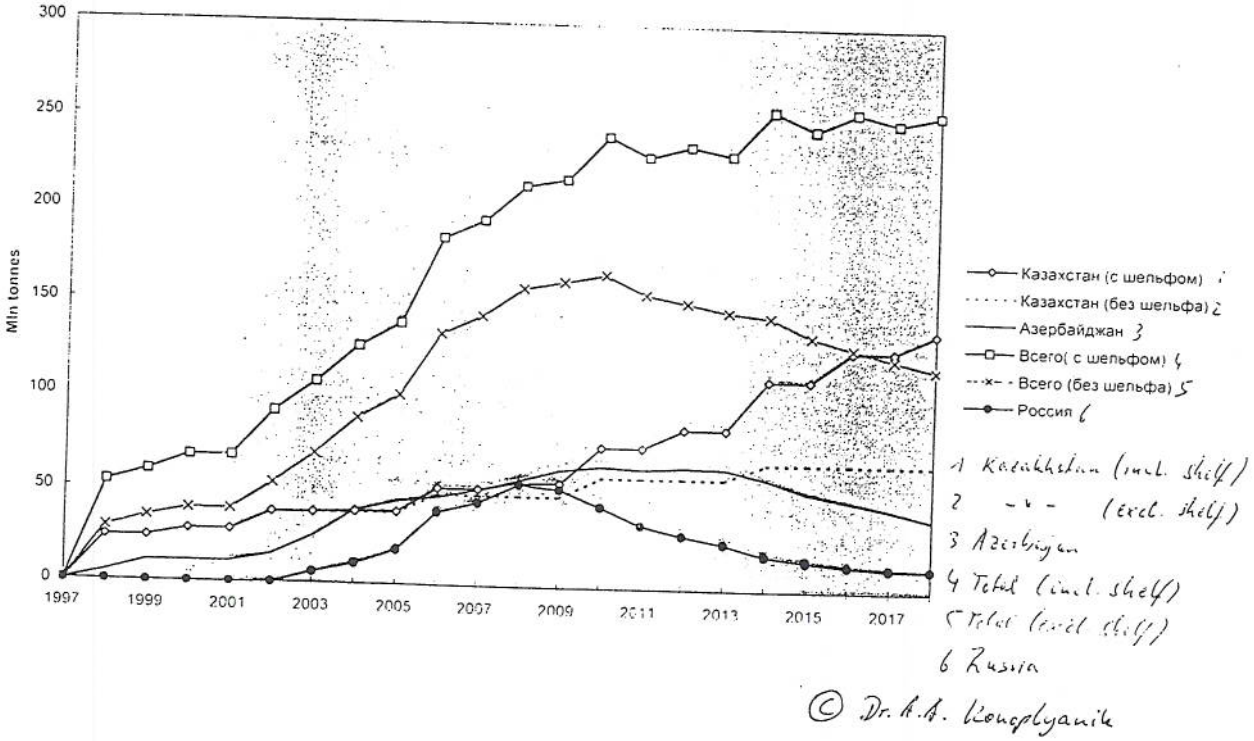
Scenario 2: Oil & gas resources are divided between five pre-Caspian states using the principle of 10-miles zone of national jurisdiction and equal access of all five states to the resources of the international zone.

Scenario 3: Oil & gas resources in conditional Russian-Kazakh sector are divided between the two on the equal basis

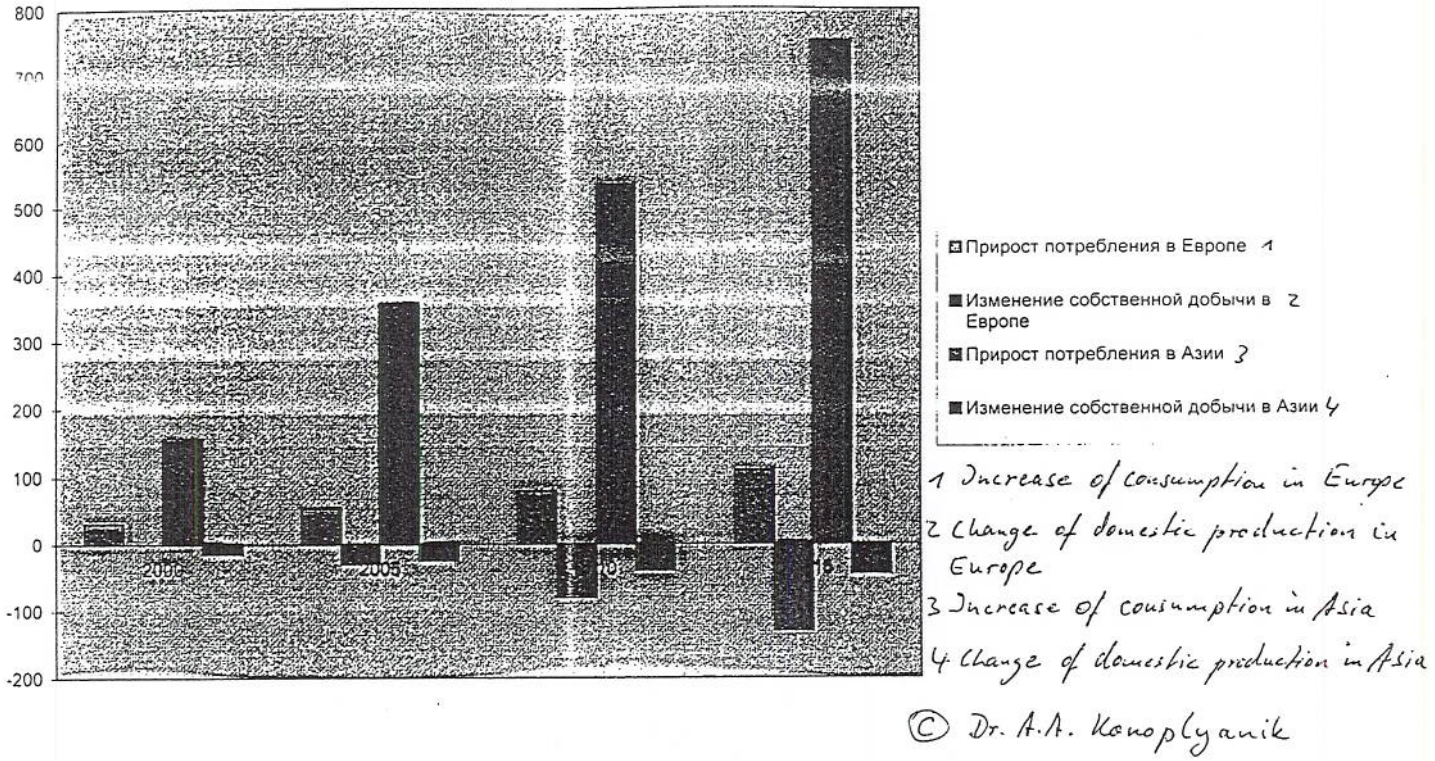
Scenario 4: Oil & gas resources in conditional Russian-Kazakh sector are divided between the two on the basis of the Kazakh Government's Ordinance of December 10, 1996.

Scenario 5: Oil & gas resources in conditional Russian-Kazakh sector are divided between the two on the basis of the "pragmatic line", taking into account that the Russian tender area (Fall 1997) belongs to Russia.

Production capabilities for Caspian crude & for new competing Russian oil projects



Projected incremental oil demand in Eastern Hemisphere, 1995-2015 (IEA)



CASPIAN OIL SUPPLY & DEMAND PROJECTIONS IN E.HEMISPHERE
SCENARIO 1 – "WESTERN"

			Supplies to Europe					
	Increm. demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Timan-Pechora)	Iraq	Total	Deficit(-)/ Surplus(+)
2000	30	30	11	5	0	40	56	26
2005	54	84	44	28	18	60	150	66
2010	79	159	64	38	43	80	225	66
2015	109	239	52	67	16	80	215	-24
			Supplies to Asia					
	Increm. Demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Sakhalin 1&2)	Iraq	Total	Deficit(-)/ Surplus(+)
2000	153	168	0	0	5	0	5	-163
2005	357	382	0	0	36	60	96	-286
2010	535	575	0	0	16	120	136	-439
2015	748	793	0	0	8	220	228	-565

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CASPIAN OIL SUPPLY & DEMAND PROJECTIONS IN E.HEMISPHERE SCENARIO 2 – "EASTERN"

Supplies to Europe								
	Increm. Demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Timan-Pechora)	Iraq	Total	Deficit(-)/ Surplus(+)
2000	30	30	11	5	0	40	56	26
2005	54	84	44	5	18	60	127	43
2010	79	159	64	5	43	80	192	33
2015	109	239	52	5	16	80	153	-86
Supplies to Asia								
	Increm. Demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Sakhalin 1&2)	Iraq	Total	Deficit(-)/ Surplus(+)
2000	153	168	0	0	5	0	5	-163
2005	357	382	0	20	36	60	116	-266
2010	535	575	0	20	16	120	156	-419
2015	748	793	0	20	8	220	248	-545

CASPIAN OIL SUPPLY & DEMAND PROJECTIONS IN E.HEMISPHERE SCENARIO 3 – "UNREALISTIC"

Supplies to Europe								
	Increm. demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Timan-Pechora)	Iraq	Total	Deficit(-)/ Surplus(+)
2000	30	30	0	5	0	0	5	-25
2005	54	84	0	28	18	0	46	-38
2010	79	159	0	38	43	0	81	-78
2015	109	239	0	67	16	0	83	-156
Supplies to Asia								
	Increm. Demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Sakhalin 1 & 2)	Iraq	Total	Deficit(-)/ Surplus(+)
2000	153	168	11	0	5	40	56	-112
2005	357	382	44	0	36	120	200	-182
2010	535	575	64	0	16	200	280	-295
2015	748	793	52	0	8	300	360	-433

CASPIAN OIL SUPPLY & DEMAND PROJECTIONS IN E.HEMISPHERE
SCENARIO 4 – "WESTERN, MODIFIED"

	Increm. demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Timan-Pechora)	Iraq	Total	Total, incl. demand in Black Sea area	Deficit(-)/ Surplus(+)
Supplies to Europe									
2000	30	30	11	5	0	40	56	39	9
2005	54	84	44	28	18	60	150	117	33
2010	79	159	64	38	43	80	225	192	33
2015	109	239	52	67	16	80	215	182	-57
Supplies to Asia									
	Increm. demand since 1995	Increm. demand incl. domestic production	Azerbaijan	Kazakstan	Russia (Sakhalin 1 & 2)	Iraq	Total	Deficit(-)/ Surplus(+)	
2000	153	168	0	0	5	0	5	-163	
2005	357	382	0	0	36	60	96	-286	
2010	535	575	0	0	16	120	136	-439	
2015	748	793	0	0	8	220	228	-565	

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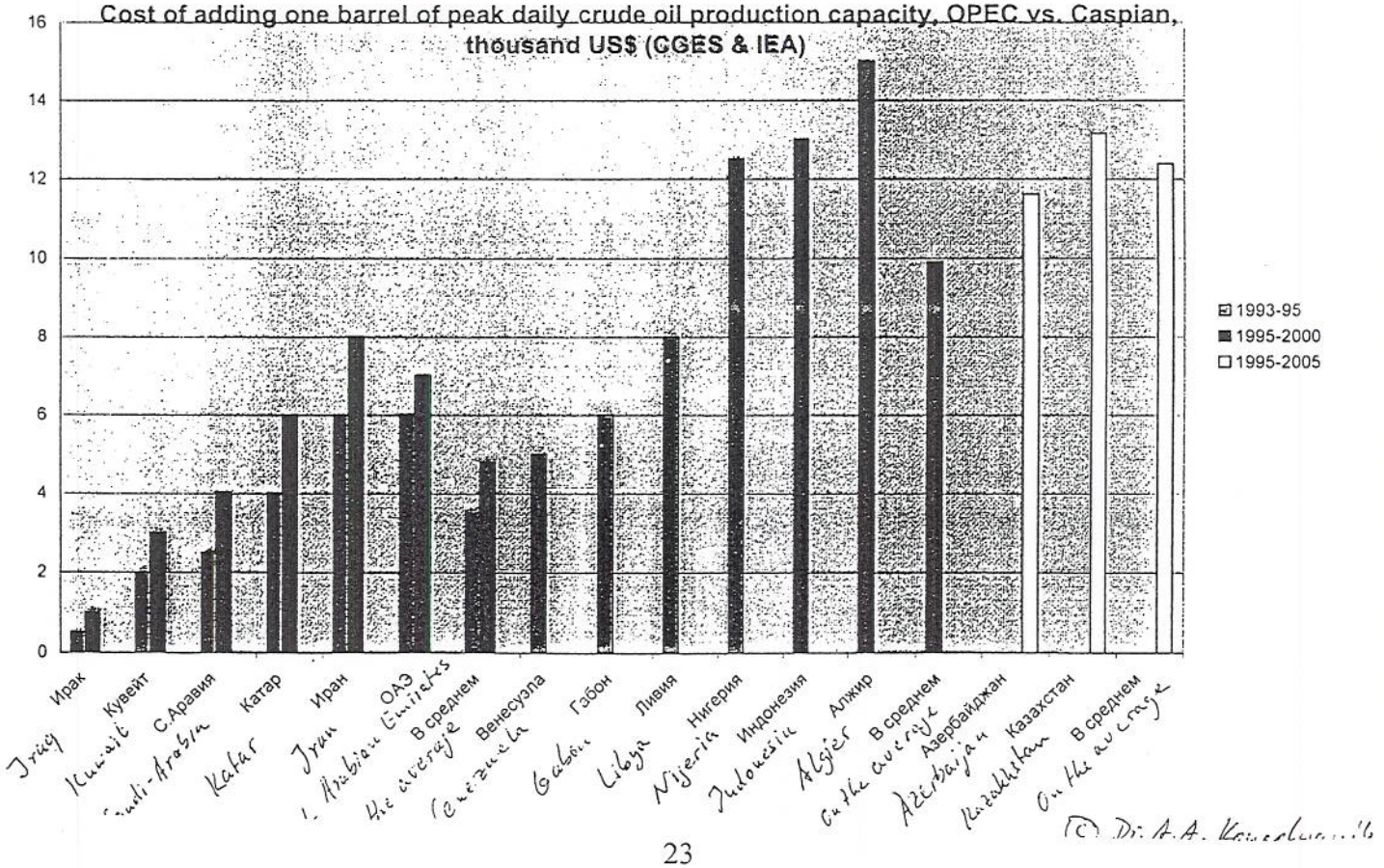

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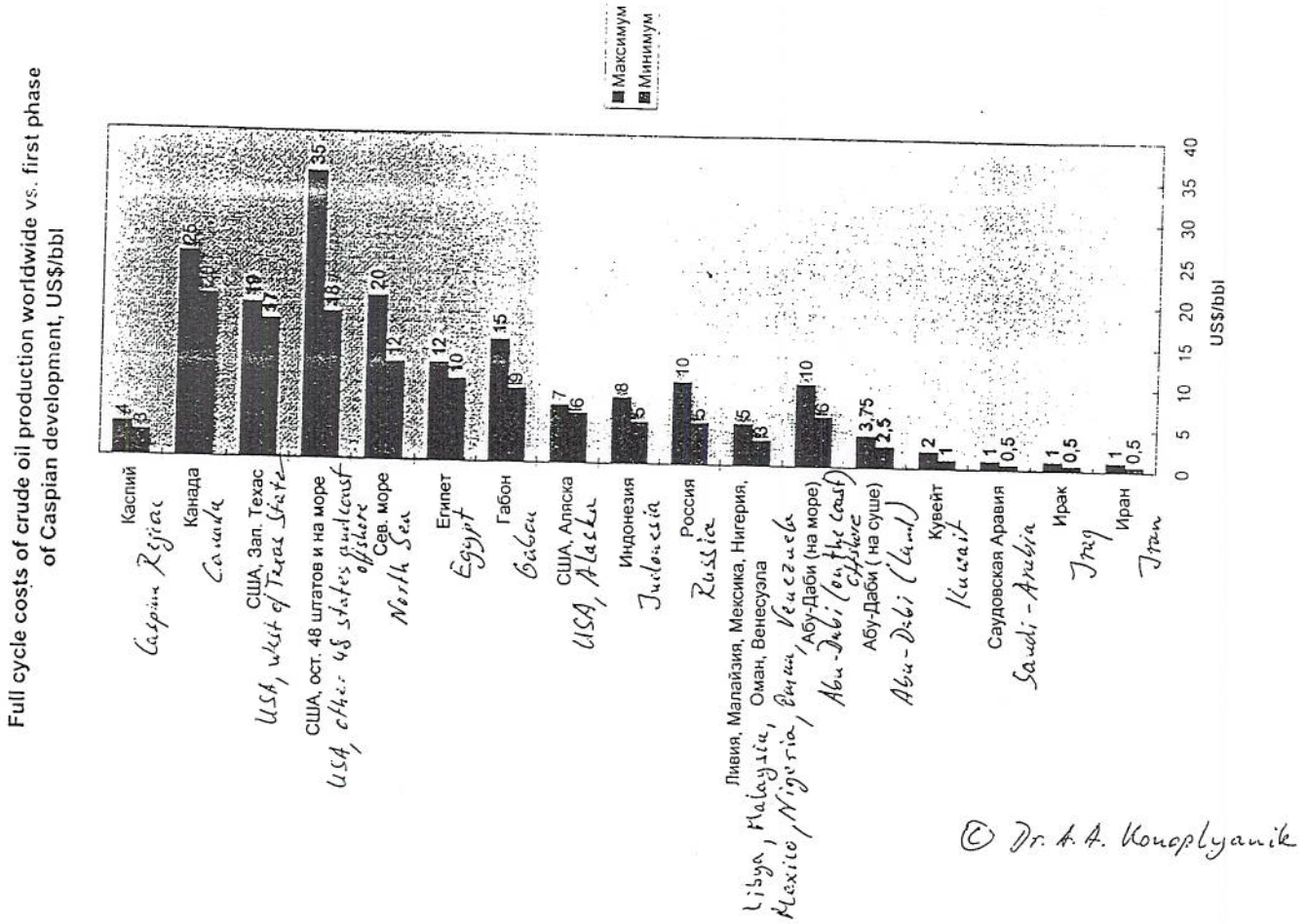

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PIPELINE TRANSPORTATION COSTS OF CASPIAN CRUDE TO DIFFERENT DESTINATIONS

Route	CAPEX, US$ mln	Capacity, mty	Costs, US$/tonne
Baku-Supsa	405 – 550 – 1700	5 – 10 – 30	34 – 24 – 21
Baku-Supsa-Burgas-Alexandrupulis	1000 – 1250 – 2300	5 – 10 – 30	44 – 34 – 29
Baku-Novorossyisk	100 – 115 – 1000	5 – 10 – 30	19 – 22 – 25
Baku-Ceyhan	1500 – 1900 – 3300	5 – 10 – 30	110 – 70 – 42
Tengiz-Aktau-Baku-Supsa	2250	30	38
CPC (Tengiz-Novorossyisk)	2800	36	25
CAP (Tengiz-Pasni)	4450	42	44
Kazakstan-East China	10000	20	200-250
Baku-Persian Gulf	1700 – 2100 – 3300	5 – 10 – 30	130 – 80 – 43
BPS (Timan-Pechora-Baltic Sea)	3200	30-40	60-70

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Structure of cif price of Caspian oil at the European & Asian markets

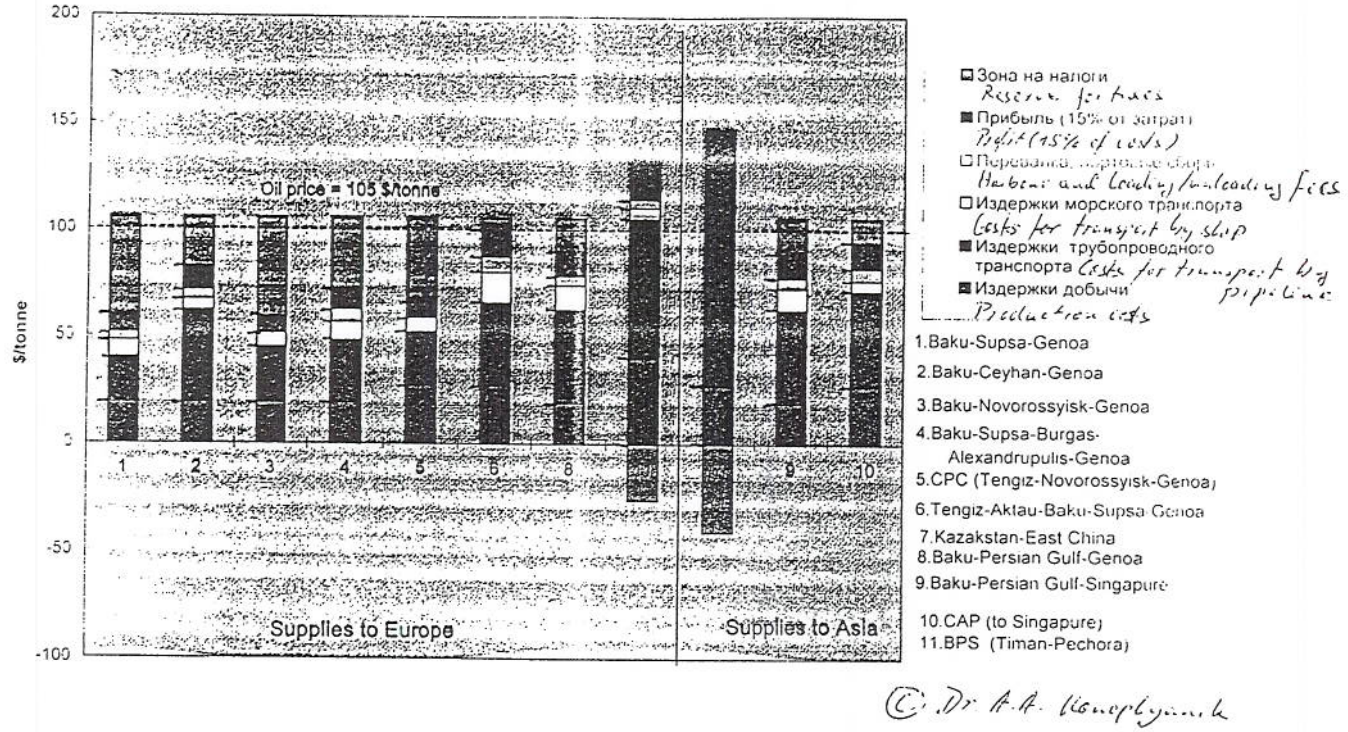

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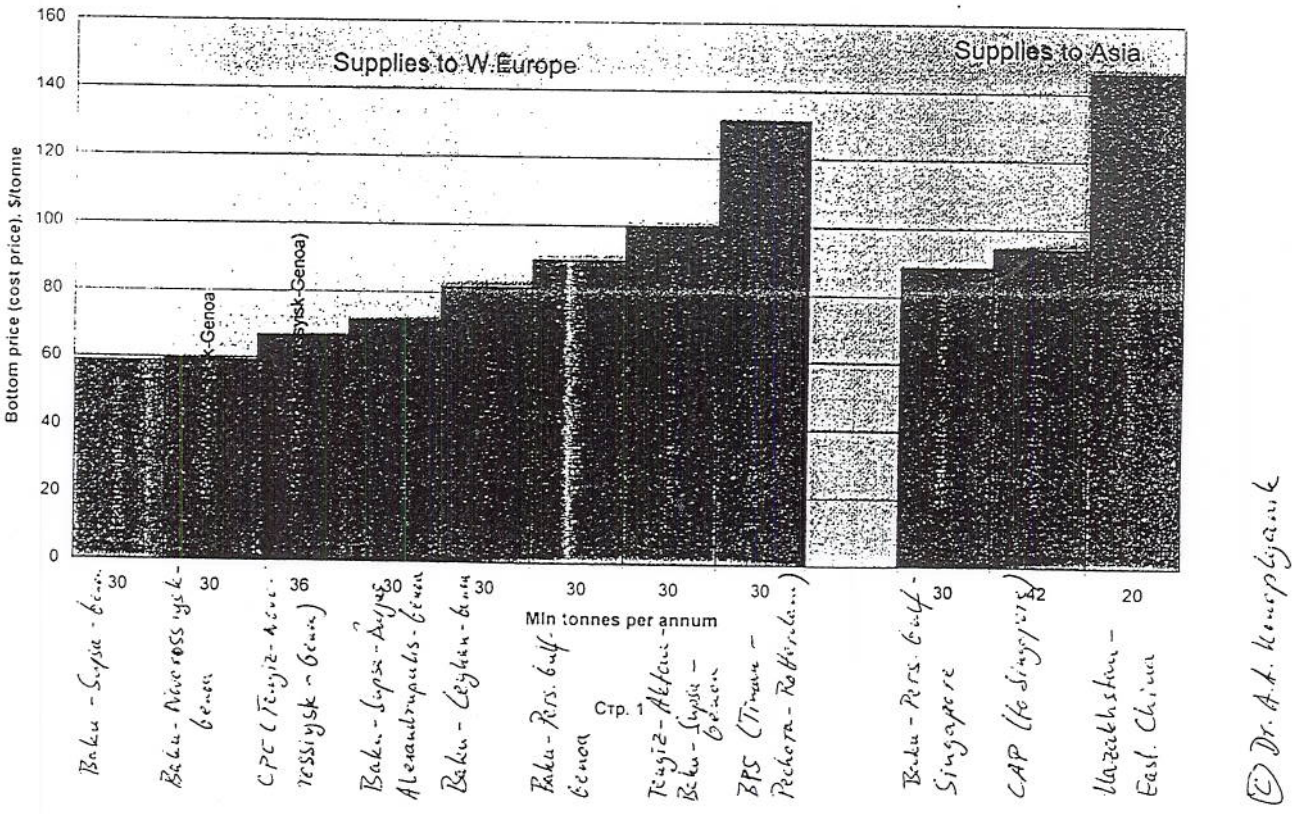
Рис.8

Structure of Caspian oil supplies to Europe & Asia dependent of its bottom price (cost price)



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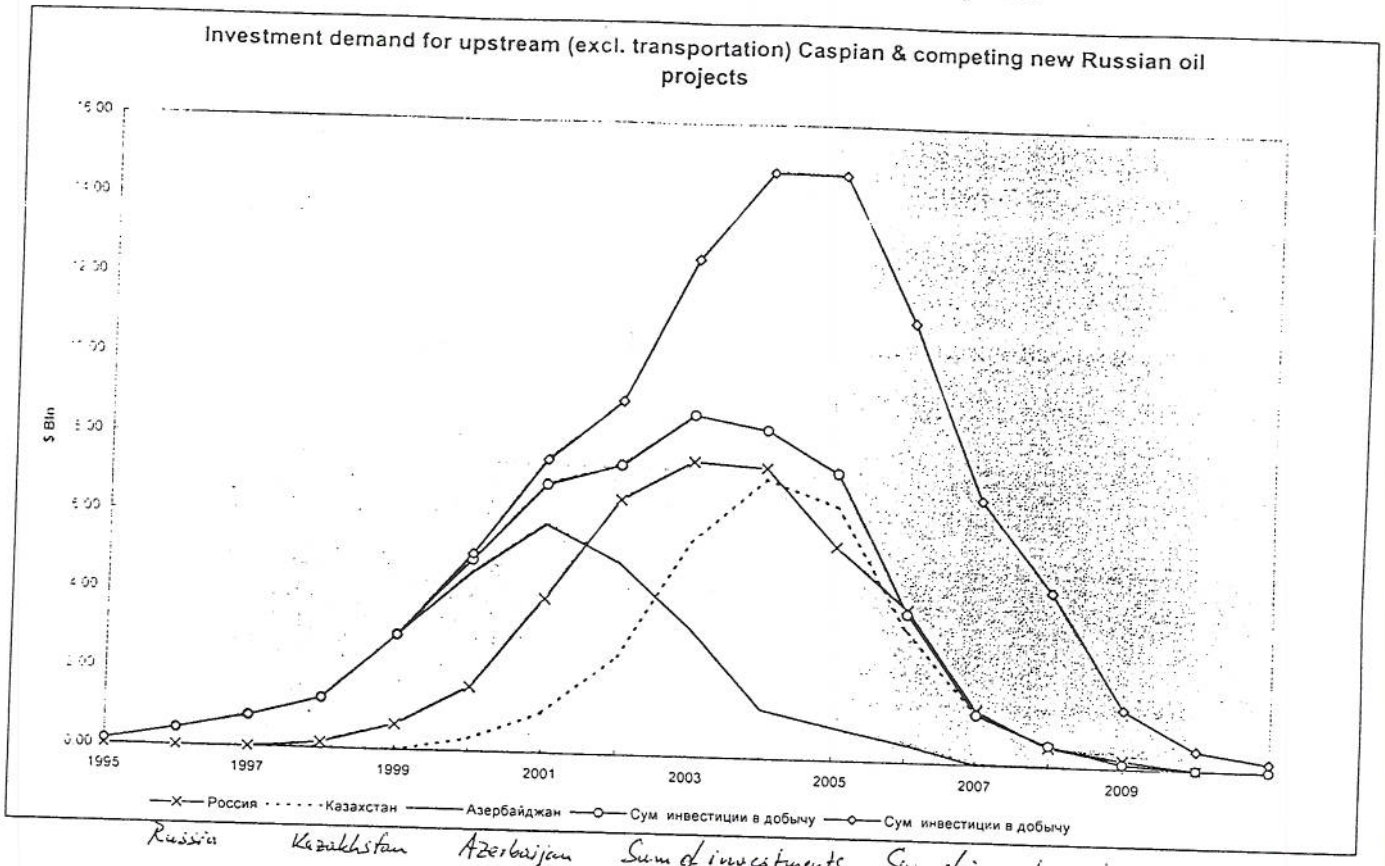

Caspian & competing new Russian oil projects, upstream investment demand incl. transportation, US $ Bln, main scenarios

Parameters	Scenario 1	Scenario 2	Scenario 3
Exploration & Production			
- Azerbaijan	26.5	26.5	26.5
- Kazakstan	28	28	28
Total Caspian	54.5	54.5	54.5
Russia (TP + S1,2)	39	39	39
Total	93.5	93.5	93.5
Transportation			
- Azerbaijan	5.1	5.1	7.5
- Kazakstan	2.7	9.6	2.7
Total Caspian	7.8	14.7	10.2
Russia (TP + S1,2)	3	3	3
Total	10.8	17.7	13.2
E & P plus Transportation			
- Azerbaijan	31.6	31.6	34
- Kazakstan	30.7	37.6	30.7
Total Caspian	62.3	69.2	64.7
Russia (TP + S1,2)	42	42	42
Total	104.3	111.2	106.7

CONCLUSIONS:

1. THERE MIGHT BE NO PLACE FOR CASPIAN OIL ON TRADITIONAL MARKETS (W.EUROPE, S.-E. ASIA) DUE TO DEMAND & COST LIMITATIONS EVEN FOR THE FIRST PHASE VOLUMES OF ITS DEVELOPMENT (2005 – 70 MTY, 2010 – 100 MTY, 2015 – 120 MTY).

2. FULL-SCALE SUPPLIES OF CASPIAN OIL TO W.EUROPE ARE PROJECTED TO BE EXCESSIVE & WILL LEAD TO OIL PRICE DECREASE. CASPIAN OIL IN W.EUROPE LOOSES PRICE COMPETITION WITH M.EAST OIL, BUT WINS – WITH RUSSIAN OIL (BOTH WITH "OLD" W.SYBERIAN AND WITH "NEW" TIMAN-PECHORA'S OIL).

3. IN ASIA AN EXCESSIVE PROJECTED OIL DEMAND EXISTS. THAT IS WHY ASIAN MARKET IS MORE ATTRACTIVE FOR CASPIAN OIL DUE TO DEMAND CONSIDERATIONS. HENCE, TRANSPORTATION OF CASPIAN OIL TO THIS MARKET IS LINKED WITH MORE ECONOMIC OBSTACLES, THAN OTHER ROUTES. IN SOUTH & S.-E. ASIA CASPIAN OIL LOOSES PRICE COMPETITION WITH M.EAST OIL AND NEEDS TO BE SUPPLIED TO THIS MARKETS VIA TERRITORIES OF MAJOR OIL-EXPORTING COUNTRIES – COMPETITORS OF CASPIAN OIL.

4. UNDER THE FRAMEWORK OF "MULTIPLE ROUTES" CONCEPT, THE TRANS-RUSSIA AND/OR TRANS-GEORGIA ROUTES TO W.EUROPE (INCL. THOSE BY-PASSING BOSPHORUS) ARE MORE ECONOMICALLY BENEFICIAL THAN ANY ROUTES VIA TURKEY. THAT IS TRUE TO ALL THE COMBINATIONS OF CAPACITIES OF ALL THESE ROUTES. ROUTES TO CEYHAN "CUTS" CASPIAN (AZERI) OIL FROM ITS MOST PROSPECTIVE MARKET – COUNTRIES OF THE BLACK SEA AREA.

5. TRANSPORTATION OF CASPIAN CRUDE TO SOUTH DESTINATION LEADS IT TO THE MOST CAPACIOUS ASIAN MARKET AND IS MORE ECONOMICALLY BENEFITIAL THAN TURKISH ROUTES TO W.EUROPE. THAT OPENS THE DOOR TO REASSESSMENT OF ECONOMIC PROS & CONTS OF IRANIAN SANCTIONS.

6. WHILE CHOOSING TRANSPORTATION ROUTES OF CASPIAN OIL, MAJOR COMPETITION EXISTS BETWEEN *BAKU-CEYHAN* AND *TENGIZ-NOVOROSSYISK (CPC)* PIPELINES. THESE PIPELINES ARE MUTUALLY EXCLUSIVE DUE TO ECONOMIC CONSIDERATIONS AND MIGHT NOT BE WANTED IF DEVELOPMENT OF CASPIAN OIL IS SLOWED DOWN.

7. EVEN FIRST PHASE OF CASPIAN OIL DEVELOPMENT MIGHT NOT BE FINANCED IN FULL VOLUMES OF ITS INVESTMENT DEMAND (US$ 60-70 BLN) ON ADMISSIBLE CONDITIONS.

CONCLUSIONS (CONT'D)

8. MARKET NICHES FOR CASPIAN OIL DOES EXIST MAINLY IN THE NEW MARKETS. "EXCESSIVE" SUPPLY OF CASPIAN OIL MIGHT BE ABSORBED BY THE COUNTRIES OF BLACK SEA AREA (AZERI CRUDE) AND SUAR-CHINA (KAZAK CRUDE) IN THE CASE OF THEIR STABLE ECONOMIC GROWTH. IN THESE NEW MARKETS CASPIAN OIL SHOULD HAVE ECONOMIC ADVANTAGES COMPARED TO TRADITIONAL OIL SUPPLIES FROM M.EAST & N.AFRICA.

9. ORIENTATION TO THIS NEW MARKETS PRESUPPOSES REASSESSMENT OF THE CURRENTLY EXISTING "MULTIPLE ROUTES" CONCEPT OF CASPIAN OIL TRANSPORTATION, STIPULATING MULTIPLE ROUTES OF ITS SUPPLY TO W.EUROPE.

10. UNDER THE FRAMEWORK OF MULTILATERAL COOPERATION OF THE REGIONAL STATES THE NEW AND MORE EFFECTIVE TRANSPORTATION DECISIONS MIGHT BE FOUND OUT, I.E. SUPPLIES TO SUAR-CHINA MIGHT BE THE ECONOMIC SOLUTION IF THE KAZAK-RUSSIAN SWAP IS USED (SUBSTITUTION OF KAZAK OIL BY RUSSIAN W.SYBERIAN CRUDE).

11. RUSSIAN OIL POLICY IN THE CASPIAN AREA NEED TO BE FURTHER DEVELOPED UNDER THE FRAMEWORK OF "INTEGRATED APPROACH", TOTALLY GIVING UP THE AIM OF PROVIDING DOMINANT INFLUENCE IN THE REGION IF NOT SUPPORTED BY THE REAL ECONOMIC MEANS. DEVELOPMENT OF MUTUALLY BENEFITIAL ECONOMIC COOPERATION IN THE REGION ON THE LEVEL OF THE STATES AND COMPANIES NEED TO BE RESULT OF OBJECTIVE ECONOMIC CIRCUMSTANCES.