

The Unrealized Dream of Caspian Oil

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Abstract

Ever since the end of the Cold War Caspian Sea region has been strategically transformed in terms of great power rivalry. As the region is presumed to be rich in hydrocarbon resources, global and regional powers are striving hard to extend their weight to maximize their stake in energy exploration and transportation. The early 1990s data produced by US Department of Energy projected the Caspian Sea oil resources to be around 200 billion barrels that made it comparable to Saudi Arabia. Since then numerous subsequent projections triggered debate among scholars expert in World Hydrocarbon supplies, policy makers and oil barons to look at Caspian Sea oil as an alternative to the Persian Gulf. However, much fanfare of 1990s of overstated hydrocarbon reserves appeared bubble burst when proven energy reserves in the region found too little. The present essay unfolds the myth of Caspian oil reserves and embellished projection of Caspian region as an alternative to Persian Gulf.

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Introduction

In the era of globalization where oil is the fuel of growth for economic development, any discovery of this 'Black Gold' generate much political and economic enthusiasm among Western countries, oil producing states and oil companies. The strategic location of Caspian Sea with billions of barrel oil and trillions of cubic feet gas reserves make it important factor in world energy security. Immediately after the collapse of Soviet Union the discovery of oil and natural gas in the Caspian Sea basin engender much fanfare about huge potential of oil and gas reserves where the region was projected as a 'new Middle East' in the West. The emergence of Caspian Sea region as an alternative to Persian Gulf led to scramble for dominance by major powers of the world. However, the fallacy created due to inflated reserve projection by US Energy Information Administration (EIA), United States Geological Survey (USGS), BP, Amoco, and Wall Street Journal appeared fictitious later on.

Energy Reserves in Caspian Sea and Central Asia

Speaking to US businessman at a "Collateral Damage Conference" hosted by the Cato Institute, in Washington in 1998, Richard Cheney, then CEO of Halliburton, while emphasizing the importance of the Caspian Basin, stated, *"I can't think of a time when we have had region emerge as suddenly to become as strategically significant as the Caspian"*. (Klevman, 2003, 4) In a column dated Thursday, August 10, 2000 in the Chicago Tribune, Marjorie Cohn, a professor at Thomas Jefferson School of Law in San Diego writes: *"Because of the instability in the Persian Gulf, Cheney and his fellow oilmen have zeroed in on the world's other major source of oil--the Caspian Sea. Its rich oil and gas resources are estimated at \$4 trillion by US News and World Report"*. That's why Cheney was ebullient by the disclosure of the US Government's Energy Information Administration (EIA) estimate of the potential oil reserves in the Caspian Sea basin. The EIA in its report presented, *'the*

Caspian basin is an area of vast resources potential'. (International Energy Outlook, 1998, 34) According to the report total oil resources of the region are estimated around 218 billion barrels (bbls) of which 32.5 billion are already said to be proven (Ibid). The report declares the total potential reserves of oil of Kazakhstan are estimated at about 92 bbls, out of which proved resources are about 10 bbls. While in Azerbaijan the potential oil reserves are 32 bbls, while proven oil reserves lies between 7-12.5 bbls. In the case of Turkmenistan, potential reserves of oil are 80 bbls of which proved resources are 2 bbls only. These resources are located mainly in the Caspian Sea region. In comparison to above two states of Central Asia, Uzbekistan has only about 2 bbls of potential oil reserves. But Uzbekistan and Turkmenistan have abundant reserves of natural gas. Kyrgyzstan and Tajikistan are relatively less endowed with oil-gas resources. (Ibid)

In another estimate presented in January 1996, among the four important oil and gas producing countries in Caspian Sea region – Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan – the remaining recoverable oil and gas reserves were 26 bbls and 5200 billion cubic meters (bcm), respectively. The proved and probable oil and gas reserves for Azerbaijan stands at 7 bbls of oil and 880 bcm of gas; for Turkmenistan at 0.9 bbls of oil and 2740 bcm of gas; for Uzbekistan at 2.1 bbls of oil and 884 bcm of gas; and for Kazakhstan at 15.8 bbls of oil and 690 bcm of gas. (Petroconsultants, 1997, 57-86)

However, the states of the Caspian Sea region take more buoyant view of reserves than foreign observers in a motive to attract maximum foreign investment in their oil industry. For instance the president of the State Oil Company of Azerbaijan Republic (SOCAR) holds that oil reserves under Azeri jurisdiction amount to some 17.5 bbls. The Kazakh government estimates Kazakh reserves at 24 bbls of oil and 1700 bcm of gas. The Turkmenistan government in 1995 put reserves at more than 50 bbls of oil and 21,000 bcm of gas. The Uzbek government estimates of proven and potential liquids and natural gas reserves are given at 40.5 bbls and 2,000 bcm respectively, with

potential reserves estimated to be at 277 bbls and 7,400 bcm.

Again in 2002 EIA presented estimates that there is a 50 percent chance that an additional 293 bbls in proven crude oil reserves are ascertainable, which would increase the Caspian Sea region's total by 9 to 16 times. EIA estimates claims that Caspian Sea region oil production will be more than double by 2010, rising to about 3.9 million barrels/day.

EIA anticipated that there is also better prospect of additional proven reserves of natural gas. EIA estimates that there is a 50 per cent chance of an additional 8495 bcm of natural gas reserves in the region. Should this be the case, total Caspian region proven reserves of natural gas would double, or at least equal to that of the present US and Saudi Arabia reserves combined together, even after accounting for depletion from likely production in the interim? EIA estimates that Caspian region natural gas output will exceed 254 bcm by 2010. (Gelb, 2002)

It is pertinent to mention here that the relative contribution of the Caspian Sea region to the world supplies of natural gas is larger than that of the oil. With gas output of about 113 bcm per year, that accounts for 4.7-4.8 per cent of world production. As with oil, gas production has been higher, but has suffered during the collapse of the Soviet Union and the subsequent years after disintegration. Two Central Asian states, Uzbekistan and Turkmenistan, are the heavily predominant producers with production of 50-56 bcm/yr and 42-48 bcm/yr respectively. They together account for 85-90 per cent of the region's gas output depending upon the estimating sources. (Ibid)

If we observe the proven and potential estimation of Caspian Sea oil and gas reserves by different quarters we find several variations. In fact there is contrasting dissimilarity among assorted data of potential and proven hydrocarbon reserves in the Caspian Sea region. This fact can be attributed to the lack of reliable information and different interpretations of the existing data. Moreover, estimate also shows changes from one year to the next leading to the revision of

prior conclusions. Following tables show variation of estimates by different sources proven and potential oil and gas reserves in the Caspian Sea region.

Table-1

Highest and Lowest Oil and Natural Gas Reserves in Caspian Sea Basin

<i>Country</i>	Highest Reserves		Lowest reserves	
	Oil (bbl)	Gas (tcf)	Oil (bbl)	Gas (tcf)
Azerbaijan	32	35	4-13	11
Kazakhstan	92	88	10-18	65-70
Uzbekistan	NA	NA	0.6	66
Turkmenistan	80	159	0.6	101
Russia	14	NA	2.7	NA
Total	218	282	18-34	243-248

Source: US Dept of Energy, EIA, Annual Energy Review 2000, and August 2001

Table-2

Proven and Potential Oil and Gas Reserves in Caspian Sea Region

Country	Oil proven resources (bbl)	Oil potential resources (bbl)	Gas proven resource (Tcf)	Gas Potential resource (Tcf)
Azerbaijan	7-12.5	32	30	35
Kazakhstan	9-17.6	92	65	88.3
Russia	0.3	7	NA	NA
Turkmenistan	0.5-1.7	38	71	158.9

Source: EIA estimate 2003

Table-3
Estimates of the Recoverable Oil and Gas Resources in the Caspian Region

Country	Proven oil (bbl)	Possible oil (bbl)	Total	Proven gas (tcm)	Possible gas (tcm)	Total
Azerbaijan	3.6	27.0	31	0.3	1.0	1.3
Kazakhstan	10.0	85.0	95.0	1.5	2.5	4.0
Turkmenistan	1.5	32.0	33.5	4.4	4.5	8.9
Uzbekistan	0.2	1.0	1.2	2.1	1.0	3.1
Russia	0.2	5.0	5.0	NA	NA	NA
Total	15.6	163	178	8.3	9.3	17.6

Source: Cohen, 1999)

Table-4
Proven and Possible Oil and Natural Gas Reserves in Caspian Sea Basin

Country	Oil (bbl)		Natural Gas (tcm)	
	Proven	Possible	Proven	Possible
Azerbaijan	8	15	1	2
Kazakhstan	15	65	2	3
Turkmenistan	1	3	2	4
Uzbekistan	1	2	1	2
Russia	49	99	48	98
Total	74	184	54	109

Source: BP Statistical Review of World Energy, US Geological Survey
World Petroleum

Table-5
Oil and Gas Production in the Caspian Sea Region

<i>Country</i>	Crude Oil a (thousands of barrels per day)			Natural Gas (trillion cubic feet per year)		
	EIA 2001	BP Amoco 2000	EIA 2010 b	EIA 2000	BP Amoco 2000	EIA 2010 b
<i>Azerbaijan</i>	317	300	1,200	0.212	0.187	1.100
<i>Iran</i>	00	NA	00	00	NA	00
<i>Kazakhstan</i>	804	745	2000	0.170	0.378	1.100
<i>Russia c</i>	11	NA	300	0.030	NA	NA
<i>Turkmenistan</i>	148	150	200	1.660	1,547	3.900
<i>Uzbekistan</i>	152	175	NA	1.960 d	1.843	3.000 e
<i>Total Caspian Sea f</i>	1450	1400	3900	4.050	4.000	9.100
<i>World</i>	7682 1	74510	1183 00	84690 d	85500	162.000

Sources: (BP, June 2001); (EIA, Caspian Sea Region Country Analysis Brief, February 2002); (EIA, Caspian Sea Region: Tables and Graphs, February 2002); (EIA, International Energy Annual 1999, February 2001); (EIA, International Energy Outlook 2002, March 2002); (EIA, Uzbekistan Country Analysis Brief, March 2001)

a. Includes natural gas liquids.

b. "Possible production," as estimated by the Energy Information

Administration

- c. Only regions near the Caspian Sea are included.
- d. 1999 data.
- e. CRS projection assuming same rate of growth between 1999 and 2010 as between 1992 and 1999.
- f. Rounded; in some cases, includes small quantities, estimated by author, for countries for which data are not available from the cited sources.

Caspian Sea is Really a New Persian Gulf?

Immediately after the break-up of the Soviet Union, much hype was created in the West about the huge hydrocarbon resources in Caspian Sea basin. For instance, Turkmenistan was called the 'Kuwait of the 21st Century' by some Western commentators. Similarly, there were speculations as to whether oil reserves in Caspian Sea basin and Central Asia could be an alternative to the Persian Gulf for oil supplies. A noted specialist on Eurasian affairs S. Frederick Starr wrote in his 1996 Foreign Affairs article, "*Central Asia is once more a key to the security of all Eurasia*". (Starr, 1996, 80-92) Similarly, emphasizing on the importance of hydrocarbon reserves in Caspian Sea basin US Secretary of Energy, Bill Richardson argued, "*The Caspian region will hopefully save us from total dependence on Middle East oil*". (Goldenberg, 1998, 53)

The comments and observations cited above actually raises the question about the international significance, both politically and economically, of the energy resources of the Caspian Sea basin. There may be some political motive with regard to the estimates of oil and gas resources of the Caspian Sea basin. While there is no doubt true about the vast hydrocarbon resources potentialities of the region, there has been some sober assessment about the oil and gas potentialities from the global perspective as mentioned above through assorted data. The discovery of huge potential oil and gas reserves in Caspian Sea basin led to scramble by major Western oil

companies lest they lose major contract in the region. The U.S. Department of State in 1997 presented a report to the Congress enumerating potential estimate that the region might hold “up to 200 billion barrels” of oil reserves. This inflated reserve projection became the core of subsequent US policy formulation towards the region.

It is to be noted that amid all this excitement, little distinction was made between the potential reserves of the Caspian resources and the immense proven reserved of Persian Gulf. Notwithstanding, many scholars like Robert A. Manning, Amy Myers Jaffe and Vitaty V. Naumkin have questioned the much exaggerated Caspian Sea energy resources as an alternative to the Persian Gulf. They argue that region’s resources are not of sufficient magnitude to dramatically alter the shape of global oil markets or displace the Persian Gulf.

By examining the published data of the US Energy Information Administration’s (EIA) on Caspian oil reserves, the region could fall a long way short of being a ‘new Middle East’ that exposes the falsehood of Caspian oil reserves. Comparing the figures published for the four years 1998, 2001, 2002 and 2003, it can be observed that the data for total oil reserves have fluctuated in terms of 218 billion barrels in 1998, 262 billion in 2001, 243 billion in 2002, but down to 211 billion in 2003 and the figures of proven reserves have fluctuated even more. They were put at 32.5 bbls in 1998, but got reduced to 25.8 billion in 2001, further down to 10 billion in 2002 but then reviving to 25 billion in 2003. (EIA, 2002 & 2003)

Foreign observers like the International Institute for Strategic Studies (IISS) in London decide the US claim concerning the size of regional oil and gas deposits that would make the entire Caspian region’s holding larger than Prudhoe Bay, the east Texas fields, and the Ghawar field combined. Other energy industry figures and the calculation of specialists like Robert Ebel of the Washington-based Centre for Strategic and International Studies argue that official US estimates are far too high and claim that Caspian holding will amount to no more than 3 to 4 per cent of global energy reserves.

(Ebel, 1998, 22-29) Even the EIA itself admitted in a February 2002 report, *“The Caspian will never be another Middle East”*. (Caspian Sea Regional Country Analysis Brief, 2002) It seems that EIA, which operates under an in-built bureaucratic pressure, is forced to make optimistic projections of existing and future energy reserves. This was openly admitted in the agency’s Annual Energy Outlook 1998-2020 report released in December 1997. If we look at 2002 EIA Caspian figures we find that these statistics are based on probabilistic methods and tend to give an impression to the unwary that its numbers for “possible” reserves indicate undiscovered oil waiting to be found. Moreover, US government petroleum figures may also often be influenced by the extra-scientific needs of US political strategy and tactics.

If we compare the proven oil reserves of Persian Gulf and Caspian Sea, latter stands nowhere to the former. Five Persian Gulf countries, Saudi Arabia, Iraq, Kuwait, United Arab Emirates and Iran hold approximately 65 per cent of the world’s known oil reserves while states of Central Asia and Caucasus have only 3 per cent of the world proven oil reserves. (Kalicki, 2001, 123-24) Moreover, numerous factors create logistic hurdles in realization of Caspian Sea hydrocarbon. Proven and potential oil and gas reserves in Caspian Sea basin may not achieve the potential output because of complex technical, economic, geopolitical and social obstacles as discussed below.

Firstly, energy resources in Caspian Sea basin are land locked and lie far from the world’s major energy-consuming regions. Major oil fields in Azerbaijan and Kazakhstan are located far from sea-lanes. Thus the region’s producers cannot easily transport oil by tanker from domestic ports to international sea-lanes, as they do from the Persian Gulf. Further, ethnic conflicts and bureaucratic complications create substantive impediments for possible and existing pipeline routes. The strategic interests and geopolitical game of the involved states in the pipeline politics

have made the situation more complex.

In order to bring the Caspian oil and natural gas to the oil market, availability of transportation route is necessary. The discovery of Tengiz, Karachaganak, Azeri Chirag-Gunashli, Kashagan oilfield made it imperative for supplier as well as Western oil consumer countries to ensure the development of new routes to the west, in essence to reach the European and the US market. The lack of pipelines, necessary for this land locked region, turned the issue of their construction into one of the most serious ones, where conflict of interest and struggle for influence between US and Russia became one of the key obstacles for opening up the Caspian oil market. Moreover, vested interests of the involved countries in Caucasus and Central Asian region have complicated the determination of oil and gas pipeline route to tap the vast hydrocarbon of Caspian Sea basin. Hence the countries, which are in fray exercise its maximum diplomacy to sideline the rival country using her political, economic, technical, military might. Consequently the US favored to sideline Russia and Iran for political as well as geo-strategic consideration and supported Turkey to play active role in the region. At the same time Russia, realizing her losing grip over Central Asian and Trans-Caucasus states, tries to get maximum stake in the pipeline construction. The winners of the pipeline game will gain strategic benefit while losers will be marginalized strategically.

Secondly, the political, economic and logistic problems facing export routes are augmented by drilling constrain in the region. The region is short of modern drilling platforms and related supplies, and far from major supply centers for exploratory equipments. This shortage is worse than almost anywhere else in the world. Caspian oil is also deeply located, offshore, and requires a costly, complex technology for recovery (including ice breakers). In addition to it there were only two operational semi-submersible platforms operating in the region in early 2000. These constrains exacerbate the situation especially when the oil exploring companies do not find oil

after huge investment. For instance, in 1999 two major Western oil firms relinquished their oil concessions and pulled out from Azerbaijan due to series of drilled holes were found dry. Similarly, the contract on the Karabakh oilfield in Azerbaijan was considered one of the most promising not only for the Western countries but also for the Russian investors. As it is known, the US Pennzoil company ensured 30 per cent of the quota share of the Caspian International Oil Company (CIOC) set up for its development in November 1995 in Baku; 45 per cent was ensured by the Russo-Italian LukAgip enterprise, 12.5 per cent by Lukoil, 5 per cent by Agip and 7.5 per cent by the State Oil Company of Azerbaijan Republic (SOCAR). Three years of exploring work on that oilfield yielded no results and after the third drilling in September 1998, the CIOC suspended its activities, having had spent US \$90 million on oil exploration. (Naumkin, 2000, 6)

Another consortium, viz., the North Apsheron Operating Company (NAOC) whose members are the British Petroleum, the US companies Unocal and Amoco, the Japanese Itochu, the Saudi Delta and the SOCAR met with the same destiny. Drilling for oil by NAOC in three off-shore Caspian oil fields showed no presence of commercial oil reserves. Consequently the BP-Amoco alliance took a decision to leave the consortium (Ibid).

In another case the US Mobil Company, the British Movement oil and the Dutch Dragon oil companies have followed the consortia in deciding to reduce the volumes of work at the oil field of Turkmenistan, by explaining excessively high cost of oil extraction and transportation and by their desire to secure from Ashagabat a revision of tax treatment for the development of the Garashsizlik oil deposit.

Thirdly, numerous disputes among the involved states and ongoing local conflicts undermine the possibility of trouble-free exploitation of energy resources from the region. In the case of Caspian Sea its status is still under dispute among Caspian riparian

states especially between Russia and Iran. The two treaties of 1921 and 1940 between USSR and Iran provide the basis of negotiation and set the principles of right to use and exploit Caspian Sea resources by two states¹. The two important principles: firstly the two countries have equal access to the sea and its use and secondly the sea is closed to all countries not located on the shore were underlined in this treaty. However, the emergence of three new littoral states in 1991-- Azerbaijan, Kazakhstan and Turkmenistan-- with a combined length of Caspian coastline which exceeded that of Russia and Iran- led these new states to demand a redefinition of the Caspian's legal status as a sea rather than a lake.

Further, United States has its own reservations in determining pipeline routes in Caspian Sea region. The US opposes any pipeline traversing through Iran due to estranged relation with the latter. For this purpose the US put restrictions on operation and investment of companies working in Iranian energy industries. Two US President Bill Clinton's Executive Orders in 1995 and Iran Libya Sanction Act enacted by US Congress in August 1996 and renewed in 2001 prohibited all national firms from supervising, managing, or financing projects relating to the development of Iran's energy resources and imposing penalties on non-American companies that invest over US \$20 million (now it has raised to \$40 million after 2001) in the energy industries of Iran. (Iran Libya Sanction Act, 1996, 2001) Almost all of the biggest oil producing consortia in the Caspian region contain at least one US-oil company partner and are thereby barred by US law from undertaking major energy investments in Iran. Geo-politically, the deteriorating US-Iranian relations may be inadvertently fostering tension with the Central Asian states it has sought to cultivate. These states, faced with necessity to export oil, have quietly contemplated a variety of oil and gas deals involving

¹. Treaty of Friendship between the Russian Soviet Federal Socialist Republic and Iran (Persia), 1920, and the Soviet-Iranian Trade and Navigation Agreement, 1940.

Iran.

Another area of conflict is the Caucasus region where the intra and interstate ethnic tensions and conflicting interests have raised security concern for existing and proposed pipeline routes. For example, the northern pipeline route in the region runs from Baku oil field in Azerbaijan to Novorossiysk port of Russia and Tengiz oil field in western Kazakhstan to Novorossiysk. However, 153 km pipeline pass through war plagued Chechnya in Russia which poses greater security threat to the smooth supply of oil to the Western market. Similarly, the Baku-Supsa (port of Georgia) pipeline route is insecure due to continue separatist movement in Abkhazia and rebellion in South Ossetia of Georgian territory. (Joshi, 1999, 43) The other ethnic problem is Nagarno-Karabakh conflict. Baku-Supsa pipeline passes through Nagarno – Karabakh enclave of Azerbaijan, but inhabited largely by Armenians. The rebel forces have established control over Nagarno-Karabkh tacitly supported by Armenia and thus posing security concern for the passing pipeline. An additional impediment for the free movement of oil from the region is environmental problem of Bosphorus strait raised by Turkey. In fact Turkey has expressed fear that higher oil export level will increase congestion in Bosphorus straits as a result there may be possible collisions ensuing oil spills in the strait. (Tevzade, 2004, 96-99) & (EIA, Central Asia, 2005)

Another area of instability is Central Asian region where the volatile condition in Afghanistan obstructs any implementation of 1271 km long proposed Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline originating from Daulatabad gas field in south-eastern Turkmenistan to Karachi and Multan in Pakistan, with a possible extension to Fazilka (India).

Fourthly, if we calculate the production cost for Caspian oil it further underlines the extent to which the region falls far short of any Middle East comparison. The fully built-up cost of a Caspian barrel of oil, the cost of getting a barrel to market including all the

development, transportation, operating and overhead cost has been estimated to be between \$12 and \$15 per barrel. (Salameh, 2002, 15) This is about three to four times higher than the cost of producing and delivering oil from Saudi Arabia or Iraq. Hence no country would be ready to pay such a higher price. Moreover, the petroleum fiscal regime in Kazakhstan is one of the toughest in the world: about 4/5 of the net profit is taken by government. That becomes a discouraging factor for oil companies to involve in oil business at low return in Kazakhstan.

Finally, one of the major disadvantages of Caspian oil is that it has high sulfur content, a contaminant which must be removed on site. The oil companies have to bear extra cost to extract sulfur from oil and dispose it. In March 2002, TCO consortium made up of Chevron Texaco, ExxonMobil, KazMunaiGaz, and Lurkarco was fined \$72 million by the Kazakhstan Ministry of Natural Resources and Environmental Protection for open storage of 5 million tons of sulfur extracted from Tengiz oil field, necessitating the relocation of a village.

Together with these disadvantages in exploiting the Caspian hydrocarbon resources, another underlying reality of the region is socio-economic problems that threaten the stability of almost all the governments in Central Asia. The deteriorating economic conditions, social fragility, political corruption, authoritarian governments, simmering social and ethnic tensions as well as rise of Islamic fundamentalism portray a gloomy future of the region.

Conclusion

The geo-political and geo-economic importance of the region plays essential role in attracting outside powers that have led to struggle for dominance in Caspian Sea and Central Asian region. The vast natural resources, especially natural gas and oil have fundamentally altered the strategic importance of the region in the post Cold War international politics. The struggle among outside powers is focusing

increasingly on how to protect or enlarge their access to vital resources over the next generation.

The EIA estimates were influenced by US policymakers who were pursuing their geopolitical and geostrategic interests in the post-Soviet space. At the same time lack of reliable information and different interpretations of the existing data also led to overestimation of oil and gas reserve in Caspian Sea region, which has appeared 'bubble burst'. Moreover, the proven and potential oil and gas reserved have complex technical, economic, logical, geographical and social obstacles to be realized. Numerous impediments in exploitation and transportation of hydrocarbon resources are discouraging factor and depose the significance of the region viz a viz Persian Gulf. Hence, the sudden rising interest for oil and natural gas in Caspian Sea region has been relatively eroding. Now the idea that Caspian oil and gas reserves will provide an alternative to the Persian Gulf has been proved a fairy story. Nevertheless, the energy reserves in Caspian Sea cannot be negated which offers critical source to the countries, who desperately want to diversify their supply.

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