The current situation in the Oil Business

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General Considerations: The Argentine petroleum industry is now putting into effect the most profound changes, ones it would have been impossible to imagine barely five years ago ● This process of transformation, based on the broad involvement of the private sector, with their assumption of the accompanying risk, was set in motion by the Government with remarkable speed, and in a clear, open manner. What is notable above all is the support given to these changes by society as a whole, which from the time the process began, sensed the Government had chosen the right path.

We believe several factors lie behind this promising situation. Among them, the idea that the oil business should be open to private enterprise, bearing in mind that State control has proved to be an obstacle to development, above all to making the best use of our hydrocarbon reserves. A vital factor leading to success was the political decision adopted at the highest level by the Executive Branch to base reforms, firmly and openly, on making resources freely available to private capital investment, and on deregulating the market, resulting in a realignment of the industry with international standards.
This time around there were no bureaucratic hurdles, and all parties involved were asked to keep to a score whose arrangement was designed to orchestrate political decisions made in advance.
The harmonious way in which this plan was accepted was the most significant result of a commitment to consensus which took form in Decrees No. 1055/89, 1212/89 and 1589/89, designed to support Law 23,696 on State reform.
On this legal foundation, which retained the application in full of Hydrocarbons Law 17,319, the Government began to transform the oil business, putting aside prejudices which had blighted the industry for decades.
The outcome has shown it is possible to privatize on a basis as open as that of any other business, and that room can no longer be found for a narrow, nationalistic attitude. Today a language based on sound technical principles has replaced the purely emotional content of speeches in the past.

Exploration

A description of the current state of affairs cannot go any further without making a brief reference to the Houston Plan, which at the start of the previous Administration's term of office became the basis for the process of change and opening up just referred to. This exploratory programme was specially significant because it mobilized private interests, both local and international, to invest in the search for oil in this country.
The programme offered 165 blocks for exploration, and 75 contracts were signed. Some have already been completed, unfortunately without success, and the areas involved have been handed back. Others continue their exploration, and in only two areas have commercially viable deposits of oil been found.
It's almost a year since the nation's Executive has considered the Houston Plan to have run its course, and has put an end to further calls for bids under it, but with the promise of a new plan for exploration, currently being drawn up.
It is still too early to make a definite judgement on the success or failure of the Houston Plan, as the main drilling operations are only now about to begin. Even so, conclusions can be drawn which should help us in drawing up future policies.
The results of tests carried out on reserves, confirming, as shown in figures 1 and 2, a volume 30% lower than YPF estimates, make it a vital and urgent necessity to draw up an exploration plan.
It has become clear that exploration in Argentina is a very high risk enterprise, perhaps more so than the international average. This ought to motivate us even further to give our offer an attractiveness which can in part offset the geological difficulties presented by our terrain.
To this end we propose a permanent call for bids, ample in scope and under a scheme of concessions for exploration and exploitation in accord with Law 17,319, but which retains those clauses in the Houston Plan and later concessions in marginal and central areas which have come to make up a form of contract which is simple, attractive and secure for the eventual investor.
The results obtained with the Houston Plan are not perhaps as encouraging as we might have wished, but this should not be a reason for discouragement. Instead it should spur us on to substantially increasing oil exploration in Argentina.

Exploitation

For some time we have been pointing out the inefficient way oil reserves were being exploited and in particular we have emphasised that levels of final recovery are low in comparison with averages for the United States and the world, as shown in Figure 3. In these circumstances we encouraged any measure aimed at overcoming a situation where resourses were being mishandled.
The guidelines in Decrees numbers 1055/89, 1212/89 and 1589/89 provided a positive answer to our misgivings.

Marginal Areas:

A bidding process was opened up in principle for the so-called marginal YPF areas, those whose production of less than 200 m³ a day made them of secondary interest to the State enterprise.
From last year up to the present there have been successive rounds of international competition for these areas, with an increasing interest in the offers.
A total of 60 areas have been transferred and/or leased to the private sector, involving exploitation rights for more than 400 million dollars, with average values per reserve of the order of US$ 15/16 per m³.
Until last July the marginal areas already operated by the private sector were producing around 2,600 m³ a day, with figures among the first lesees showing production about 80% greater than at the start of their operations.

Central Areas:

Backed by the Decrees laying down the Government's oil policy YPF called for a Public International Competition involving its partnership in the exploitation of recoverable reserves of gas and petroleum in four areas classed as central, aware of the size of the volumes involved.
These areas were "Vizcacheras" (Mendoza), "Puesto Hernández" (Neuquén), "El Tordillo" (Chubut) and "El Huemul" (Santa Cruz), while the share offered in the competition was 50%.
The terms of leasing here were more complex than those for the marginal areas, and time was to show this was not the best solution. The preselection of bidders was done in a highly subjective way and this was only overcome later through considerable efforts at interpretation to avoid national companies, technically and economically capable of taking up the challenge, being forced into association with foreign companies in order to join in the bidding.

Despite these drawbacks, the search for associates for YPF in the central areas can be considered successful, as 50% of the recoverable reserves of petroleum and natural gas in the four areas, 18,974,500 m^3 in all, was valued in terms of association rights at US$ 609,700,000, an average of US$ 32.13/m^3. This is a sum much larger than is usual for international transactions of this kind, which vary between US$ 20 and US$ 25 per cubic metre of oil below ground.

Today these central areas are being operated by private companies, three of them local ones, while the Government remains free to increase the share of the lesees to different percentages, according to circumstances.

To the already-mentioned forms of private involvement in hydrocarbon exploitation must be added the reconversion of the production contracts into concessions, a process which is about to be completed, the marginal areas granted to the Provinces, the Houston Plan's areas of exploitation and the old concessions under the Mining Code.

This group of private operations now provides a volume of 45,600 m^3 a day, almost 60% of the country's overall production.

Deregulation

The other substantial aspect of Government hydrocarbons policy was the setting up, on 1st January this year, of a de-regulated market, beginning with the free availability of hydrocarbons produced, their unrestricted sale on the internal and foreign markets and ending up with price freedom at consumer outlets.

This policy of freedom is a real novelty, not only in our country but for Latin America and many other countries in the world as well, where full regulation still applies. Nevertheless, in the case of Argentina, it tallies with the present Government's decision to allow market forces to operate in every area of the economy, as an objective and as a tool for achieving growth.

Even so, a fundamental change of this

Chart 1
Oil Remaining Proved Reserves
(In thousands of Cu. meters)

Basin	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Noroeste	13,911	17,689	24,335	25,173	24,326	25,929	25,766	26,325	33,694	36,315	25,549
Salta	12,191	17,479	24,225	24,389	23,605	24,811	24,834	24,169	30,714	31,351	21,286
Jujuy	1,720	210	110	784	705	665	589	530	506	490	437
Formosa	0	0	0	0	16	453	353	1,626	2,474	4,474	3,826
Cuyana	46,986	40,609	36,500	39,767	35,162	39,000	35,465	31,651	37,234	33,469	28,829
Mendoza Norte	46,986	40,609	36,500	39,767	35,162	39,000	35,465	31,651	37,234	33,469	28,829
Neuquina	153,038	159,006	159,603	167,940	160,841	159,780	156,677	148,154	147,540	138,071	100,227
Mendoza Sur	5,183	5,059	13,535	18,242	16,059	15,170	15,732	15,444	18,743	14,987	9,591
Neuquén	99,316	108,861	107,800	111,625	109,738	111,169	111,271	105,607	105,022	100,107	74,994
Río Negro	39,911	37,017	31,162	31,259	26,598	27,477	24,158	22,101	19,120	18,877	12,278
La Pampa	8,628	8,069	7,306	6,836	6,446	5,964	5,516	5,002	4,655	4,100	3,364
Golfo San Jorge	161,383	150,682	141,656	131,718	121,890	112,501	106,745	102,044	96,696	87,926	61,896
Chubut	77,940	72,292	69,086	65,085	60,806	56,263	53,380	49,594	45,631	41,581	30,624
Santa Cruz Norte	83,443	78,390	72,570	66,633	61,084	56,238	53,365	52,450	51,065	46,345	31,272
Austral	16,828	17,707	15,725	21,610	23,715	31,079	30,403	49,517	47,306	48,842	33,107
Santa Cruz Sur	7,815	8,379	8,022	3,811	3,789	3,176	3,442	3,531	4,009	4,265	4,175
Tierra del Fuego	9,013	9,328	7,703	9,499	8,315	8,819	7,877	7,473	43,297	8,730	9,356
Marina Austral	0	0	0	8,300	11,611	19,084	19,084	38,513	0	35,847	19,576
GRAND TOTAL	397,146	385,693	377,819	386,208	365,934	368,289	355,056	357,691	362,470	344,623	249,608

Source: D.G.E.E.

kind requires further complementary decisions about the oil industry to make it really efficient. As I have pointed out before, in the infrastructure which handles hydrocarbons on their way to the internal or foreign markets, operating difficulties make marked inroads into the prices obtained and so limit deregulation and free availability.

The pipelines and storage facilities in the country today were designed for one centralized production entity, namely YPF, and as a result there is no diversified infrastructure which is technically efficient and economically competitive, allowing many different producers to reach the customer at the lowest possible cost, in keeping with standards aimed at internationally.

Our ports cannot handle large cargoes and our loading times are not up to international standards.

These things need to be put right as they affect the producer's price, because he stands to lose at the marketing stage the benefits attained by technically and economically efficient production.

The Future

The process of change which has been described, unlike on earlier occasions, does not exhaust itself because of its piecemeal nature, but is continuous in every area where it has been adopted.

The restructuring of YPF is currently being discussed by legislators. This goes beyond the usual internal changes aimed merely at an improvement in efficiency, since what is now being done is to make the role and structure of YPF fit a deregulated market, which it should join under conditions enabling it to compete with other companies, without taking on roles relating to the State and to politics which were assigned to it in the past.

In this process one can foresee a new company structure with direct involvement by the Provinces, with private and workers' capital and a changed basis for shareholding.

Without prejudice to the above, and backed by Law 23,696 on State Reform, the process of privatization will continue in areas considered of minor interest to the new Company. To the Austral and Noroeste

Chart 2

Natural Gas Remaining Proved Reserves

(In millions of Cu. meters)

Basin	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Noroeste	47,789	63,816	99,345	98,188	98,016	109,490	107,520	100,772	149,753	146,830	144,428
Salta	46,718	62,782	98,542	96,801	96,608	107,246	105,261	100,312	149,133	145,808	143,563
Jujuy	1,071	1,034	1,003	1,387	1,359	1,489	1,470	156	209	199	182
Formosa	0	0	0	0	49	755	789	304	411	823	683
Cuyana	7,101	724	591	908	2,421	2,311	2,206	1,895	1,291	1,292	822
Mendoza Norte	7,101	724	591	908	2,421	2,311	2,206	1,895	1,291	1,292	822
Neuquina	447,797	449,425	430,670	438,594	430,319	437,627	436,112	428,419	432,788	406,069	321,484
Mendoza Sur	14,119	13,933	9,108	10,316	9,068	9,911	11,014	10,668	11,041	10,985	9,148
Neuquén	405,315	416,617	407,004	403,379	397,801	405,098	402,174	392,642	399,318	371,894	301,531
Río Negro	26,004	16,686	12,532	22,648	21,410	20,807	21,221	22,110	20,364	20,431	10,090
La Pampa	2,359	2,189	2,026	2,251	2,040	1,811	1,703	3,019	2,065	2,759	715
Golfo San Jorge	43,792	38,962	38,104	37,633	36,179	37,419	34,891	24,103	33,708	21,060	12,639
Chubut	6,073	5,452	5,419	5,641	5,161	6,936	6,975	4,966	3,636	6,453	4,783
Santa Cruz Norte	37,719	33,510	32,685	31,992	31,018	30,485	27,916	19,137	27,345	14,607	7,856
Austral	94,626	95,510	122,861	103,564	101,356	94,651	90,077	138,178	155,476	168,676	99,683
Santa Cruz Sur	49,133	50,393	47,941	30,766	35,919	31,827	30,483	31,336	30,444	26,634	28,657
Tierra del Fuego	45,493	45,117	74,920	64,798	40,852	38,219	33,974	31,067	125,032	31,147	47,435
Marina Austral	0	0	0	0	24,605	24,605	25,620	75,775	0	110,895	23,591
GRAND TOTAL	641,105	648,437	691,571	678,887	668,291	681,498	670,806	693,387	773,016	743,927	579,066

Source: D.G.E.E.

fields, the strongest candidates for privatization, will later be added part of the tanker fleet, some refineries, storage plant and pipelines the new Company will not need.

Gas del Estado is already being transformed. Legislators are now considering a project to regulate Gas del Estado which will include every stage in the business from extraction and transport to distribution and point of sale. Obviously the guidelines will include privatizing this State company and structuring its role in each of the stages just mentioned.

To sum up, changes in Argentina's oil and gas industries within an open and deregulated market move ahead on all fronts, giving rise to the prospect of a thrusting and successful industry.

Conclusions

Looking back we can see how much the industry has advanced. Even so, as we've noted, there are matters pending.

First of all exploration, which should be carried on without a break, along the uncomplicated lines already referred to. This will make it possible to attract capital despite risks inherent in the geological formations covering our deposits. In this sense I believe all possible areas in the country should be placed on offer while YPF should reserve for itself only those which its budget enables it to tackle, and on a time-scale and by methods set forth in Law 17,319.

In the second place it is necessary to improve the existing infrastructure, pipelines, gas lines, storage plant, ports. These are basic pre-requisites for a really competitive oil industry and for making deregulation worthy of the name.

Lastly, we believe it's necessary for all Government measures to confirm a concept fundamental to the oil industry, which is the absolute need to protect the oil investor from risks beyond those already inherent in a very risky business.

Measures should not be adopted which could affect the judicial, taxation and economic stability of those high risk investments, and on this score it's necessary to warn about taxation policies affecting that essential resource, stability. Here too the attitude in some provinces plays its part, because in the drive to get their hands on resources, they change their taxation laws, laying down rules whose economic effects can mean the cancellation of plans to invest in their area due to the uncertainty their decisions generate.

This aspect is extremely important at a time when the restructuring of YPF is up for discussion, including with it a substantial participation by the Provinces, along with a future assignment of petroleum revenues to them. We believe they should give firm and clear signs regarding those long-established needs for security and permanence, so as to persuade national and international investors to make a really vigorous commitment to oil in Argentina.

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Chart 3
Analysis of Oil Reserves and Recovery Percentages

Basin	On site Reserves m³	Total Reserves m³	Recovery Percentage
Noroeste	169,540,000	58,450,000	34.48%
Cuyana	655,669,000	193,681,000	29.54%
Neuquina	1,267,049,000	303,671,000	23.97%
Golfo San Jorge	2,529,711,000	400,782,000	15.84%
Austral	279,733,000	71,208,000	25.46%
TOTAL	4,901,702,000	1,027,792,000	20.97%

1. Total Reserves Remaining to be Recovered	1,027,782,000 m³		
— Through Primary Recovery	898,052,000 m³		
— Through Secondary Recovery	129,730,000 m³		
2. Reserves Remaining to be Recovered, in Percentages		Original	On Site
— Primary Recovery		87.38%	18.33%
— Secondary Recovery		12.62%	2.65%

Source: YPF-IAP