

*In the Name of God*



Ministry of  
Petroleum  
Committee to  
Review Oil Contracts

**Power Point Presentation  
For ANIMP Conference  
In 2016 October  
Milan / Italy**

**BY**

**Association of Petroleum Industry  
Engineering and Construction Companies**

**APEC**



# **22<sup>nd</sup> Annual Meeting of ANIMP's Industrial components Manufacturers Division**

**MARKET FORECASTS AND STRATEGIES  
FOR THE PLANT ENGINEERING INDUSTRY**



**October, 26th 2016( Milan Italy)**

# **Business projects and opportunities for Italian companies**

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APEC**



# Content

- 1) APEC Back ground & capability**
- 2) The Iranian government future Strategy & policy to develop the Energy project in oil & gas**
- 3) The opportunity / priority / area of interest for Italian companies**
  - A)Energy saving Project approach**
  - B)Target To IPC project**
- 4)Iranian Contractors / potentials /cooperation ,benefits for Italian company**



(1)

# A BOUT

**APEC Back ground & capability**



# General information



- ✓ Established in year 2000 (All private Companies)
- ✓ Excellent relationship with oil industry management and relevant associations and manufacturers.
- ✓ 220 Members with average experience of 22.6 years  
**Figure. 1**
- ✓ Grades awarded by the Governmental Iranian authority ( plan & budget Organization = PBO ) **Figure. 2**

## Average Years of Experience APEC Members

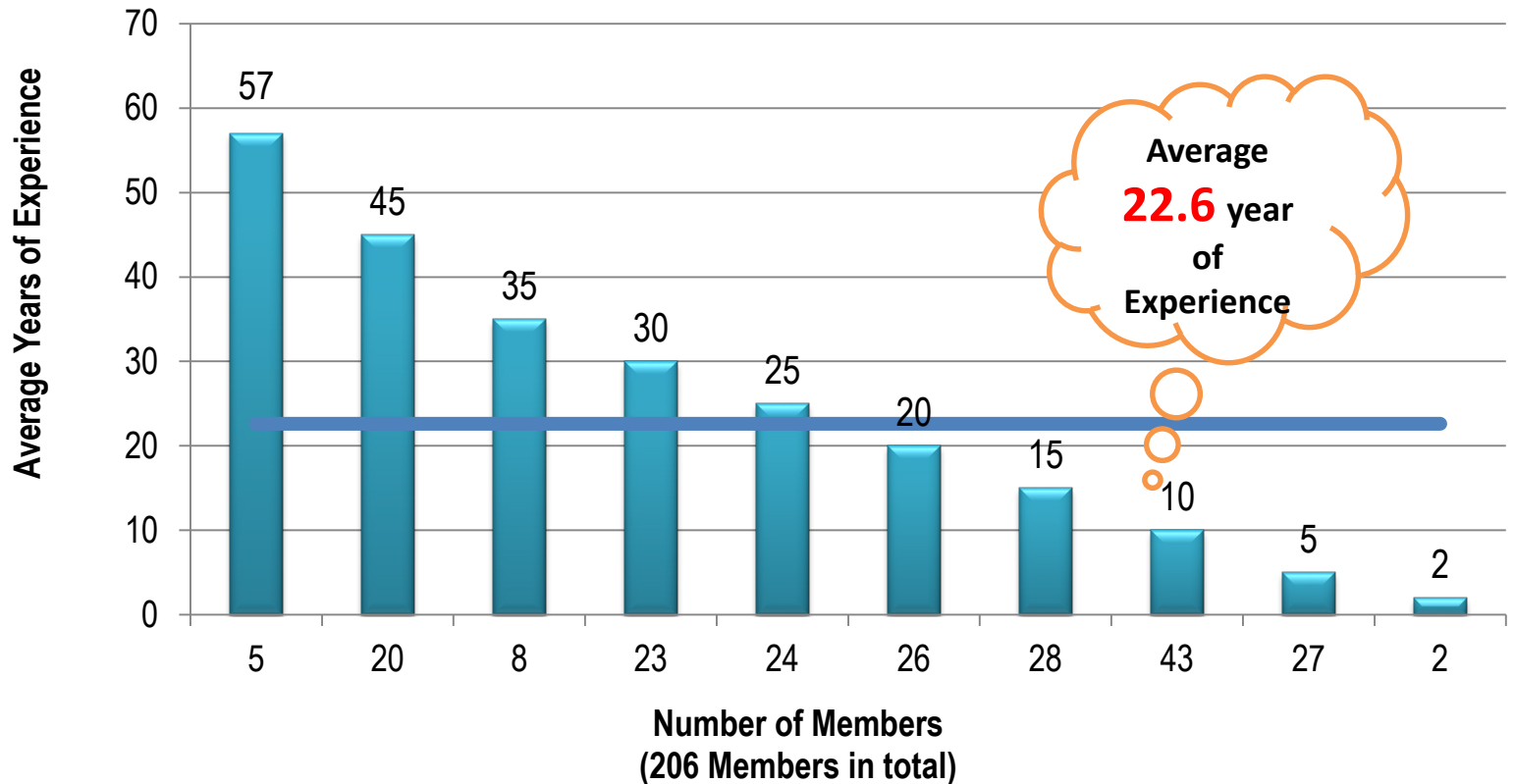
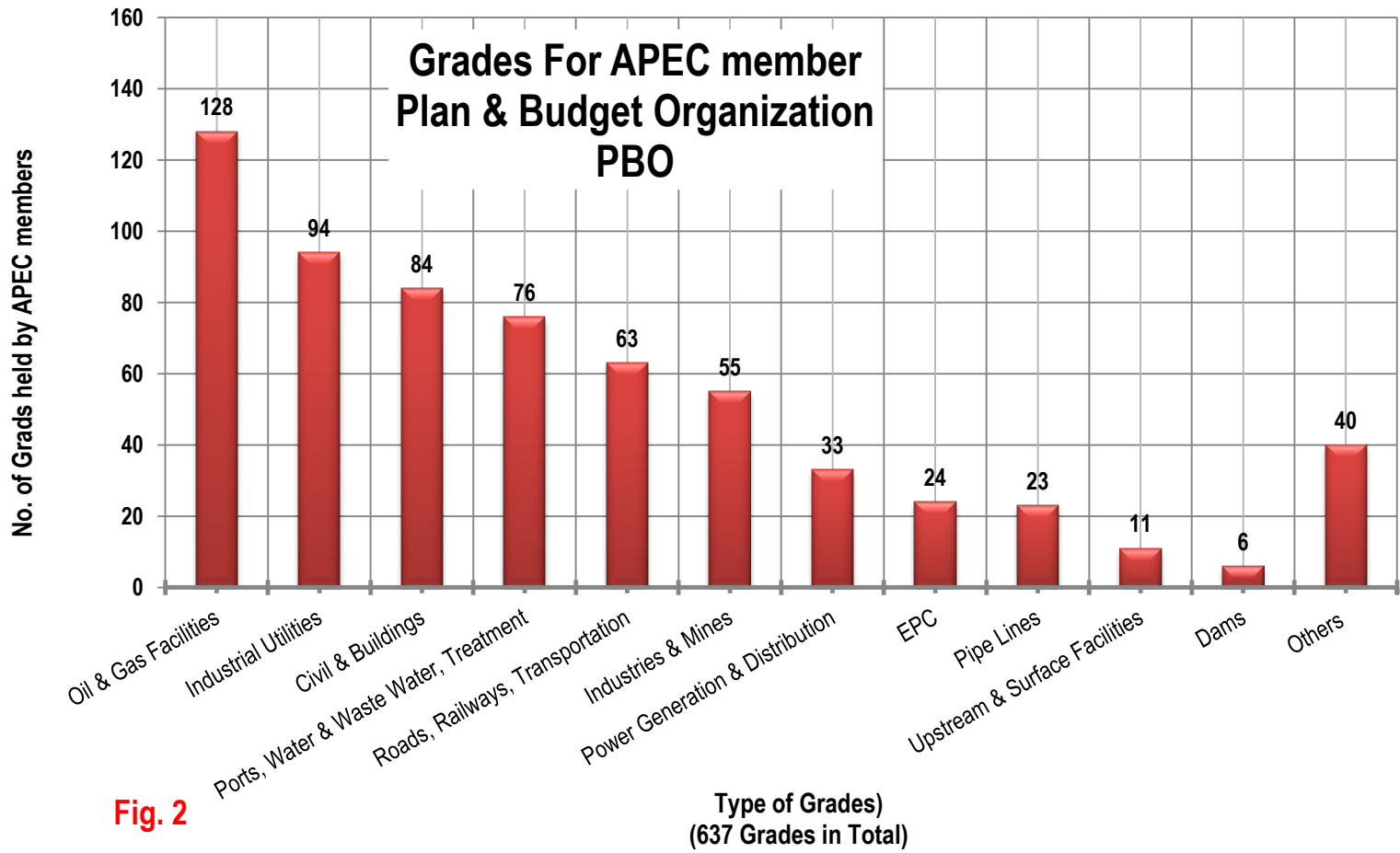


Fig. 1







# successful completed projects



## Midstream & Downstream

- ✓ Gas & Refineries plant
- ✓ Petrochemical plants
- ✓ Gas pipe lines, compressor stations



✓ Our companies , have executed most of the **major mega projects** in the oil, gas and petrochemical plant in Iran.

✓ Our companies, have participated in the development of **18 phases of the south pars gas plant in ASALOOYEH In Persian golf & the largest petrochemical plant.**

✓ Our companies have executed more than **972 projects** Across the country exceeding round o bout 100 billion USD.

✓ **our members** have more than **45000** **employees**, the majority are high level university graduates with high qualified expertise in the petroleum industry.



✓ **our members** utilizing the full potential to be able to execute about **25 Billion USD** of projects on an annual basis.

✓ **our members** have good exercise in cooperation with the international companies around the world and & transfer several high level technologies in the various fields of the Oil, Gas and Petrochemical industries.

(2)

A BOUT

**The Iranian government future  
Strategy & policy to develop the  
Energy project  
in oil & gas**



1. The oil ministry future approach for developing on project in oil & gas energy saving  
proposed project from 2013-2020 ( see Table 1-13)
2. The IPC projects



## 1.1-crude oil & condensate

- ✓ From west KAROON Field up to 2020
    - a) 4.7 MB/ day, (1 MB increasing capacity in oil )
    - b) 1MB/day increasing capacity in condensate
    - C) The total oil & condensate 5.7 MB/day
- ( Table 1 )



# Past trends and future upstream oil sector

INDEX	the unit	2013	2014	2015	2016	2017	2018	2019	2020	The sixth program development
Crude oil production capacity	1000 barrels a day	3841	3851	3700	4030	4115	4220	4440	4630	4/6
Crude oil production	1000 barrels a day	2726	2802	2830	3800	3870	3960	4000	4280	8/6
Condensate production	1000 barrels a day	378	466	558	688	900	1000	1000	1000	12/6
Crude oil and condensate production	1000 barrels a day	3104	3268	3388	4488	4770	4960	5000	5280	9/4
Condensate oil exports (including new domestic refinery feed stocks)	1000 barrels a day	1200	1362	1458	2218	2702	2940	3072	3312	18
Natural gas injection	Million cubic meters per day	72	2/72	80	125	125	140	150	150	13/4
The share of crude oil production from joint fields	Percent	8/3	9/1	9	9	14/6	17	22/2	22/2	



Table 1

## 1.2-production & gas plants

- a) 10 phases of south pars is completed in 2013
- b) Phases 12 , 16 & 17 ( capacity 130 MM<sup>3</sup>/ day)
- c) Phase 13, 18 , 19 , 20, 21, 22 up to 24 (exclude phase 14 ) up to 2017
- d) Increase 267 MM<sup>3</sup> up to 750 MM<sup>3</sup> up to 2017  
(Table 2 )





# Past future & trends upstream (gas sector)

INDEX	the unit	2013	2014	2015	2016	2017	2018	2019	2020	*Annual yearly growth rate
Gas production	Million cubic meters per day	635	680	746	896	1010	1101	8/1178	1253	% 10/9
Gas production from South Pars (ASALUYE)	Million cubic meters per day	267	306	426	516	681	750	750	750	% 12/7
Condensate production	Thousand barrels a day	378	466	558	688	900	1000	1000	1000	% 12/6
The share of gas production from joint fields	Percent	42	45/5	53	57/1	60	65/6	66/3	66	
The amount of refined gas	Billion cubic meters per year	163	187	218	236	284	313	338	357	%10/4
The amount of gas sold in the domestic (industrial, residential, commercial and power plant)	Billion cubic meters per year	150	156	169/2	180	210	222	232	250	% 8/2

# 1.3-natural gas Utilization and distribution system

- a) 5 ,000 km large bore gas pipeline & 22 compressor station on the construction
- b) rural & urban Utilization from natural gas up to 2017 according to article 12
- C) 7 B USD budget from article 12  
(Table 3&4 )



# rural & urban Utilization from natural gas (%)

INDEX	MAY2014	February2014	February2015	April2015	February2016	2017
rural sector	55	58	63	63	74	96
Urban sector	95	96	96	96	96	98
Total sector	85	87	88	89	91	97



**Table 3**

# 7 billion USD Saving budget from 2014 BY Applying Law of Barriers elimination for competitive production (article 12).

Project Name	The maximum government's commitment refunds (Billion USD)	Date of approval	The minimum amount of savings (In the year)	Implementation Period
Gas distribution system to small towns and villages (to 2363 thousand households)	4.73	Communicated	3.1 billion liters of kerosene per year 5.1 million tons of liquefied gas	2015-2017
Sistan and Baluchestan Province Main gas pipeline	1/6	Communicated	4.1 billion liters of gas oil and 549 million liters of fuel oil	2015-2017
<b>Total investment Budget</b>	<b>6/33</b>		About 8 billion liters of fuel	

**Table 4**



## 1.4-gas supply to power station

a) 50 Bm<sup>3</sup>/ day natural gas for gas station for 2018 (decreasing 9 \* 10 E9 litter fuel )

b) Delivery up to 250 Mm<sup>3</sup>/ day natural gas to power plan up to 2020

(Table 5 )



## fuel supply is power plants(Past and future trends)

INDEX	Gas consumption (billion cubic meters)	Gas oil Consumption (billion liters)	Fuel oil Consumption (billion liters)	Gas equivalent (billion cubic meters)	Gas share %	Gas oil share %	Fuel oil share %	The share of liquid fuels
2013	37/23	12/1	15/25	64/25	58%	19%	24%	42
2014	50	8/4	10/14	68/5	73%	12%	15%	27
2015	57	6	8	71	80%	8%	11%	19
2016	64/1	3/7	7/54	75/41	85%	5%	10%	15
2017	68/6	3/58	7/17	79/2	87%	5%	9%	14
2018	73/25	3/4	6/8	83/47	88%	4%	8%	12
2019	78/1	3/23	6/46	87/8	89%	4%	7%	11
2020	83/2	3/07	6/15	92/42	90%	3%	7%	10
The sixth annual growth program	7/8 %	-12/5%	-5/1%	5/4%				



**Table 5**

## 1.5- Natural gas Export

a) Plan to export natural gas to neighborhood country ( TURKEY , Iraq, Pakistan , UAE , ARMANESTAN , AFGANESTAN ) FROM 30 Mm<sup>3</sup>/ day up to 225 Mm<sup>3</sup>/ day until 2020 )  
(Table 6 )



## export natural gas(past and future plans )

INDEX	The unit	2013	2014	2015	2016	2017	2018	2019	2020	The sixth program development
export natural gas	Million cubic meters per day	25/4	26/6	26/8	27/7	93/9	152/8	187/2	225	53



## 1.6- Past and future trends of petrochemical production

a) The ILAM project petrochemical , LORESTAN , TAKHTEJAMSHID , MAHSHAHR, OROOMIEH , KAVIAN , SHIRAZ, MORVARID , MAHABAD , PARDIS & west poly ethylene Pipeline for sulfuric acid, Ammonium. Urea , ....  
(Table 7& 8 )



## Past and future trends of petrochemical production

INDEX	The unit	2013	2014	2015	2016	2017	2018	2019	2020	The sixth program development
petrochemical sales value (Domestic)	Billion dollars	6/1	6/9	8	9/1	9/33	9/77	10/06	11	%6/6
petrochemical Value (exports)	Billion dollars	9/9	10/3	10	12/5	15	22	27	30	%24/6
domestic sales and export of petrochemical products (Total)	Billion dollars	16	17/2	18	21/6	24/3	31/8	37	41	%18



**Table 7**

## The future petrochemical projects (new) until 2020

NO	Projects (NO \$)	Petrochemical unit	Production (base on year 2015)	The Final annual rate of increase (million tones)	Total production in 2020	Investment forecast (millions USD)	Final annual increase in sales (constant 2011 USD million)
1	6	Methanol production unit	4/1	10/8	14/9	3500	4000
2	6	Urea production unit	3/5	6/1	9/6	3100	2500
3	27	Other new units and increasing capacity of existing units	19/5	17/8	37/3	44600	16500
Total	39					51200	23000

**Table 8**

## 1.7- Refinery and Major development

- a) Increasing gasoline from 3.2 M litter from 2013 up to 22.9 M litter / day 2015 ( ARAK & TEHRAN refinery)
- b) KHALIJE FARS condensate refinery 360,000 barrel / day up to 2017 to increase capacity in Euro 4 , Euro 5 & 15 M litter gas oil
- c) 8 SIRAF condensate refinery each 60000 barrel / day ( total 480000 barrel / day ) from south pars pipeline  
(Table 9)



## Past and future trends refinery development

INDEX	The unit	2013	2014	2015	2016	2017	2018	2019	2020	The sixth program development
Refinery crude oil feed stocks 9 Unit	1000 barrels / day	1815	1755	1760	1760	1760	1760	1760	1810	%0/6
Refinery gas condensate feed 9unit	1000 barrels / day	46	45	50	50	50	50	50	50	0/0
Total feed crude oil and gas condensates refinery 9unit	1000 barrels / day	1860	1800	1800	1810	1810	1810	1810	1860	%0/5
Gas condensate feed new refineries (export)	1000 barrels / day	0	0	0	82	300	570	1000	1000	%100



**Table 9**

## 1.8- IPC contracts

a) oil project (Table 10)

b) gas project (Table 11)

c) Investment required in the oil industry (Table 12)



## IPC contracts Oil

South Pars(Phase 11 )	50 million M <sup>3</sup> / day
FARZAD Gas field (A&B)	25 + 25 million M <sup>3</sup> / day
Kish gas field	50 million M <sup>3</sup> / day
North Pars gas field	90 million M <sup>3</sup> / day
Golshan gas field	50 million M <sup>3</sup> / day



**Table 10**

## IPC contracts Gas

SOUTH AZADEGAN Field	550 Oil barrels / day
DAROLKHOIN field (PHASE 3)	70 Oil barrels / day
FERDOWSI field( HEAVY OIL)	70 Oil barrels / day
BANGESTAN field(AHWAZ)	153+1000 barrels oil / day (development)
DOROOD field	69+1000 barrels oil / day (development)
CHESHME KHOSH field	72+ 1000barrels of oil / day (development)





**Table 12****Investment in oil industry required**

NO	Quantitative target	Resources of government corporations	Foreign financial resources - partnership agreements	Sources from the National Development Fund	Capital Market - Partnership	The total resources required
1	To maintain production potential oil and gas fields	*18.2	5.5			23.8
	Increasing production capacity by developing joint fields (oil and gas)	4.8	20.4	3	1	29.2
	To be Completed the development of South Pars gas field	12.5	8.8	2.6	3	27
2	Increasing the recovery factor of oil fields	1	7			8
	Collected and decreasing burned gas reduction		7.5			7.5
3	Descriptive and exploratory oil and gas fields and support projects and studies for NIOC capital	3.2	0			3.2
	The main gas transmission pipeline ( trunk line) and gas pressure stations	7.8	0		2.2	10
4	Construction and maintenance of state pipelines, gas network, storage and gas refining	6.2	1.4	1.8		9.4
	Increasing Gas condensate refining capacity		0	4		4
5	Increased processing of crude oil and gas condensate refineries and improve the quality of products	3.6	0	5.6		9.2
	Construction and maintenance of pipelines and storage tanks for oil and oil products	3.5	0			3.5
6	Total capital expenditures (by public sector )	<b>60.9</b>	<b>50.6</b>	<b>17</b>	<b>6.2</b>	<b>134.7</b>
7	Oil refineries and petrochemical & pipeline (NCO)	0	8	5	2	15
8	Petrochemical plants and pipelines infrastructure (non-governmental)	5	22	8	17	52
9	The total investment required investment without optimization (save)	<b>65.9</b>	<b>80.6</b>	<b>30</b>	<b>25.2</b>	<b>201.7</b>

(\*all figures in table is in billions USD)

## 1.9- Optimization program

a) Law of Barriers elimination for competitive production , According to article NO. 12 (Table 13)



## Optimization program

Project Name	The maximum government's commitment refunds	Approval Date	savings amount (maximum /yearly)	Implementation Period
Increase the efficiency of the thermal station of residential building, commercial and office in the country	2000 (Millions of dollars)	16/11/2014	4.8 billion cubic meters of natural gas	2015-2019
Renovation of 65000 trucks and worn out truck over 10 over35 years old	2762 (Millions of dollars)	18/3/2015	365 million liters of gas oil	2015-2019
Energizing agricultural water wells diesel	1650 (Millions of dollars)	5/3/2015	1650 million liters of gas oil	2015-2017
Replacement of 170000 old diesel engine urban buses with CNG	1795 (Millions of dollars)	28/10/2014	847 million liters of gas oil	2015-2017
Replacement 140000 of old taxis and vans with all gas taxi and vans the long navigation	635 (Millions of dollars)	16/3/2015	544 million liters of gasoline	2015-2017
Development of freight and passengers by rail	7531/9 (Millions of dollars)	23/2/2015	1/9 billion liters of gas oil	2015-2024
Development of Tehran metropolitan metro	5014/8 (Millions of dollars)	-	Provided for in the plan of the Economic Council	2015-2024
The development of transport system by metro for 8 Metropolitan cities (Mashhad, Isfahan, Shiraz, Ahvaz, Tabriz, Karaj, Kermanshah, and Qom)	795/1 (Millions of dollars)	-		2015-2024
Replacement of worn 400000 gasoline motorcycles to electrical	192 (Millions of dollars)	-		2015-2018
Total investment	22/4 (Millions of dollars)		About 17 billion liters of fuel	

## IPC ( list of projects & opportunities)

The information of IPC project  
extracted of booklet  
Which is presented at a  
Tehran submit in 2015  
(Table 14,15 &16)



**Table 14**

<b>NO</b>	<b>Project category</b>	<b>Project identification</b>
<b>1</b>	<b>EXPLORATION BLOCKS</b>	a)LORESTAN blocks b)DEZFUL blocks c)Fars blocks d)Persian gulf blocks e)KOPEH DAGH blocks f)MOGHAN blocks g)Central Iran blocks h)FRONTIER blocks
<b>2</b>	<b>CASPIAN SEA EXPLORATION BLOCKS</b>	a) block-24 b) block-26 c) block-29 d) SARDAR-E-JANGAL field
<b>3</b>	<b>oil projects</b>	a)South AZADEGAN Field b)South PARS oil layer c)CHANGULEH oil field d) DARQUIN field phase
<b>4</b>	<b>GHOLSHAN FERDOWSI HEAVY OIL FIELD</b>	a) FERDOWSI HEAVY OIL FIELD b)GOLSHAN HEAVY OIL FIELD

**Table 15**

<b>NO</b>	<b>Project category</b>	<b>Project identification</b>
<b>5</b>	<b>SOHRAB ARVAND BAND – E- KARKHEH JUFAIR SEPEHR SUSANGERD FIELDS</b>	a)SOHRAB FIELD b)ARVAND FIELD c)BAND – E- KARKHEH FIELD d)JUFAIR FIELD e)SEPEHR FIELD f)SUSANGERD FIELD g)AHWAZ-BANGESTAN FIELD h)MANSURI-BANGESTAN FIELD i)AB-TEYMOUR FIELD j)SALMAN OIL FIELD k)FOROOZAN OIL FIELD l)SOROOSH FIELD m)NOROOZ FIELD n)DOROOD FIELD
<b>6</b>	<b>WEST OF IRAN OIL FIELD PACKAGE</b>	a)ABAN FIELD b)PAYDAR FIELD c)WEST PAYDAR FIELD d)DANAN FIELD e)CHESHMEH-KHOSH FIELD f)DALPARI FIELD g)NAFT-SHAHR FIELD h)SUMAR FIELD i) DEHLORAN FIELD
<b>7</b>	<b>GAS PROJECTS</b>	a)South PARS Gas Field (phase 11)

**Table 16**

NO	Project category	Project identification
8	FARZAD FIELDS	a)FARZAD-A- GAS FIELD b)FARZAD-B- GAS FIELD c)BALAL GAS FIELD d)KISH GAS FIELD e)NORTH PARS GAS FIELD
9	GHOLSHAN & FERDOWSI GAS FIELDS	a)GOLSHAN GAS FIELD b)FERDOWSI GAS FIELD c) KHAMI FIELDS
10	HALEGAN ,SEFIED –BAGHOUN , SEFIED –ZAKHIUR DEY , AGHAR-PHASE 2 FIELDS	a)HALEGAN GAS FIELD b)SEFIED-BAGHOONS FIELD c)SEFIED- ZAKHOUR FIELD d)DEY FIELD e)PHASE-2 OF AGHAR FIELD f)KARUN – BANGESTAN GAS FIELD AND NGL -1700 g)TANG-E-EBIJAR GAS FIELD AND ILAM REFINERY



(3)

A BOUT

**The opportunity / priority / area of  
interest for Italian companies**





**(A)**  
**Energy saving Project  
approach**



# Governing law

**Law of Barriers elimination for  
competitive production  
(Article No.12)**



## Major concentration of law ( Energy Saving)

- ✓ To allow to the governmental sector to utilize yearly up to **100 billion US dollar & 500000 Billion RIAL** for activities which is specified in the law
- ✓ by priority to the **private** & cooperative sector activities
- ✓ Utilize for **production export improve** the quality saving in cost , production , services & time
- ✓ Improve for **quality, environmental impact , Loss of life and property**
- ✓ Utilize in the project in **oil , gas ,condensate and oil product , goods and services for import & export.**



# Brief information to utilize **Article 12**



# An Overview of Energy Sector in Iran



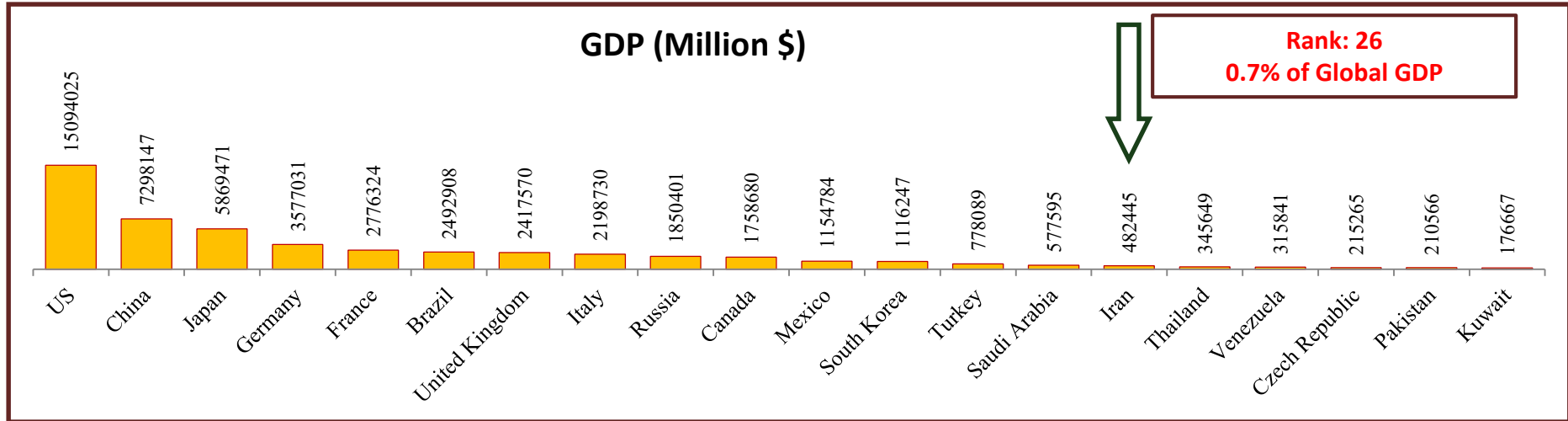
<b>Population</b> (million)	<b>74.80*</b>
<b>GDP</b> (billion 2000 USD)	<b>246.57</b>
<b>GDP (PPP**)</b> (billion 2000 USD)	<b>826.34</b>
<b>Energy Production</b> (M toe***)	<b>353.67</b>
<b>Exports</b> (M toe)	<b>138.82</b>
<b>TPES</b> (M toe)	<b>212.15</b>
<b>Electricity Consumption</b> (TWh)	<b>199.79</b>
<b>CO2 Emissions</b> (MT of CO2)	<b>520.98</b>

\*Now more than 80 million

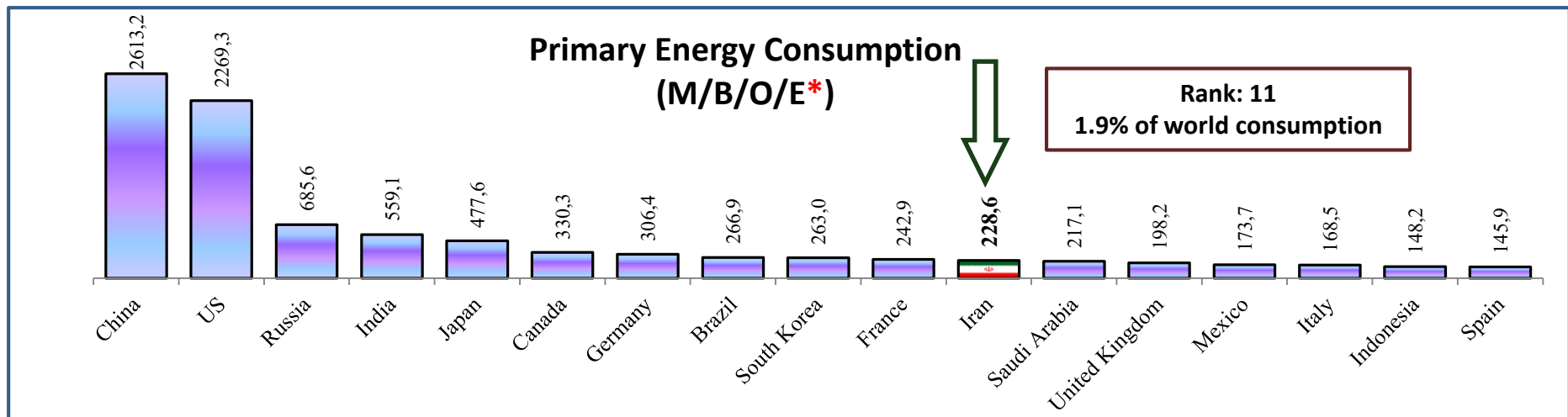
\*\* purchasing power parity

\*\*\* Million Tones of oil equivalent

# Position of Iran in Global GDP and TPEC



Ref.: International Monetary Fund



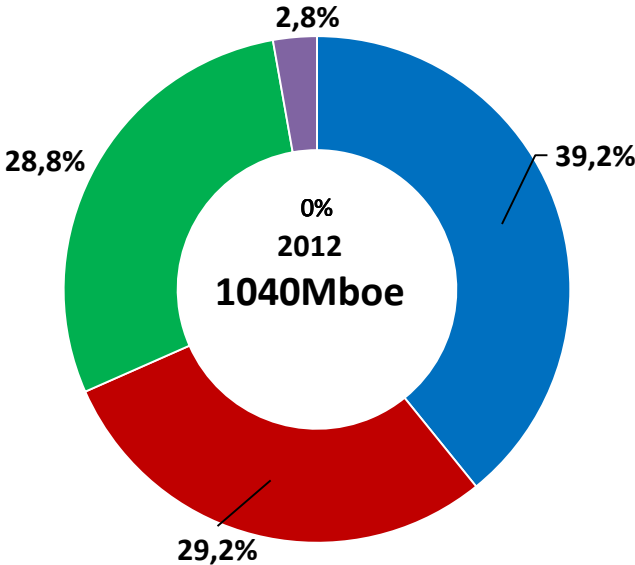
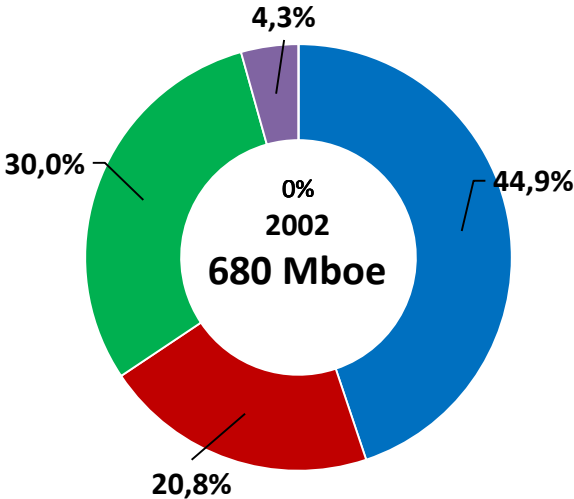
Ref.: BP Statistical Review of World Energy .June 2012

\* Million barrel of oil equivalents

# Final Energy Consumption in Iran

## Growth rate

Total Energy Sector: 4.33%



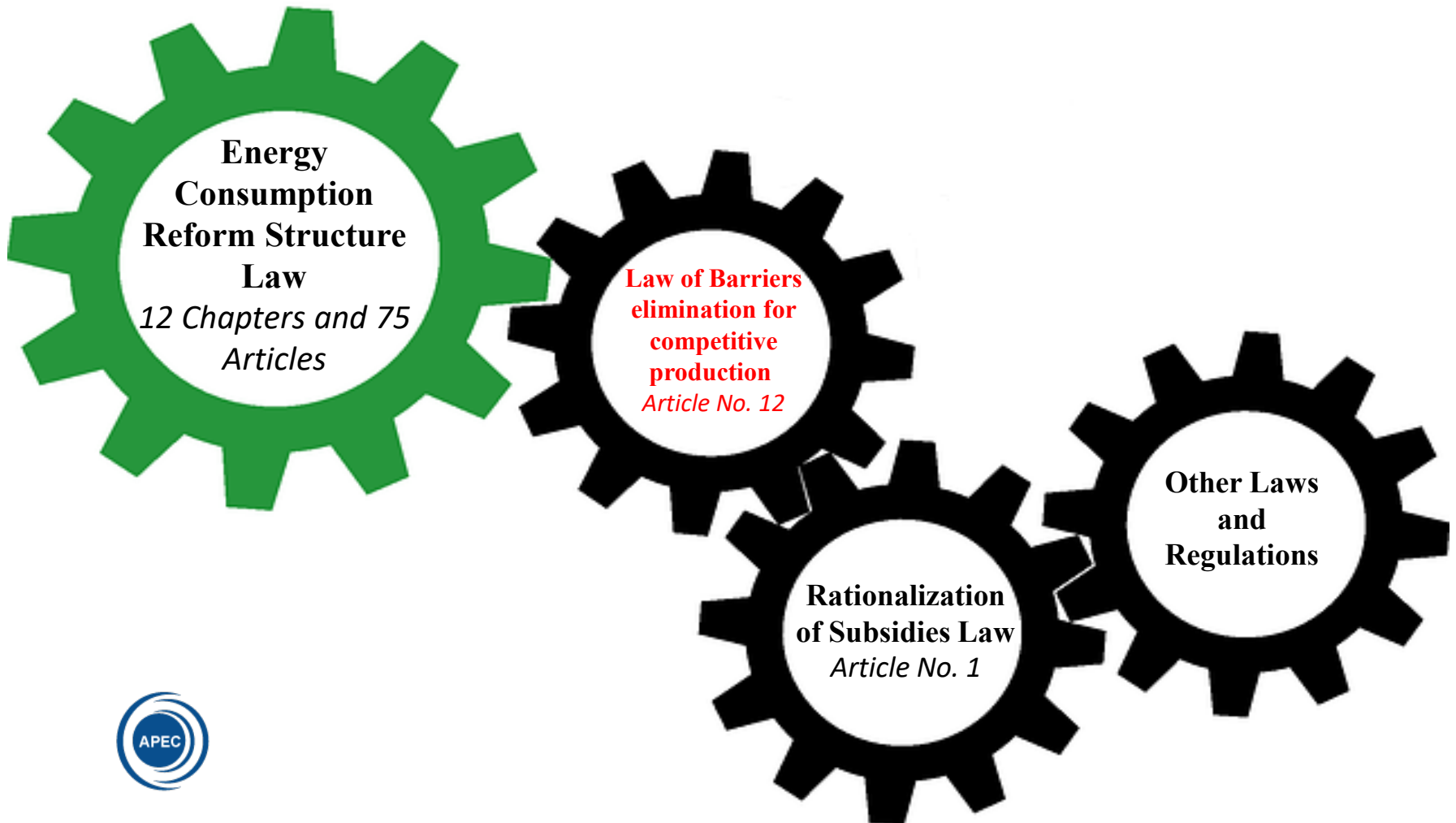
■ Building

■ Industry

■ Transportation

■ Agriculture

# Legislations related to energy conservation





# Quantitative goal



**50% reduction on  
energy intensity**

till 2020 (based on 2011)

**General Policies of Consumption Reform  
Clause 7: Energy saving**

# Other achievements

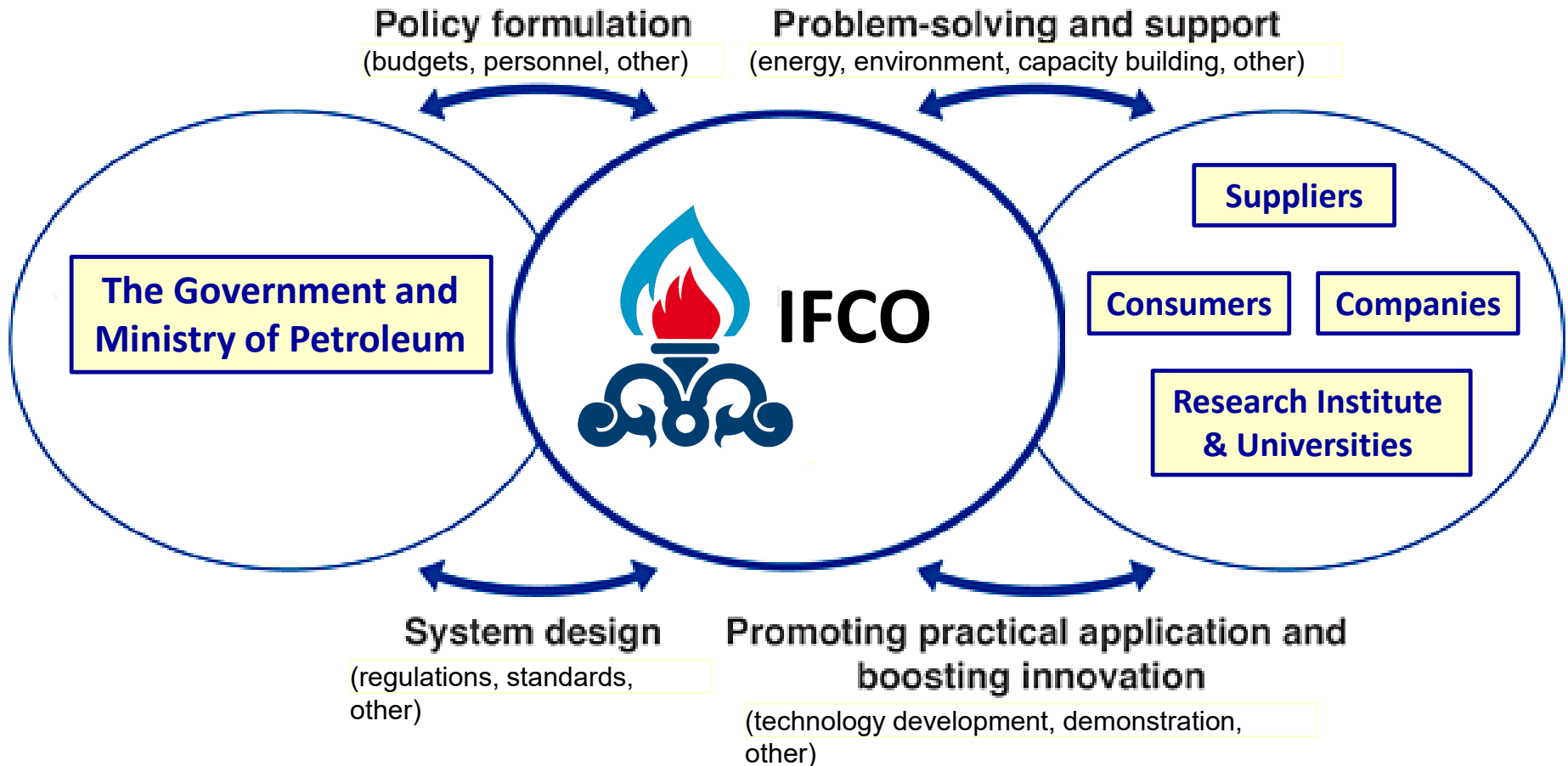
**Energy security**

**Job creation**

**Environmental Protection**

# IRANAIN FUEL COSERVATION COMPANY (IFCO)

Executive Responsible for Rationalizing Use of Energy

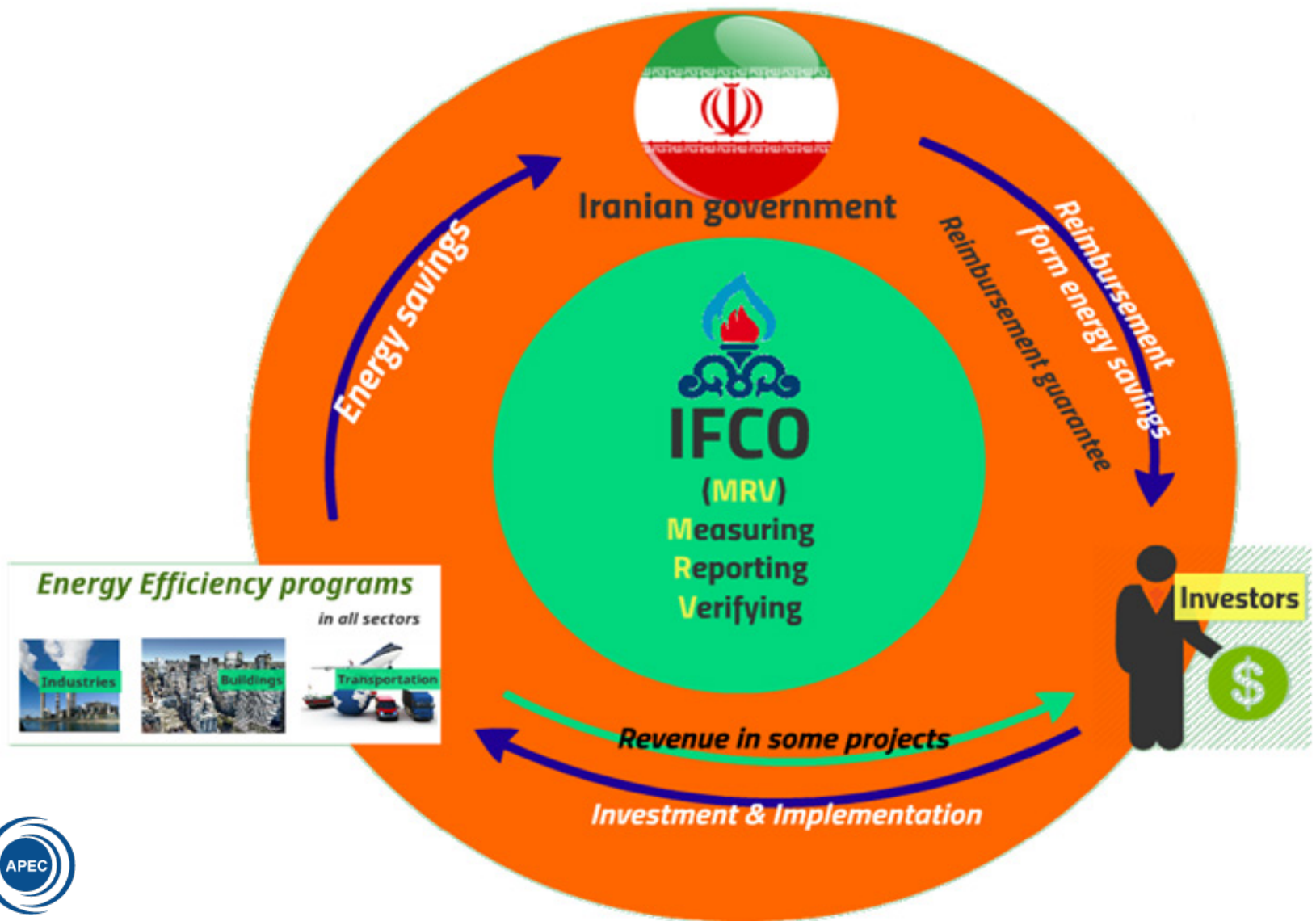


# Current Projects (Financing, ESCO)

(Based on Energy Performance Contracts)



# EPC Model in IFCO Projects



# 1 Improving Energy Efficiency of the Existing Local and Central Heating Systems

Plan Overview:

The amount of work:

500 thousand units residential buildings

100 thousand units commercial buildings

Saving: 25 million cubic meters of natural gas per day in winter.

The Annual benefits:

about 5 billion cubic meters of natural gas, especially in the winter, or 29 million barrels of crude oil and reduction of about 9 million tons of GHGs annually.



Plan Spec	Amount
Reimbursement	\$ 2 billion
Payment Period	40 months
Savings (\$) in the Life Cycle	\$ 6 Billion
Savings (NG) in the Life Cycle	35 trillion TCM
GHG Reduction	67 MMTCE



## 2 **Renewal of city taxi fleets by retirement of 140000 old gasoline taxis and supply of CNG taxis**



### Plan Overview:

#### The amount of work:

Substitution of **140000 new CNG taxis** including 60000 van taxis and 80000 sedan taxis.

#### Benefits:

Cumulative avoided/substituted energy carriers of **620 million liters of petrol** and reduction of **100 thousand tons of GHGs** per year

Plan Spec	Amount
Reimbursement	\$ 635 million
Payment Period	5-7 years
Savings (\$) in the Life Cycle	\$ 1.1 billion
Savings (petrol) in the Life Cycle	5.9 billion liters
GHG Reduction	2.2 MMTCE



Reimbursement and Saving are calculated based on price of the crude oil = 60\$/bbl

### 3 Renewal of city bus fleets by retirement of 17000 old diesel buses and supply of CNG city buses



**Plan Overview:**

**The amount of work:**

Substitution of 17000 new CNG buses

**Benefits:**

Cumulative avoided/substituted energy carriers of **849 million liters of gasoil** and reduction of 500 thousand tons of GHGs per year.

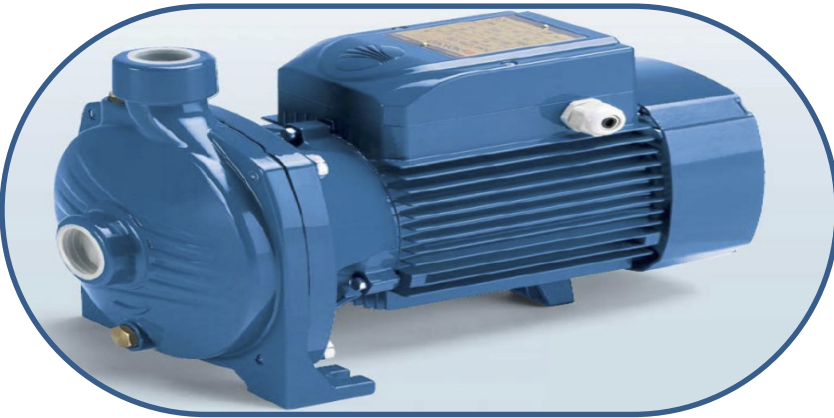
Plan Spec	Amount
Reimbursement	\$ 1795 million
Payment Period	5 years
Savings (\$) in the Life Cycle	\$ 3.5 billion
Savings (gasoil) in the Life Cycle	8.6 billion liters
GHG Reduction	6.4 MMTCE



Reimbursement and Saving are calculated based on price of the crude oil = 60\$/bbl

# 4

## Electrification of Agricultural Water Pumps



### Plan Overview:

#### The amount of work:

replacement of **100 thousand** of existing diesel engines with electric motor and floating pumps in the agricultural sector .

#### Benefits:

Cumulative **avoided/substituted** energy carriers of **990 million liters of gasoil**, with the same amount of gas to generate electricity per year.

Plan Spec	Amount
Reimbursement	\$ 1650 million
Payment Period	5 years
Savings (\$) in the Life Cycle	\$ 3 billion
Savings (gasoil) in the Life Cycle	7.1 billion liters
GHG Reduction	18 MMTCE



Reimbursement and Saving are calculated based on price of the crude oil = 60\$/bbl



# 5 Renovate heavy vehicle fleet (passenger and freight)



## Plan Overview:

### The amount of work:

Replacement of **65,000** of existing (**over 35 years**) diesel Heavy Trucks by new energy-efficient trucks.

### Benefits:

Cumulative **saving of 349 million liters of gasoil** and reduction of **900 thousand tons of GHGs** per year.

Plan Spec	Amount
Reimbursement	\$ 2.7 billion
Payment Period	5 years
Savings (\$) in the Life Cycle	\$ 12billion
Savings (gasoil) in the Life Cycle	34 billion liters
GHG Reduction	93MMTCE



Reimbursement and Saving are calculated based on price of the crude oil = 60\$/bbl

# 6 Development of Railway Transportation System



Plan Overview:

The amount of work:

Railway development and increasing:

cargo capacity **from 21.7 to 75.8 bn** tones-km

passenger transport **from 17.4 to 34.2 bn** people-km

Benefits:

Cumulative **saving of 403 million liters of gasoil and reduction of 1 million tons of GHGs** per year.

Plan Spec	Amount
Reimbursement	\$ 7531 million
Payment Period	10 years
Savings (\$) in the Life Cycle	\$ 144 billion
Savings (gasoil) in the Life Cycle	392 billion liters
GHG Reduction	1000 MMTCE



Reimbursement and Saving are calculated based on price of the crude oil = 60\$/bbl

# Current EPC Projects-Key Highlights



	<b>Project Title</b>	<b>payback of Executive investors (million dollars)</b>	<b>Saved/Replaced energy carrier</b>	<b>project lifetime (years)</b>	<b>Saving/Replacement during the lifetime of project (MML/MMCM)</b>	<b>The value of savings / replacement during the lifetime of project (MM\$)</b>	<b>Reduction of GHG during the lifetime of project (MMTCDE)</b>
1	Improving Energy Efficiency of Central Heating Systems for Residential & Commercial Buildings in Iran	<b>2,000</b>	Natural Gas	14	35,510	6,030	67.6
2	Water Pumps Fuel switching of Agricultural Wells with Electricity	<b>1,650</b>	Gas oil	15	7,714	3,056	1.8
					17,368	4,324	19.3
3	Renewal of city bus fleets by retirement of 17000 old diesel powered buses and supply of CNG powered city buses	<b>1,795</b>	Gas oil	14	8,600	3,590	6.4

MML: Million Liters

MMCM: Million Cubic Meters

MMTCDE: Million tonnes of Carbon Dioxide Equivalents

# Current EPC Projects-Key Highlights



	<b>Project Title</b>	<b>payback of Executive investors (MM €)</b>	<b>Saved/ Replaced energy carrier</b>	<b>project lifetime (years)</b>	<b>Saving/ Replacement during the lifetime of project (MML/MMCM)</b>	<b>The value of savings / replacement during the lifetime of project (MM€)</b>	<b>Reduction of GHG during the lifetime of project (MMTCDE)</b>
4	Renewal of city taxi fleets by retirement of 140000 old gasoline powered taxis and supply of dedicated CNG powered long range taxis	<b>635</b>	Gasoline	13	5,946	1,156	2.2
5	Renovation of 65000 trucks	<b>2,762</b>	Gas oil	34	34,525	12,625	93.1
6	Development of railway transportation system	<b>7,531</b>	Gas oil	40	392,779	144,615	1,052.5
<b>Total</b>		<b>16,431</b>	-	-	<b>502,236</b>	<b>175,961</b>	<b>1,249</b>

MML: Million Liters

MMCM: Million Cubic Meters

MMTCDE: Million tonnes of Carbon Dioxide Equivalents

**(B)**  
**Target To IPC  
project**



**Iran**  
**Petroleum Contract**  
**(IPC)**  
**As a modified**  
**Buy Back contract**



## Main Principals & advantage of IPC

- ✓ **win-win situation in the contract**
- ✓ **Alignment of the parties benefits**
- ✓ **Sustainable approach**
- ✓ **Better Partnership**
- ✓ **Efficient in operations of the field**
- ✓ **Technology & management transfer**
- ✓ **Internationalization**



## More Flexibility of the IPC

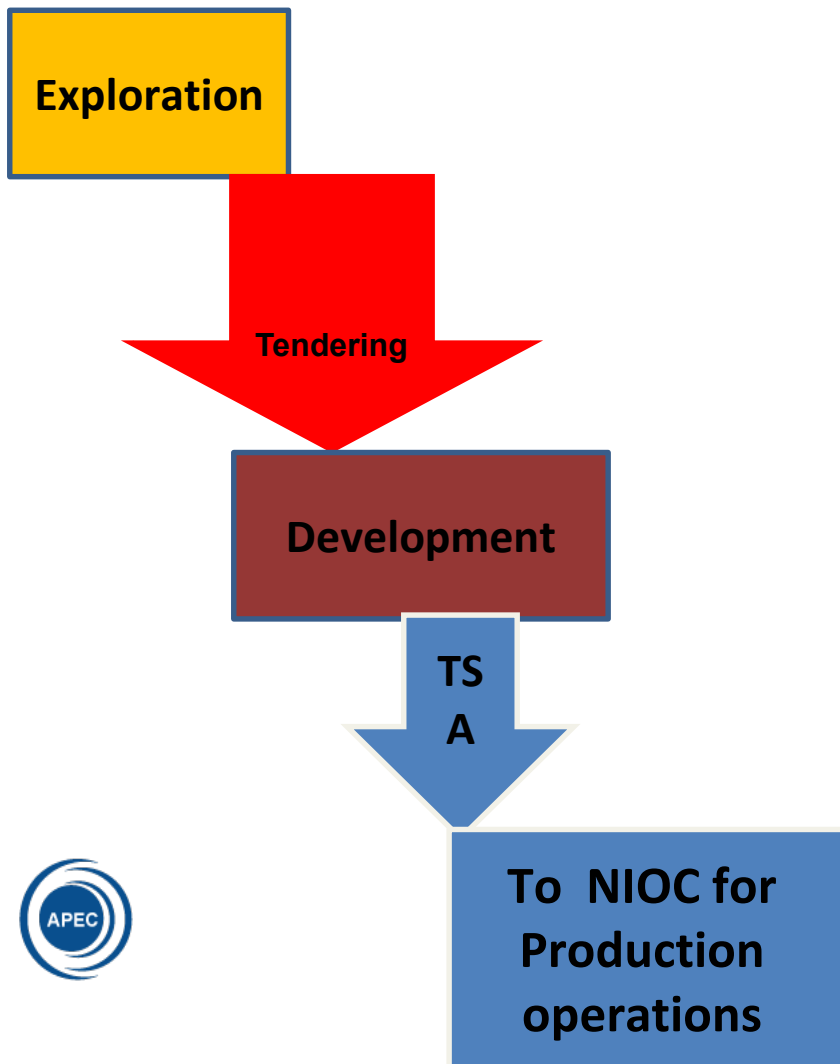
- ✓ **Exploration**
- ✓ **Integrated Exploration and Development operation for new fields.**
- ✓ **Enhance Oil Recoveries of the Brown fields ( IOR&EOR)**
- ✓ **Development of the Common fields with neighboring countries.**
- ✓ **Exploration, Development & Production Operation in the “High Risks” areas and also Deep Waters.**
- ✓ **Integrated Exploration, Development, Production & IOR/EOR**
- ✓ **Development of the Green fields**



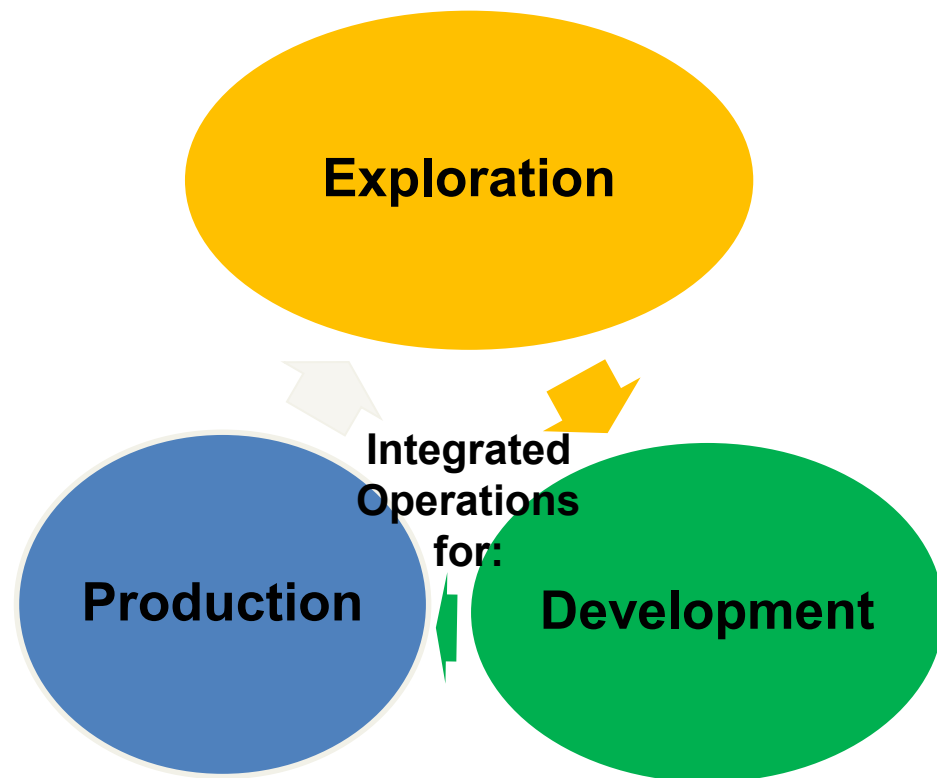


# Comparison Petroleum Operations in:

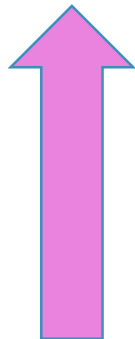
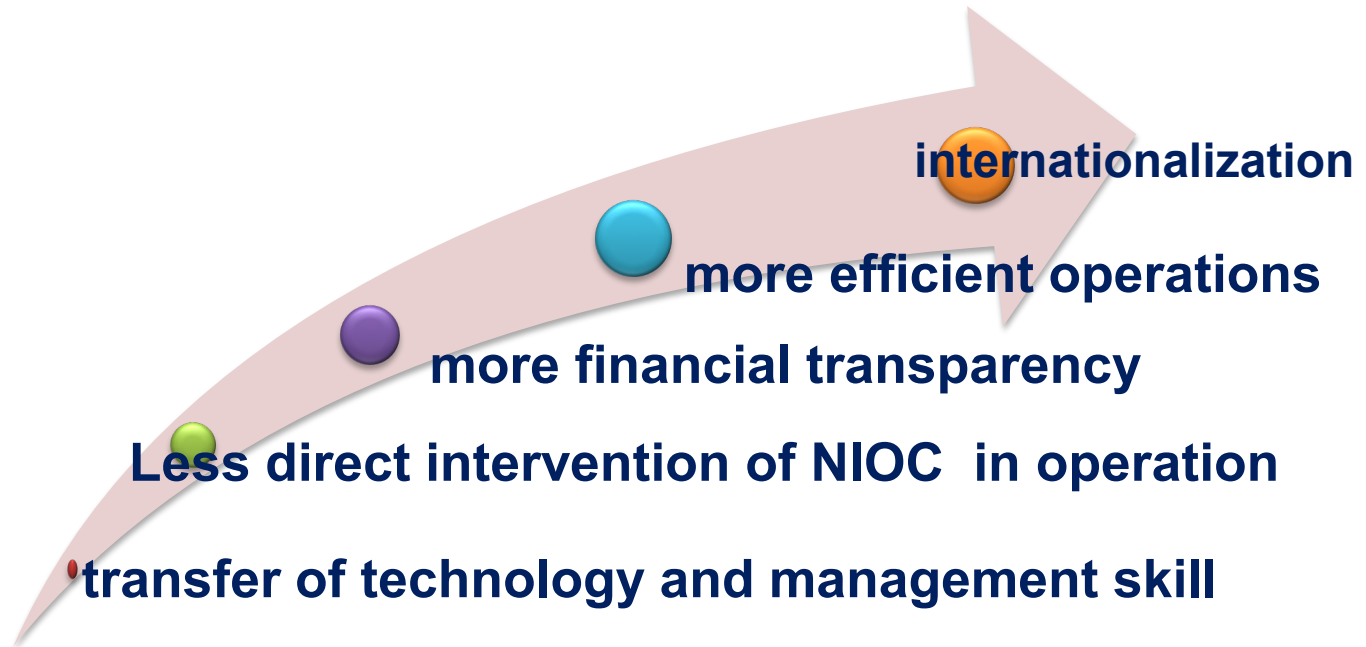
## Buy Back



## IPC



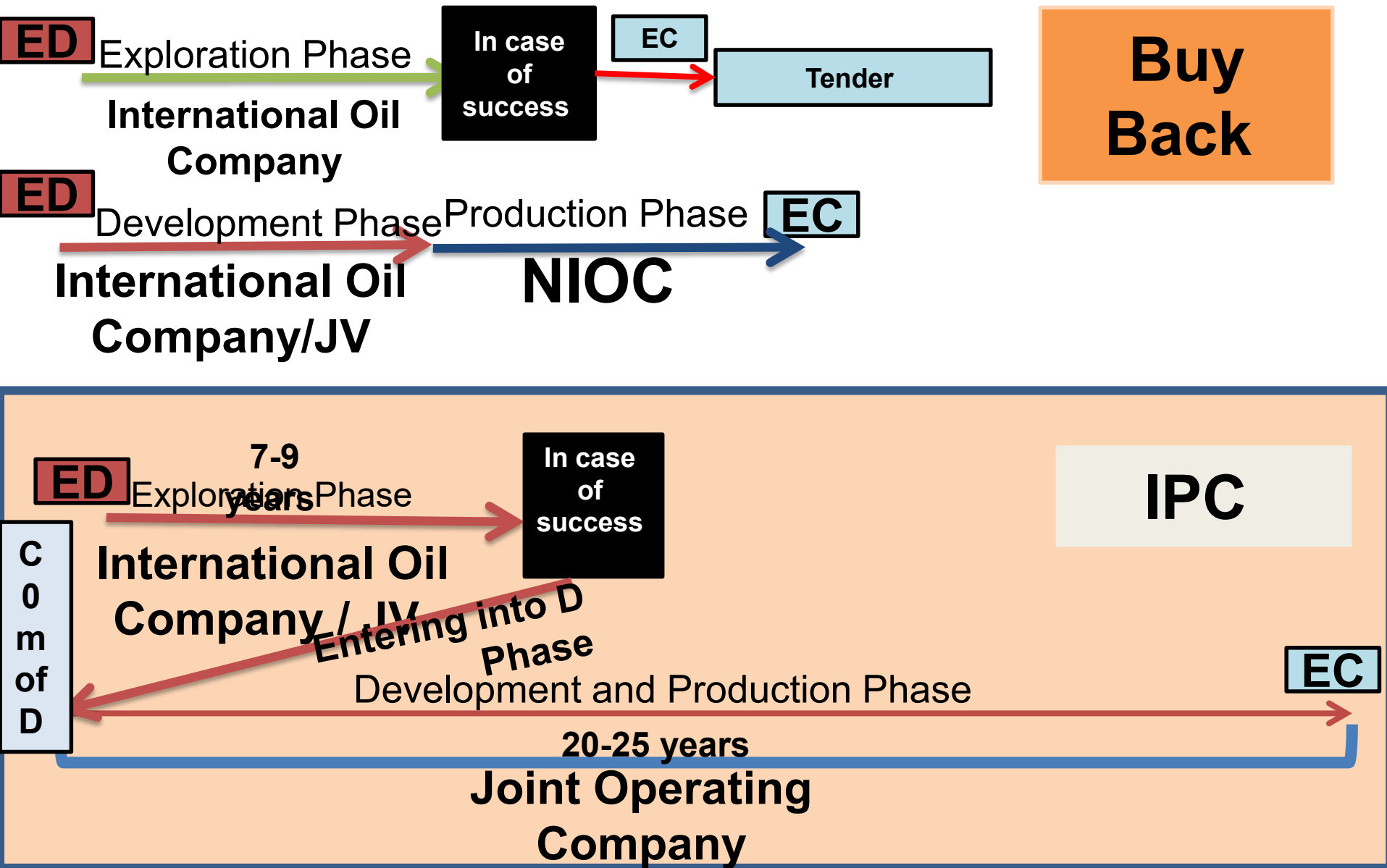
# In Cooperation



**JV for Development operations**



# Chronology and Implementation in:



# Cost Recovery:

**IPC**



**Amortization: 5-7 years**

**Full Cost Recovery**

**Payment start:**

**from First Production**



# Fee Adjustment and Reward Control in:

## Buy Back

## IPC

### CONTRACTOR'S ECONOMIC EVALUATION Cash Flow Table and ROR Calculation SAMPLE PROJECT

#REF!

ROR% = 18.50%

FIGURES IN MUS\$

Total	-1 2012	0 2013	1 2014	2 2015	3 2016	4 2017	5 2018	6 2019	7 2020	8 2021	9 2022	10 2023	
<b>Cash Out</b>													
CAPEX Phase	830,000	22,560	97,900	72,820	1,103,040	84,730	48,950						
Non CAPEX Phase	83,000	2,256	9,790	7,282	10,304	8,473	4,895						
<b>TOTAL CASH OUT</b>	<b>213,000</b>	<b>34,816</b>	<b>47,690</b>	<b>1,070,102</b>	<b>1,213,344</b>	<b>73,203</b>	<b>73,845</b>						
<b>Cash In</b>													
CAPEX Recovery	830,000						21,496	39,498	37,751	37,751	37,751	39,498	16,255
NON CAPEX Recovery	83,000						2,150	3,950	3,775	3,775	3,775	3,950	1,625
BANK CHARGES(Recovery)	555,676						72,557	43,238	42,300	42,300	42,300	43,238	69,743
REMUNERATION	754,105						15,126	26,826	25,113	25,113	25,113	26,826	09,988
<b>TOTAL CASH IN</b>	<b>0,022,781</b>						<b>41,328</b>	<b>1,673,512</b>	<b>1,668,939</b>	<b>1,668,939</b>	<b>1,668,939</b>	<b>1,673,512</b>	<b>27,611</b>
CASH FLOW or NPV(0%)	809,781	134,816	547,690	1,070,102	1,213,344	973,203	567,483	1,673,512	1,668,939	1,668,939	1,668,939	1,673,512	827,611
CUM.CASH FLOW		134,816	682,506	1,752,608	2,965,952	3,939,155	3,371,672	1,698,160	29,220	1,639,719	3,308,658	4,982,170	5,809,781
NPV(%)	18.5%	59,757	47,690	03,040	64,067	84,855	87,793	16,204	02,741	508,642	429,234	363,215	151,580
Max Contractor Share USD	1,240,154						43,517	1,876,778	1,871,650	1,871,650	1,871,650	1,876,778	28,133
<b>IRR</b>	<b>18.50%</b>												

All Cumulative amounts received by operator as per any annual financial report

RI =

Total Costs incurred and Paid by Operator as per same annual financial report



<b>Development Phase :</b>	66 Months ( From Jan 2014 To End of Jun 2019)	TOTAL CASH IN	Mapna share	T/M	B.Ch/CASH FLOW	35.38%
<b>Amortization Period:</b>	72 Months ( From July 2019. To End of Jun 2025)	10,022,781	11,240,154	89.17%	Rem/CASH FLOW	64.62%

## **More Flexibilities of the IPC:**



- ✓ **Flexible Development Plan**
- ✓ **Recovery of the costs will start from the First Production Date**
- ✓ **Annual Work Program and Budget instead of fixed capex costs**
- ✓ **Full Cost Recovery**
- ✓ **Balance Risk- Reward approach**
- ✓ **Flexible Reward considering the oil price changes**
- ✓ **Reforming the Decision Making process**
- ✓ **Flexibility for long term cooperation and partnership**
- ✓ **Longer Term in case of EOR projects**
- ✓ **Inclusion of Risk Factor by using different Fee**

(4)

# A BOUT

**Iranian Contractors /  
potentials benefits for Italian  
company**



## Achievements in midstream and downstream projects

- ✓ **Value of projects implemented. 25 Billion USD**
- ✓ **Samples of major successful projects completed fore to decade in recent years.**
  - ❖ **Petrochemical plants**
  - ❖ **Gas & oil pipe lines, compressor stations**
  - ❖ **Refineries & MEGA project gas plant**



# Achievements in midstream and downstream projects

## Table 1

Description	Unit	Available In 2011	Available In 2014	Achieved during 2011-2014
1 Gas Production	M3/day	625,000,000	764,000,000	139,000,000
2 Condensate Production	bbl/day	390,000	470,000	80,000
3 Gasoline Production	Litter/day	56,200,000	65,000,000	8,800,000
4 Gasoil Production	Litter/day	94,700,000	97,000,000	2,300,000
5 Petrochemical Products	Tones	54,500,000	60,000,000	5,500,000
6 Gas main pipelines(Trunk)	KM	1,057	2,250	1,193
7 Products Storage Facilities	Litter.	11,000,000,000	14,000,000,000	3,000,000,000
8 CNG Stations	Nos.	225	2,200	1,975



*Our understanding for members' potentials and cooperation benefits for Italian companies*



- ✓ **Good experience and capability in forming consortiums and joint ventures (JV) with Italian companies.**
- ✓ **Highly educated & motivated manpower**
- ✓ **Working with competitive prices in our market**
- ✓ **Realistic information on local resources and for actual direct / indirect costs.**
- ✓ **Understanding for behavior with Governmental client in contract .**
- ✓ **Higher productivity when working together with international rule & regulation**

***Our goal & expectations to cooperate with  
Italian companies***



- ✓ **To transfer of the latest international technology & management .**
- ✓ **To Facilitate & transfer the financing from international market for local project**
- ✓ **To proof & control quality HSE & Environmental impact .**
- ✓ **Utilizing local content according in a Iranian Law & regulation .**

***Our goal & expectations to cooperate with international companies***



- ✓ To utilize of **numerous experienced potential local contractors** for cooperation
- ✓ To utilize all **local resources** available.
- ✓ Select the best **local Partnership opportunities** for Italian ANIMP members to enter to the local project.
- ✓ As much as **to take part to the Mega project** In local in oil, gas and Petrochemical.



**Thank  
you**