OIL AND GAS SECTOR WICI KPIs
Draft proposed by NIBR/WICI Italy

The target of this framework is to identify relevant KPIs for the Oil & Gas industry engaged in upstream and midstream activities. The upstream includes the searching for potential underground or underwater crude oil and natural gas fields, drilling of exploratory wells, and subsequently drilling and operating the wells that recover and bring the crude oil and/or raw natural gas to the surface. The midstream involves the transportation (by pipeline, rail, barge, oil tanker or truck), storage, and wholesale marketing of crude petroleum products. No inclusions of unconventional Oil & Gas (ie.: oil sands; extra heavy oil; gas to liquid).

To identify KPIs, we started from the model outlined in the chart presented on the next page (Figure 1), in which we tried to show the link between intangibles and the value creation process in the industry. In the top section of the mentioned model we tried to ideally outline the typical value chain for companies operating in the upstream and midstream business from prospecting & acquisition of rights to decommissioning, while the five core competencies considered "critical success factors" are proposed at the left-side of the chart. The basic idea is a matrix approach, in which value chain blocks and core competencies are matched in order to verify which competencies should be outlined in each phase.

As it can be understood by analysing the model, not all the critical factors have been considered relevant across each block of the value chain. The inner part of the model has then been structured to outline the main relationships between the core competencies and the value chain activities. The strength of the model lies in its ability to display the critical areas to be investigated and measured, through the proposed KPIs, along the entire Oil & Gas industry value chain. On this regard the identification of KPIs and their allocation to the core competencies have been made taking into account that the result of a certain activity in the value chain depends on and reflects a specific set of core competencies/capabilities, which in turn is driven by a pool of intangibles, each of which (as not measurable *per se*) is approximated in terms of measurement by a

certain number of such KPIs. Therefore, for each value chain block we tried to outline the most significant KPIs, explaining for each KPI the intangible to which it is related, the formula used to calculate it and the KPI's features (e.g. number, percentage, value etc.). In this way, different perspectives of analysis can be provided, since each KPI can be diversely weighted in a company's analysis depending on the KPI's importance in that company's value chain. Since every company has it own way of creating value and utilizing resources, the same KPIs could be not applicable to all companies of the Oil & Gas sector.

Finally, the model matches the proposal of the WICI concept paper.

Figure 1 – The proposed model: Oil & Gas industry (upstream) - Value Chain and Core Competencies

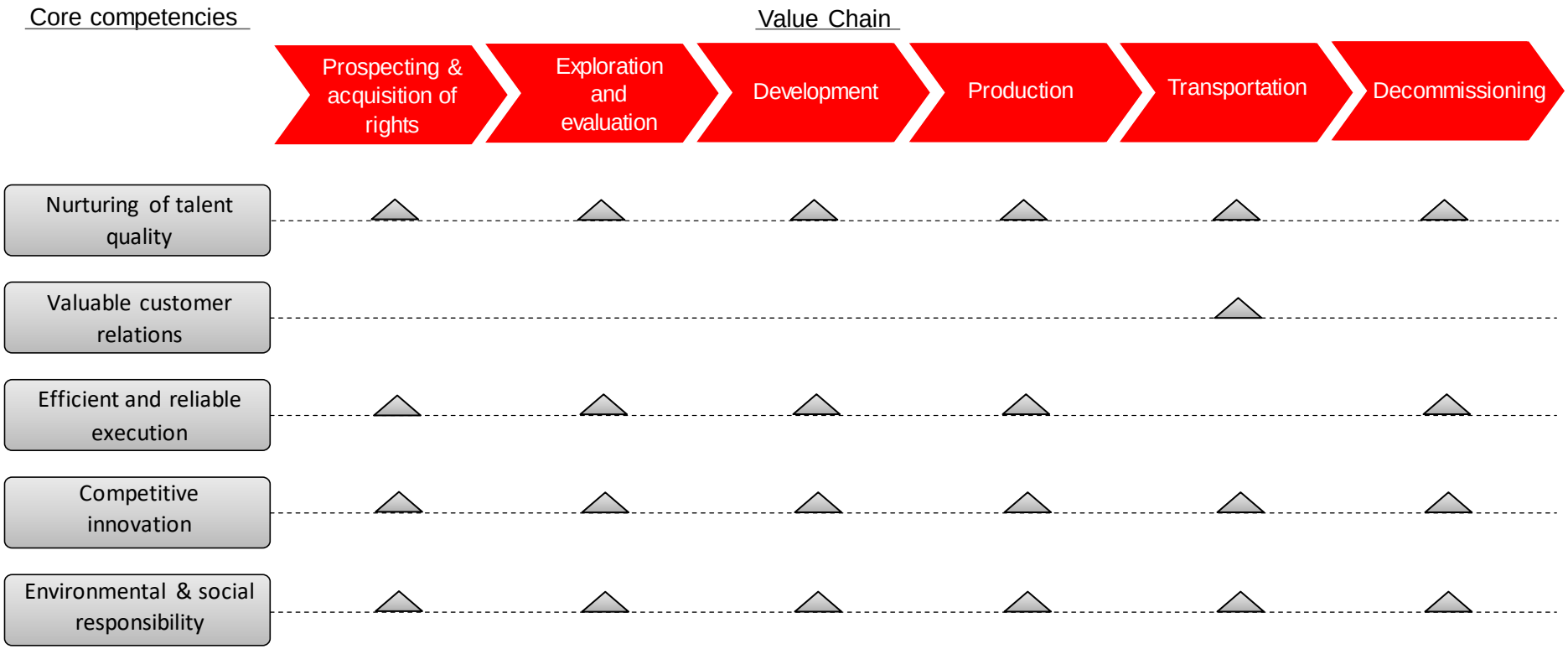

Figure 2. Oil & Gas sector: the complete list of proposed KPIs per core competencies/critical success factors

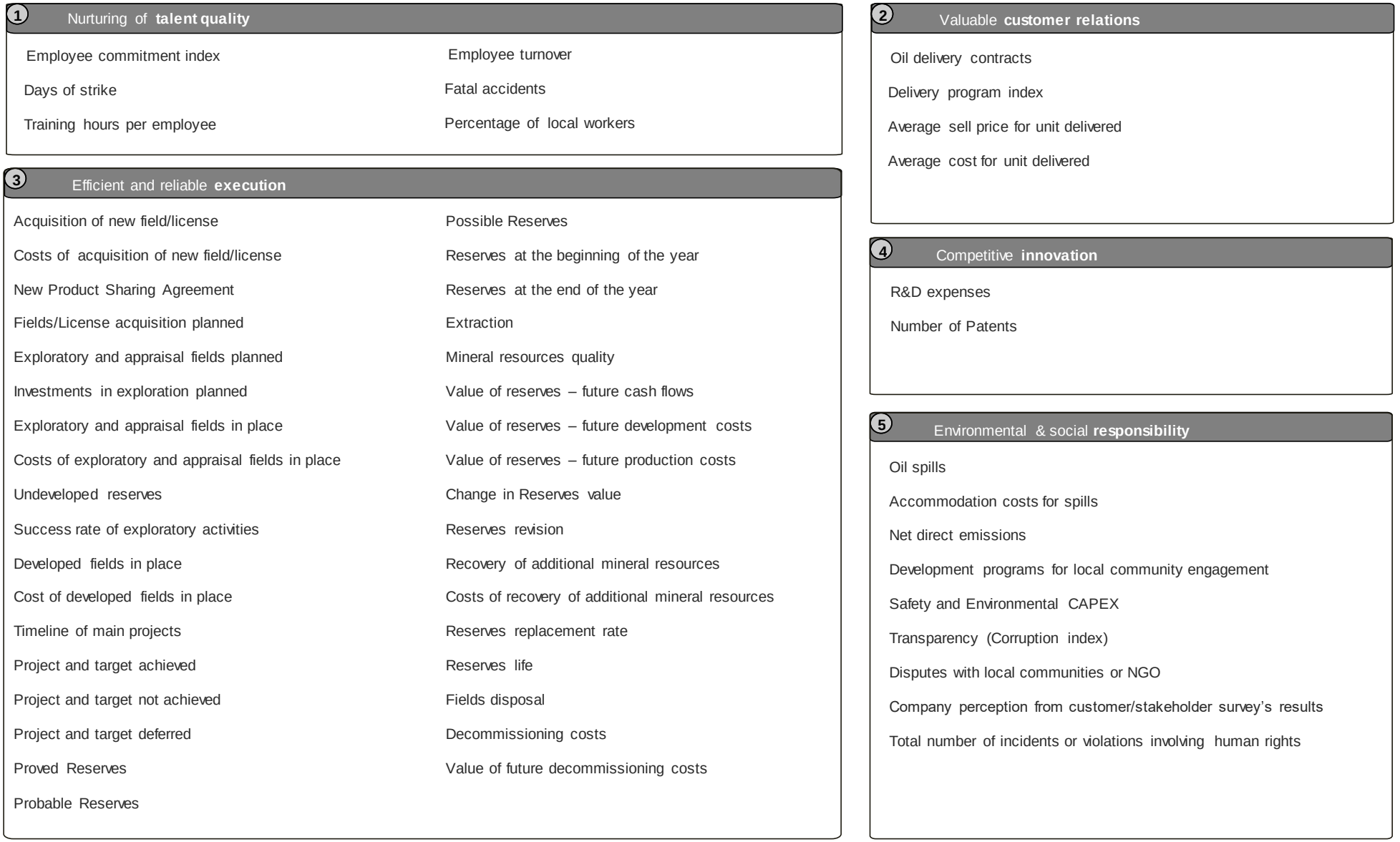

Table 1. The complete list of KPIs for the Oil & Gas sector

Nr	*KPI*	*Value Chain*	*KP's features*	*KPI Formula*	*Core Competencies*	*Suggested relevance*
1	Acquisition of new field/license	PROSPECTING & ACQUISITION OF RIGHTS	KM^2 per geographical area		Efficient and reliable execution	
2	Costs of acquisition of new field/license	PROSPECTING & ACQUISITION OF RIGHTS	Cur		Efficient and reliable execution	
3	New Product Sharing Agreement	PROSPECTING & ACQUISITION OF RIGHTS	# per geographical area		Efficient and reliable execution	
4	Fields/License acquisition planned	PROSPECTING & ACQUISITION OF RIGHTS	# per geographical area	Acquisition in progress	Efficient and reliable execution	
5	Exploratory and appraisal fields planned	EXPLORATION AND EVALUATION	# (or KM^2) per geographical area		Efficient and reliable execution	
6	Investments in exploration planned	EXPLORATION AND EVALUATION	Cur		Efficient and reliable execution	
7	Exploratory and appraisal fields in place	EXPLORATION AND EVALUATION	# (or KM^2) per geographical area		Efficient and reliable execution	
8	Cost of exploratory and appraisal fields in place	EXPLORATION AND EVALUATION	Cur		Efficient and reliable execution	

Nr	KPI	Value Chain	KP's features	KPI Formula	Core Competencies	Suggested relevance
9	Undeveloped reserves	EXPLORATION AND EVALUATION	Boe		Efficient and reliable execution	
10	Success rate of exploratory activities	EXPLORATION AND EVALUATION	# Boe planned/# Boe reserve		Efficient and reliable execution	
11	Developed fields in place	DEVELOPMENT	# (or Boe) per geographical area		Efficient and reliable execution	
12	Cost of developed fields in place	DEVELOPMENT	Boe or Cur		Efficient and reliable execution	
13	Timeline of main projects	DEVELOPMENT	Years	Index of development life cycle	Efficient and reliable execution	
14	Project and target achieved	DEVELOPMENT	#/Boe		Efficient and reliable execution	
15	Project and target not achieved	DEVELOPMENT	#/Boe		Efficient and reliable execution	
16	Project and target deferred	DEVELOPMENT	#/Boe		Efficient and reliable execution	

Nr	KPI	Value Chain	KP's features	KPI Formula	Core Competencies	Suggested relevance
17	Proved Reserves	PRODUCTION	Boe		Efficient and reliable execution	
18	Probable Reserves	PRODUCTION	Boe		Efficient and reliable execution	
19	Possible Reserves	PRODUCTION	Boe		Efficient and reliable execution	
20	Reserves at the beginning of the year	PRODUCTION	Boe	Proved reserve and other categories	Efficient and reliable execution	
21	Reserves at the end of the year	PRODUCTION	Boe	Proved reserve and other categories	Efficient and reliable execution	
22	Extraction	PRODUCTION	Daily Boe from main fields or geographical area	Proved reserve and other categories	Efficient and reliable execution	
23	Mineral resources quality	PRODUCTION	Boe for tipology		Efficient and reliable execution	
24	Value of reserves – future cash flow	PRODUCTION	Cur	Proved reserve and other categories	Efficient and reliable execution	

Nr	KPI	Value Chain	KP's features	KPI Formula	Core Competencies	Suggested relevance
25	Value of reserves – future development costs	PRODUCTION	Cur	Proved reserve and other categories	Efficient and reliable execution	
26	Value of reserves – future production costs	PRODUCTION	Cur	Proved reserve and other categories	Efficient and reliable execution	
27	Change in Reserves value	PRODUCTION	Cur	Proved reserve and other categories	Efficient and reliable execution	
28	Reserves revision	PRODUCTION	Boe		Efficient and reliable execution	
29	Recovery of additional mineral resources	PRODUCTION	Boe		Efficient and reliable execution	
30	Costs of recovery of additional mineral resources	PRODUCTION	Cur per Boe		Efficient and reliable execution	
31	Reserves replacement rate	PRODUCTION	Boe	Amount of proved reserves added/amount of oil and gas produced	Efficient and reliable execution	
32	Reserves life	PRODUCTION	Years		Efficient and reliable execution	

Nr	KPI	Value Chain	KP's features	KPI Formula	Core Competencies	Suggested relevance
33	Oil spills	PRODUCTION	Boe		Environmental & social responsibility	
34	Accommodation cost for spills	PRODUCTION	Cur		Environmental & social responsibility	
35	Net direct emissions	PRODUCTION	Tons	i.e. Carbon Dioxide (CO2), Methane (CH4), Nitrous Oxide (N2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF6)	Environmental & social responsibility	
36	Oil delivery contracts	TRANSPORTATION	Boe	Quantity of Oil subject to delivery contracts	Valuable customer relations	
37	Delivery program index	TRANSPORTATION	Boe	Proved reserves/delivery commitment	Valuable customer relations	
38	Average sell price for unit delivered	TRANSPORTATION	Cur/Boe		Valuable customer relations	
39	Average cost for unit delivered	TRANSPORTATION	Cur/Boe		Valuable customer relations	
40	Fields disposal	DECOMMISSIONING	#, KM^2 or area		Efficient and reliable execution	

Nr	KPI	Value Chain	KP's features	KPI Formula	Core Competencies	Suggested relevance
41	Decommissioning costs	DECOMMISSIONING	Cur		Efficient and reliable execution	
42	Value of future decommissioning costs	DECOMMISSIONING	Cur		Efficient and reliable execution	
43	Employee commitment index	CROSS	Index	Score defined by the employees on commitment (min=1; max 10): It is scored from an annual Employee Survey which provides a reliable measure of employees' commitment to their work and the company	Nurturing of talent quality	
44	Days of strike	CROSS	#		Nurturing of talent quality	
45	Training hours per employee	CROSS	Hours	Ratio between Total training hours and total employees	Nurturing of talent quality	
46	Employee turnover	CROSS	%	Ratio between total terminations and total workforce at the end of the period	Nurturing of talent quality	
47	Fatal accidents	CROSS	#	Number of deaths, included both employees and contractors	Nurturing of talent quality	
48	Percentage of local workers	CROSS	%	% local workers on total employees	Nurturing of talent quality	

Nr	KPI	Value Chain	KP's features	KPI Formula	Core Competencies	Suggested relevance
49	Development programs for local community engagement	CROSS	Cur		Environmental & social responsibility	
50	Safety and Environmental CAPEX	CROSS	Cur	Current safety investments and expenses	Environmental & social responsibility	
51	Transparency (Corruption index)	CROSS	Cur	Revenues for each region in which the Transparency International Corruption Index is below 6.0 (source: EFFAS)	Environmental & social responsibility	
52	Disputes with local communities or NGO	CROSS	# or/and Cur	Lawsuits, expenses and fines (compliance, environmental, social risks)	Environmental & social responsibility	
53	Company perception from customer/stakeholder survey's results	CROSS	Index	Measure of how the company is perceived by external parties (i.e. consumers)	Environmental & social responsibility	
54	Total number of incidents or violations involving human rights	CROSS	#	Report the total number of identified incidents involving indigenous rights during the reporting period	Environmental & social responsibility	
55	R&D expenses	CROSS	%	Ratio between Total R&D investments/costs and Total revenues	Competitive innovation	
56	Number of Patents	CROSS	#	Number of patents	Competitive innovation	

Legenda	
Boe	Barrel of oil equivalent or M3 in case of gas
Cur	Currency
#	Number
Index	Company score
KM^2	Geographical extension
Years	Period
Tons	Tons
Hours	Hours

About the Network Italiano per il Business Reporting (NIBR) – WICI Italy

NIBR – WICI Italy was founded in December 2010 and is the official Italian jurisdiction for the "World Intellectual Capital / Assets Initiative" (WICI Global), the global Network for business reporting, and for the "World Intellectual Capital / Assets Initiative Network for Europe" (WICI Europe).

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