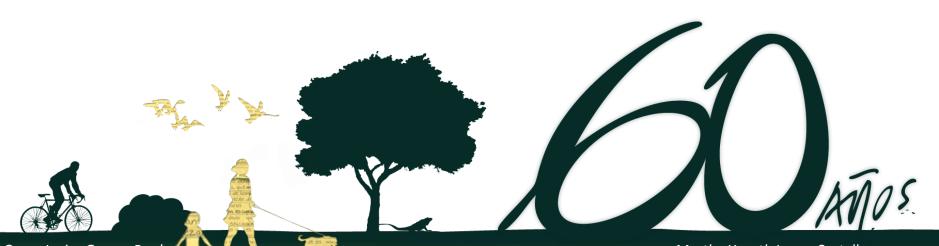
2012



KNOWLEDGE MANAGEMENT AT

ECOPETROL S.A.

A REAL CASE OF IMPLEMENTATION



Oscar Javier Guerra Perdomo Leader of Knowledge Management Corporate Program of ECOPETROL ECOPETROL S.A. Martha Yaneth Lopez Castellanos Professional of Knowledge Management ECOPETROL S.A.

martha.lopezcas@ecopetrol.com.co













AGENDA

- 1. Our Dream and Reason to Exist
- 2. Knowledge Management at Ecopetrol
- 3. Progress and Results: how do we measure?
- 4. How and with whom, us we reference?
- 5. Lessons Learned







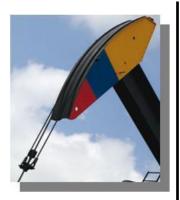
Ecopetrol is the main petroleum company in Colombia, 4th in Latin-America

Exploration



Reserves 1P 1.857 Mbpe

Production



685 MBOED Crude: 581,9 MBOED Gas: 103,1 MBOED

Refining



294 Mbod Barranca: 217,6 Mbod Cartagena: 76,4 Mbod

Transportation



Pipeline network for crude oil and products: 9.160 km 1.204,5 MBOD

Marketing



826,1 MBOED Local Sales: 292,9 MBOED

Exports: 533,2 MBOED Income for sales:

27.263 MUSD



Researching



Biodiesel and Energy Diversification





Our Operation and Workteam

- About 7,000 direct employees
- More than 25,000 contractor
- Net Income: COP\$15,4
- Headquarters Location: Bogota, Colombia
- Ranking No.12 PFC Energy 50 Jan 2011













Our challenge 2020! ...

NO ACCIDENTS

NO ENVIRONMENTAL INCIDENTS

WITH NORMALITY WORK

WITH HARMONY WITH STAKEHOLDERS

THREE DIMENSIONS:

ECONOMIC,

ENVIRONMENTAL,

SOCIAL





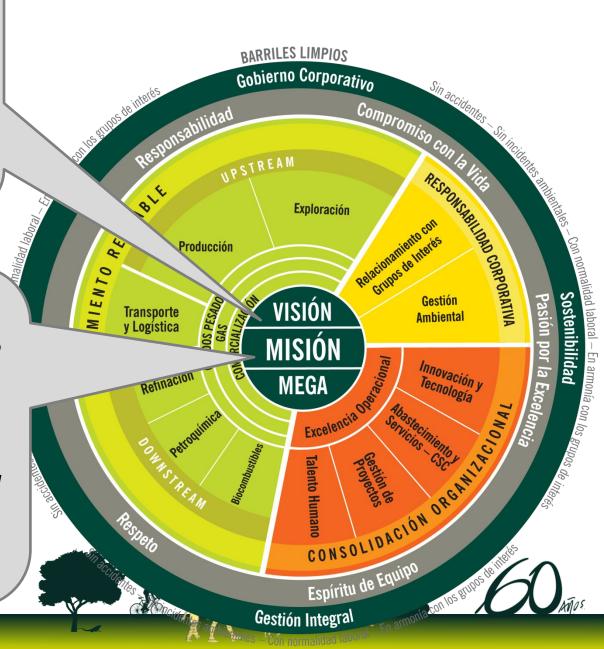
Vision of the Ecopetrol Corporate Group

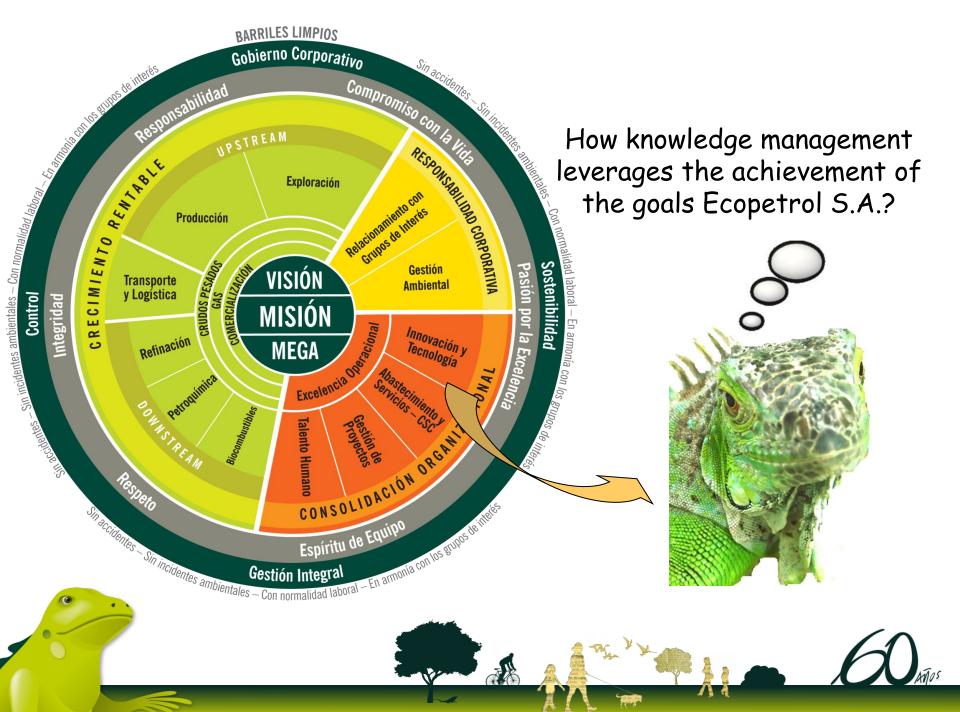
Ecopetrol, corporate group, focused on petroleum, gas, petrochemicals and alternative fuels, to become one of the 30 largest oil companies in the world, recognized for its international positioning, its innovation and its commitment to sustainable development.

Mission of the Ecopetrol Corporate Group

We find and convert energy sources into value for our customers and shareholders, ensuring the integrity of people, the safety of processes and protection of the environment, contributing to the welfare of the areas where we work, by means of committed personnel who seek excellence, integral development and the development of long-term relationships with interested parties.

Our Dream and Reason to Exist





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THE BEGINNING

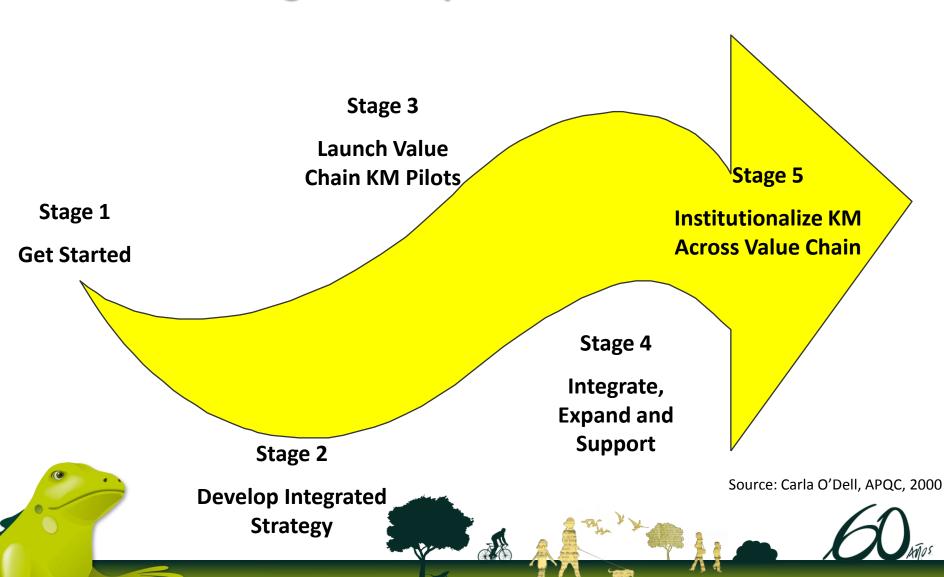


http://asambleanacional.gov.ec/blogs/viviana_bonilla/files/2009/12/atletismo-partida.jpg

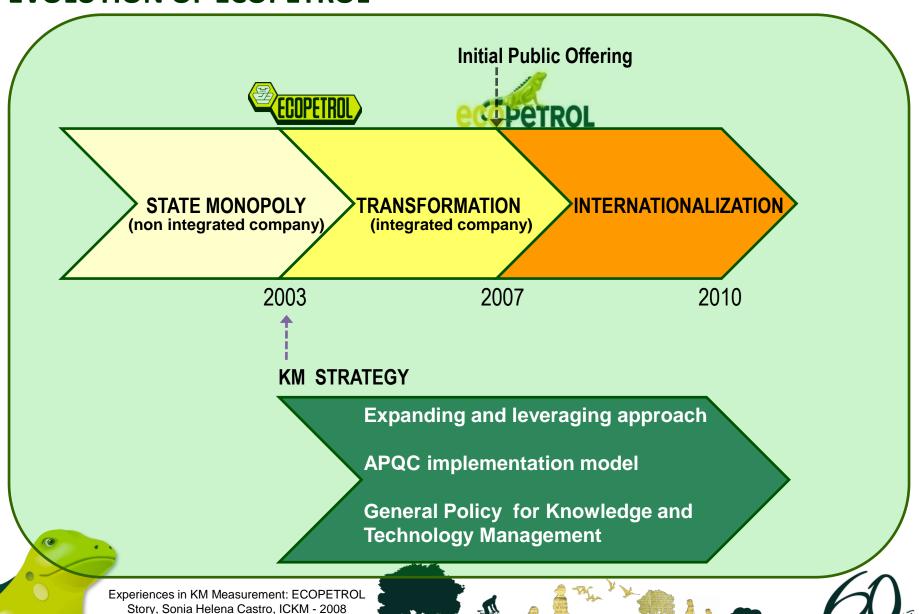




APQC's Road Map to KM Results: Stages of Implementation™



EVOLUTION OF ECOPETROL



IN ECOPETROL WHAT IS KNOWLEDGE MANAGEMENT?









IN ECOPETROL KNOWLEDGE MANAGEMENT IS TO MAKE THE BEST USE OF INTERNAL AND EXTERNAL KNOWLEDGE TO MEET BUSINESS GOALS







KNOWLEDGE MANAGMENT AT ECOPETROL



RELACIÓN DE VERSIONES

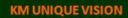
VERSIÓN	DESCRIPCIÓN	FECHA	
91	Emisión del documento	Deplembre 10-de 2034 Noviembre 20 de 2017	
92	Inclusion de mecanismos de interacción adicionales y quates de forma y términos acordes con nueva estructura organizacional.		
DEPENDENCIA RESPONSABLE	REVISÓ	APROBÓ	
50NA K. CASTRO Courcins data Geddon de Broviagia autituto Courciane de Petideo ELABORO: Équipo Empresaria de destán de Textrologia y Consolimento	inéction F. GAAVEDIA. Diedor Institut Colombine del Parcine (E) WILLIAM FERNANCO LIZARAZO Diedor Diedoir de Residente Lizarazion (E)	AVIER G. GUTTERREZ P. Přeodede	





% Equipo Rotativo Sano en Parafinas

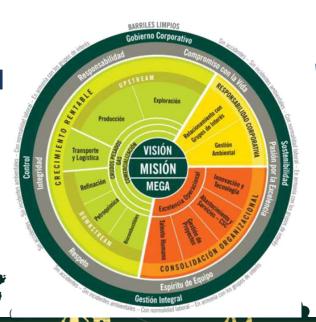




INCORPORATION, INSURANCE, TRANSFER AND SUSTAINABILITY OF KNOWLEDGE, TECHNOLOGY AND KEY PRACTICES IN AREAS OF **OPERATION**

PROCESSES, INFORMATION CULTURE **METHODS TECHNOLOGY** MANAGEMENT AND MANAGEMENT **MECHANISMS**

ENABLERS

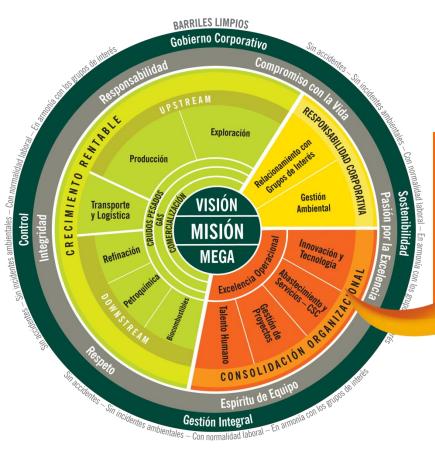








KNOWLEDGE MANAGEMENT AS PART OF THE CONSOLIDATION STRATEGY OF ECOPETROL



PROMISE OF VALUE

"We consider Knowledge and Technology Management, and Innovation as key factors in creating value and competitive advantage for the organization. We strengthen organizational learning, incorporating new knowledge and best practices of the industry."

ECOPETROL COMPRENHENSIVE POLICY - 7th Principle, Dec 2010



BEHAVIORS

ROLES AND RESPONSIBILITIES

MECHANISMS









KM ROLES AND RESPONSABILITIES

We all are responsible by the insurance knowledge.

PRESIDENCY

Monitors the implementation

VP INNOVATION - ICP

Leader of the process, ensures full and effective implementation of results

OPERATING UNITS

Implementers

DEPARTMENTS OF SUPPORT

OTHERS VP

Implementers and functional leaders for specific initiatives

CORPORATE UNITS

Guide and regulate policies, guidelines and procedures.





KM MECHANISMS, METHODS AND TOOLS

Technological Environment Forums





Business Team in Knowledge and Technology Management

Working sessions for monitoring and controlling withir the Vice and Departments

Corporate University





Communities of Practice

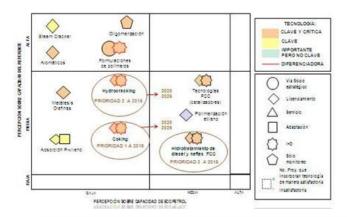






KM MECHANISMS, METHODS AND TOOLS

Strategic and Tactical Technology workshops



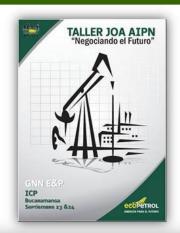
Succes Stories

Lessons Learned



Cross-cutting teams

Work Events for Knowledge Transfer





Dialogue Spaces









CORPORATE PROGRAM FOR IMPLEMENTATION OF KNOWLEDGE MANAGEMENT VISION



KM UNIQUE VISION

INCORPORATION, INSURANCE, TRANSFER AND SUSTAINABILITY OF KNOWLEDGE, TECHNOLOGY AND KEY PRACTICES IN OPERATING AREAS

CULTURE MANAGEMENT

INFORMATION TECHNOLOGY MANAGEMENT PROCESSES,
METHODS
AND
MECHANISMS



ENABLERS

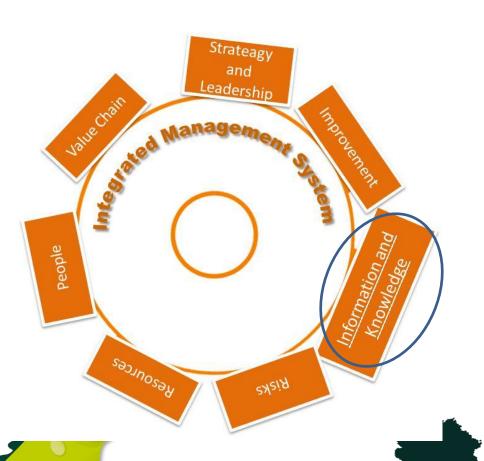


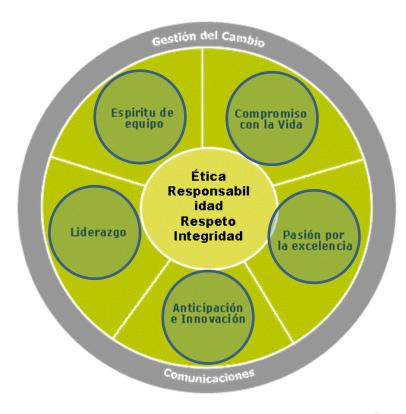


CULTURE MANAGEMENT

KM within the Integrated Management System of ECOPETROL S.A

ECOPETROL Pillars of Culture Model that leverage Knowledge Management







ENABLERS STRATEGIES: MANAGEMENT OF CULTURE



- ✓ Technical and human competences associated with KM.
- ✓ Integration of competences to profiles and to the development of training plans in accordance with the levels in the organization.
- ✓ Regulatory framework that leverages the knowledge transfer.
- ✓ Mentor Program for closing gaps in competences.

- ✓ Strategies and plans for communications and divulgation at all levels.
 - ✓ Induction in KM to new employees.



- ✓ Across performance objective: knowledge miles.
- Encourage the culture in KM through special recognition: symbols and signs.
 - ✓ Recognition Program







INFORMATION TECHNOLOGY MANAGEMENT: COLLABORATIVE TOOLS



- ✓ Technology is not the focus of the solution.
- ✓ There are processes, tools, methods and tools that support the collaboration and knowledge sharing.

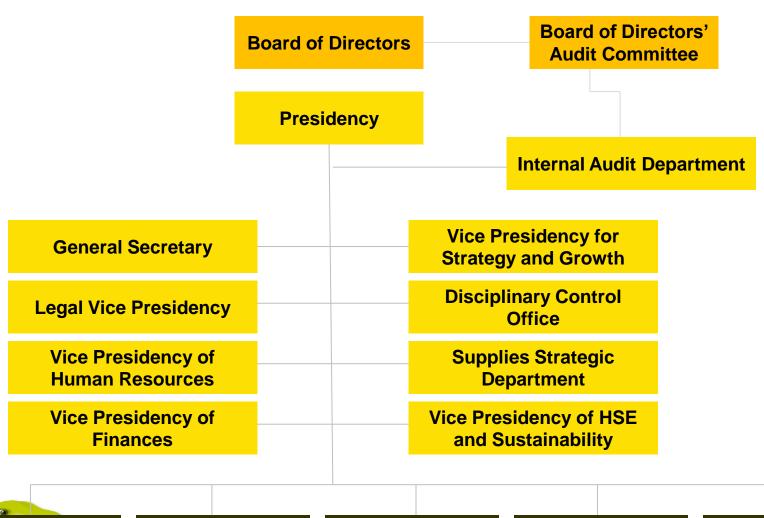
✓ Portals for Knowledge, Technology and Innovation Management, such as My Site, Technology Forums, Lessons Learned, Communities of Practice, Success Stories, Technical Information Center, among others.







ECOPETROL ORGANIZATIONAL CHART



Vice Presidency of Innovation and Technology

Executive Vice Presidency of Exploration and Production

Executive Vice Presidency of Downstream

Vice Presidency of Transportation and Logistic

Shared Services
Center
Department

KNOWLEDGE MANAGEMENT GOVERNANCE

1. Business Team in Knowledge and Technology Management

Vice Presidency of Innovation and Technology

Colombian
Petroleum Institute

Information Technology Department

KNOWLEDGE AND TECHNOLOGY MANAGEMENT OFFICE



2. Implementation Teams

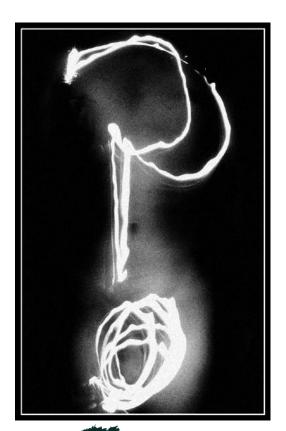






































AN EXAMPLE OF KEY PRACTICES - 2012

TECHNICAL EXCELLENCE IN NATIONAL AND INTERNATIONAL PROSPECTS

TIMING STRUCTURE EVALUATION

PRACTICES WITHIN THE PROCESS OF NEW BUSINESSES IN E&P

EFFICIENT PROCESSES IN WELL STIMULATION

HEAVY CRUDE OIL PROCESS OPERATION

MANAGEMENT DEVELOPMENT AND OPERATION OF MATURE OIL FIELDS

LINE INTEGRITY PRACTICES

PORT MANAGEMENT

OIL MEASUREMENT AND ACCOUNTING MANAGEMENT PROCESS

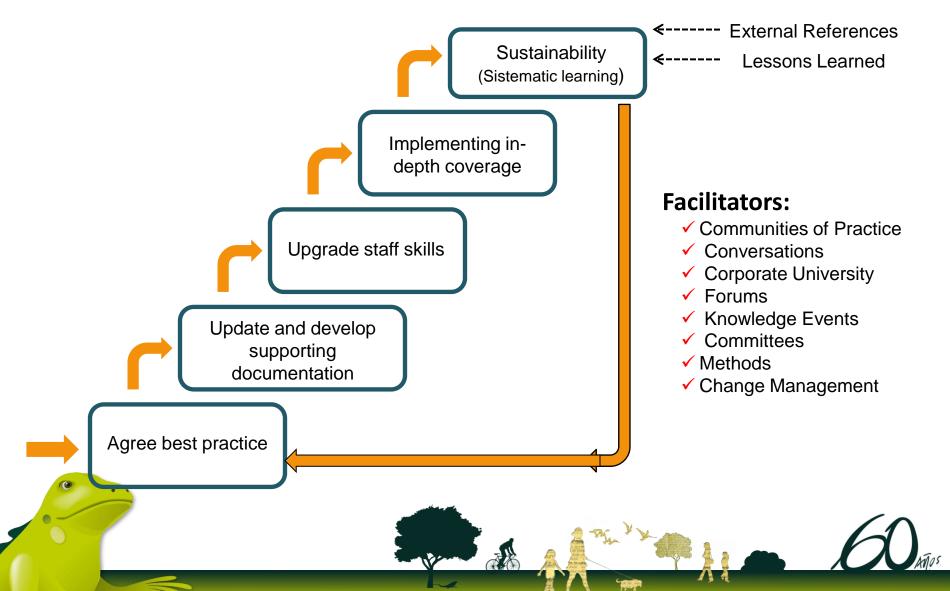
PLANNING PROCESS OF SUPPLY CHAIN



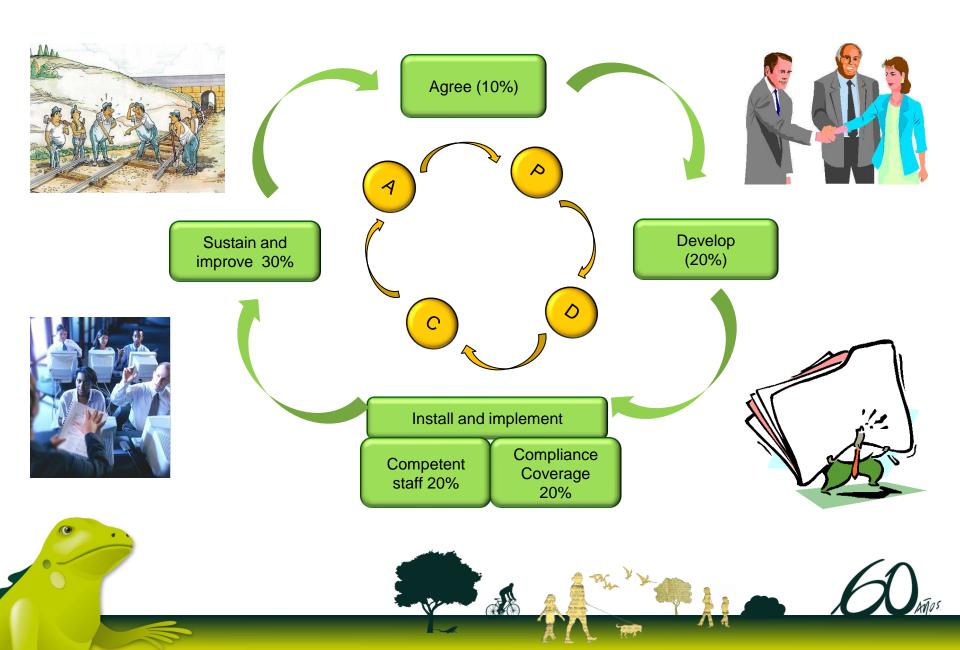




KNOWLEDGE SUSTAINABILITY IS NOT A FACT IS A PROCESS



ECOPETROL'S KM MEASUREMENT MODEL



ECOPETROL'S KM MEASUREMENT MODEL

STEP	WEIGHT (%)	LANDMARK	VERIFICATIONS AND CHECKING
1		Agreed best practice	Objective, reach and coverage are shared
	10		Performance indicators exist
	10		Line managers accept the agreement
2 20	20	Shared documental	Critical support documents are defined, done, placed and updated adequately
		support	Location is unique and known by people
3 20		Competent people	Roles and responsibilities are defined clearly
	20		Induction, training and coaching are given for each role played
			Individual competences are proved
4 20	Coverage	Practice is implemented in 100% of agreed coverage	
	20	performance	Knowledge loss risk is managed
5 3	20	Systematic	There is a systematic way for seeking, generating, incorporating and sharing learned lessons
	30	learning	Improvements implementation is verified and the practice and indicators are feedbacked
Total	100%		Experiences in KM Measurement: ECOPETROL Story, Sonia Helena Castro, ICKM - 2008



HOW PERMEATE THE ORGANIZATION?

TACIT KNOLEWDGE



EXPLICIT KNOWLEDGE

COMMON KNOWLEDGE

IMPLICIT KNOWLEDGE



KNOWLEDGE MANAGEMENT



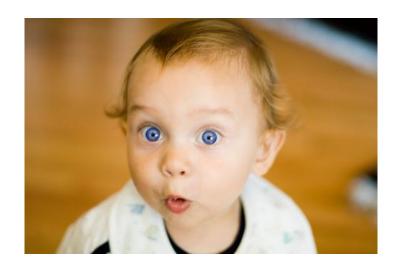






HOW PERMEATE THE ORGANIZATION?

NEW METHODS FOR HELP MEET THE GOALS



ASSOCIATED TO ACTIVITIES WORK

COLABORATIVE TOOLS



INSURANCE AND SUSTAINABILITY PRACTICES AND PROCESSES







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PERFORMANCE MEASUREMENT OF KNOWLEDGE MANAGEMENT

- ✓ Performance Objectives associated with the Knowledge Management (Miles Knowledge).
- ✓ Process Indicator associated with the assurance model of knowledge in key practices and processes.
- ✓ Performance indicators for operational business sensitive to the sustainability of the knowledge of key practices.
- ✓ Documentation and dissemination of success stories and strategies associated with knowledge management activities.
- ✓ Compliance of milestones.
- Metrics and statistics on the use of portals and collaboration tools on the Intranet.







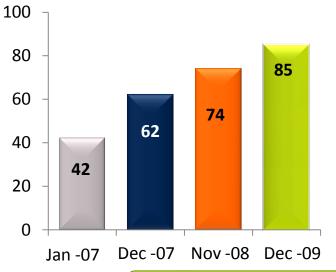






ACHIEVEMENTS IN OPERATIONS

% Rotating Equipment in good condition in Paraffins



• Increase in capacity from 140 to 200 Barrels/hour (Nov. 2008) Recognition to communities of practice of Combustion and electric team during corporate event of maintenance.

•Global reduction in rotating equipment failure was achieved in Refinery: From 2.25 to 0.7 between 2007 and 2008 by implementing best practices in Basic Equipment Care (BEC).

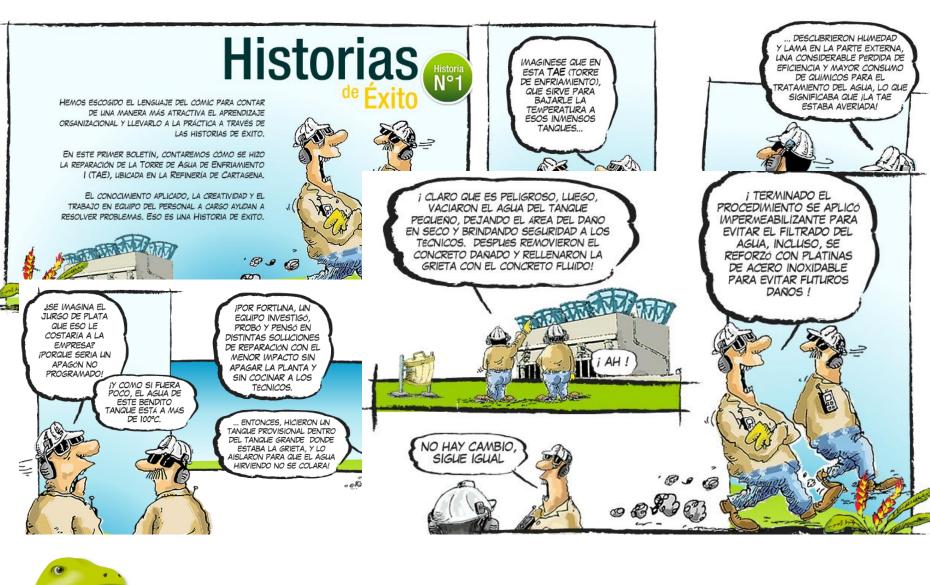


• Structured programs in shutdown plant in Refinery, combustion, crude oil diets and performance of operational excellence program.

 Operator certification through the Corporate University.















Buscar... Seleccione...

Búsqueda avanzada iAprende a buscar!

Buscar

Nuestra Empresa

Para el Trabajador

Servicios en línea

Negocios y Soporte

Nuestro Conocimiento

Generalidades

Mi Sitio

Foro Tecnológico

Lecciones aprendidas

Comunidades de Práctica

Nuestra Gestión

Consulte el Portal Anterior

Gestión de Tecnología e Innovación.

Historias de Éxito en Ecopetrol

Universidad Corporativa

Centro de Información

Centro de Información

ción de reputación prativa

etrol realiza

de octubre de 2011. Esta es la primera que se realiza con todos los e interés de la Empresa y

1234

precenue descubrir las fortalezas v debilidades en este tema.



La Empresa tiene 161 mil nuevos accionistas

Bogotá, 20 de octubre de 2011. Más del 80% de los inversionistas son personas naturales y pagaron en efectivo.

Crecimiento del 87 % en producción del Magdalena Medio

Magdalena Medio, 20 de octubre de 2011. Esta cifra hace referencia al incremento reportado en los campos de esta zona del país en los últimos 4 años.

Ceremonia de abotonados en El Centro

El Centro, 20 de octubre de 2011. Los líderes de Magdalena Medio y el Comité Directivo de Ecopetrol realizaron un homenaje a 29 trabajadores por sus 10 y 20 años de servicio a la Empresa.

El Oso, área de protección ambiental de Ecopetrol en el Huila

Neiva, 20 de octubre de 2011. Desde la SOH se viene

Total: 4 noticias

Vez al Noticiero



En Ecopetrol la gestión social la hacemos todos



Gestión del conocimiento Mi sitio

Búsquedas

Todos los sitios V ۵

Mi Página de Inicio Mi Sitio



Ruben Hernan Castro Garcia

Teléfono: Ext.47152

Correo electrónico: rubenHe.castro@ecopetrol.com.co

Dependencia: Unidad de Investigación Lugar de trabajo: Edificio 1 Piso 2 ICP Fecha de Cumpleaños: agosto 16 Última actualización: hace: 9 meses

Experiencia

Contacto:

Mis Vínculos

General

"Estatus EOR COL" "Historia y Criterios Empíricos WF VMM SPE 123068-MS "Definition of Reservoir Compartment

Jerarquía de la organización

Ruben Hernan Castro

Andres Roberto Mora

Ariel Uribe Rodriguez,

Andres Reves Harker,

Mis lecciones aprendidas

Mi actividad

→ Ver todas

Lecciones Aprendidas Provecto Recobro Ouímico 25/05/2011 15:05:38

Lecciones Aprendidas de la Fortaleza Tecnológica Gerenciamiento del Proceso de Inyección de Agua 03/12/2010 8:36:44

Provecto Recobro Meiorado - Fase 2

Proyecto estrategias de desarrollo áreas Lisama y Llanito

Mis foros de discusión

Edgar Fernando Castillo Monroy,

Favio Yovany Jimenez Inocencio.

Hugo Alejandro Garcia Duarte,

-im_icp_uin

Garcia.

Bohorauez,

Jose Ricardo Sandoval Ruiz,

→ Ver todos

Mis encuestas

→ Ver todos

Mis documentos compartidos

→ Ver todos

₩î Campos Maduros.doc

La Hora de Los Campos Maduros en Colombia

EOS Campo Colorado, PDF Aplicación de ecuaciones de estado cubicas para el cálculo de envolventes de fases de vacimientos reales de hidrocarburos colombianos.

Paper Análisis Avanzado de Ingeniería K-27 Tibú.odf

Optimización de la producción de la estación K-27 de Campo Tibú, mediante un sistema de evaluación de desempeño

Paper VMM.pdf

Historia y Criterios empíricos en la aplicación de invección de agua en la Cuenca del Valle Medio del Magdalena -

Colombia

Paper WF Galán.pdf Ajuste histórico y predicción del proceso de invección de agua mediante simulación analítica en la Formación Colorado. Campo Galán - San Silvestre

Paper WF Lisama.pdf

Predicción analítica de la invección de agua en el área norte del Campo Lisama-Formación Mugrosa usando el método de Craig Geffen Morse

Screening Campos de Colombia.pdf Screening EOR Campos de Colombia

SPE-123068-MS.pdf

SPE 123068-MS - Definition of Reservoir Compartmentalization Applying Compositional Gradients: Mugrosa B Formation in Middle Magdalena Valley Basin, Lisama Field, Colombia



CV_Ruben.Castro_Nov.2010.docx CV_Ruben_Castro

SUCCESSES AND RESULTS

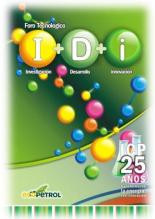




































familia sancela















estamos ahi.



McKinsey Quarterly

Boosting the productivity of knowledge workers

Eric Matson and Laurence Prusak

The key is identifying and addressing the barriers workers face in their daily interactions.







TECHNOLOGICAL ENVIRONMENT FORUMS: A STRATEGIC SPACE OF DIALOGUE IN ECOPETROL S.A.

Oscar Javier Guerra Perdomo Technology & Knowledge Management Unit

2-3 September, Famalicão, Portuga

ECKM 2010

11th European Conference on Knowledge







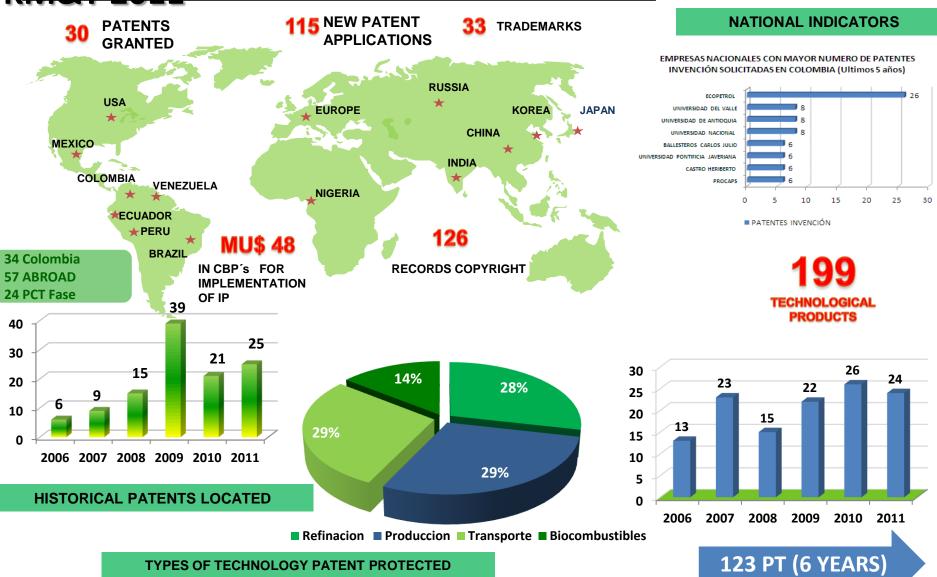




SUCCESSES AND RESULTS

KM&T 2011





GLOBAL MAKE 2011

2011 Global MAKE (Parent) Finalists Position Rankings

- Apple
- Google
- 3. IBM
- 4. Fluor
- 5. Schlumberger
- 6. Tata
- Samsung
- Microsoft
- APQC
- 10. PwC
- 11. Siemens
- 12. Toyota
- ConocoPhillips
- 14. Infosys Limited
- POSCO
- 16. Wikipedia
- 17. McKinsey & Company
- 18. Unilever
- 19. Hewlett-Packard
- 20. Accenture

- Royal Dutch Shell
- 22. Ernst & Young
- 23. Facebook
- 24. Larsen & Toubro
- 25. Mars
- IKEA
- 27. Banco Santander
- 28. BMW
- MITRE
- 30. Petrobras
- 31. MindTree
- Deloitte
- Wipro Technologies
- KPMG
- 35. Cognizant Technology Solutions
- 36. British Broadcasting Corporation
- Fujitsu
- 38. Ecopetrol
- 39. Syngenta
- 40. World Bank
- 41. Telefónica

- 42. Arup
- 43. Woods Bagot
- 44. WorsleyParson
- 45. Asian Development Bank
- Nestlé





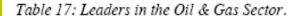
LEADERS IN THE OIL & GAS SECTOR

Rank	Company	Country
1.	Schlumberger	the Netherlands
2.	Chevron	United States
3.	ExxonMobil	United States
4.	Royal Dutch Shell	the Netherlands
5.	ConocoPhillips	United States
6.	Statoil	Norway
7.	Petrobras	Brazil
8.	Halliburton	United States
9.	Ecopetrol	Colombia
10.	BG Group	United Kingdom
11.	Total	France
12.	Baker Hughes	United States
13.	BP	United Kingdom
14.	Valero Energy	United States
15.	ENI	Italy
16.	SK Holdings	S. Korea
16.	Petronas	Malaysia
18.	Sinopec	China
19.	China National Petroleum	China
20.	Repsol YPF	Spain
21.	Sasol	South Africa
22.	Reliance Industries	India
23.	Saudi Arabian Oil	Saudi Arabia
24.	Gazprom	Russia
25.	Pemex	Mexico

2012 Global Most Admired Knowledge Enterprises (MAKE) Report Knowledge-Intensive Sector Leaders

> © 1998-2012 Teleos – The KNOW Network Tel: +44 1584 878576 E-mail: teleos@mac.com Website: http://www.knowledgebusiness.com









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BENCHMARKING

- ✓ Exchanges with Companies
 - ✓ Referencing with Colombian companies
 - ✓ Referencing inside the Corporate Group
 - ✓ Referencing with International Companies



























BENCHMARKING

- ✓ Assistance to national and international events as participants and speakers
- ✓ Environment Forum on Knowledge Management 2007
- ✓ Studious Level Meeting on Knowledge Management 2011





- ✓ Global Affiliations Memberships
- ✓ Participation in global studies









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SOME SUCCESS FACTORS......



- ✓ The alignment of knowledge management with the strategic objectives of the organization and aim to solve "real problems".
- ✓ A visible vision of Knowledge Management is a good starting point.
- ✓ Synergy and permanent alignment with analysis and process improvement programs, implementation of management systems, quality, etc.., Not to compete for resources.

✓ A Team:

"Maker" Credible, Sponsored by everyone, Representative of Areas and key programs, self-motivated, Self-critical

- ✓ Implementation scheme for pilots to generate early victories
- ✓ Model for measuring, monitoring and ongoing support by senior management



.....SOME LESSONS LEARNED



- ✓ The support of strategic level is essential for success in the program.
- ✓ The example of leaders is essential to motivate.
- ✓ The KM is about people and their relationship to other human beings.
- ✓ The processes need to understand and promote human needs and motivations of those involved in them.
- ✓ The recognition is based not only on money are very important symbols and signs.
- ✓ Tools are not the focus to the solution but are very useful if it's clear that support the process.
- ✓ There is no universal method or model, each organization must find what is required and what is the best way to approach from their own culture.
- ✓ Knowledge is expensive and can not have shortcuts to sustainability in organizations.







http://runnamom7.blogspot.com/2010/08/gracias-thank-you-merci.html









http://school.discoveryeducation.com/clipart/clip/thanks.html







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