

OVERVIEW OF EARLIER CASE STUDIES

- Coal, Uranium and Other Solid Minerals

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The Second Session
of
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Energy Reserves and Resources Terminology

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***The UNFC
for Solid Fuels and Mineral Commodities-
Overview of the earlier case studies***

- The UNFC for solid fuels and mineral commodities developed btw the year 1992 and 1996.
- First case study was prepared in 1996 by Germany

The UNFC for Solid Fuels and Mineral Commodities- Published Case studies

1996:

Document Code /Document Name/Country

- **ENERGY /WP.1/R.57/Add.1** - Application of UNFC to the Coal Reserves of Rhenish Lignite Mining Area (**GERMANY**)
- **ENERGY /WP.1/R.57/Add.2** - Application of UNFC to the German hard coal reserves of the Ruhr Basin (**GERMANY**)
- **ENERGY /WP.1/R.57/Add.3** - Application of the UN Reserves/Resources Classification to the Contact Lake Gold Mine in Canada (**CANADA-Prepared by Germany**)

1999/5:

- **ENERGY /1999/5** ,Joint ECE/ESCAP Seminar on the Application of UNFC to Asia, held in Bangkok, October, 1998 (**ASIA**)

The UNFC for Solid Fuels and Mineral Commodities- Published Case studies

1999/8

Document Code/ Document Name/ Country

- **ENERGY /1999/8-** Practical Application of UNFC for Reserves/ Resources-Private enterprise and National system of Mineral Resources, Hungary (**HUNGARY**)
- **ENERGY /1999/8/Add.1** - Practical Application of UNFC for Reserves/Resources-Classification of the Greek Lignite Deposits According to the UNFC (**GREECE**)
- **ENERGY /1999/8/Add.2** - Practical Application of UNFC for Reserves/Resources-Total Assessment of Coal Reserves in the Rospadskaya Mine Using UNFC (**RUSSIAN FED.**)
- **ENERGY /1999/8/Add.3-** Practical Application of UNFC for Reserves/Resources-Comparison with and Integration of Indian Classification System into UNFC (**INDIA**)
- **ENERGY /1999/8/Add.4-** Practical Application of UNFC for Reserves/Resources-China's New Scheme for Resources/Reserves Classification for Solid Minerals (**CHINA**)
- **ENERGY /1999/8/Add.5-** Practical Application of UNFC for Reserves/Resources-Suitability to Malaysian Energy and Mineral Sectors (**MALAYSIA**)
- **ENERGY /1999/8/Add.6-** Practical Application of UNFC for Reserves/ Resources-Calculation of Dimension Stone: The Kinama Migmatite Deposit, Minas Gerais, Brazil (**BRAZIL, prepared by Germany & Brazil**)
- **ENERGY /1999/8/Add.7-** Practical Application of UNFC for Reserves/Resources-Low Investment Mineral Deposits & UNFC (**GERMANY**)
- **ENERGY /1999/8/Add.8-** Practical Application of UNFC to the Key Lake Deposits (**CANADA**)

The UNFC for Solid Fuels and Mineral Commodities- Published Case studies

2000

Document Code/ Document Name/ Country

- **ENERGY /2000/5/Add.1-** Practical Application of UNFC for Reserves/ Resources-Application of the UNFC to the Mineral Resource Estimates in Finland (**FINLAND**)
- **ENERGY /2000/5/Add.2-** Practical Application of UNFC for Reserves/Resources-Coal Resource Assessment at the SGS And the UNFC for Reserves/Resources (**USA**)
- **ENERGY /2000/5/Add.3-** Practical Application of UNFC for Reserves/Resources-Compatibility of Indian Resource Classification with UNFC (Sample deposits: Hematite and Magnetite) (**INDIA**)
- **ENERGY /2000/5/Add.4-** Practical Application of UNFC for Reserves/Resources-The Application of the UN Mineral Resources/Reserves Classification to the Indonesian Mineral and Solid Fuels Inventory Campaign (**INDONESIA**)
- **ENERGY /2000/5/Add.5-** Practical Application of UNFC for Reserves/Resources-Economic Evaluation of Mineral Deposits in Bulgaria: A Training Programme to Implement the Principles of UNFC (**BULGARIA**)
- **ENERGY /2000/5/Add.6-** Practical Application of UNFC for Reserves/Resources In Ukraine (**UKRANIA**)
- **ENERGY /2000/5/Add.7-** Practical Application of UNFC for Reserves/ Resources-Status of Implementation of the UNFC in Russia (**RUSSIAN FED.**)
- **ENERGY /2000/5/Add.8-** Practical Application of UNFC for Reserves/Resources in China (**CHINA**)
- **ENERGY /2000/5/Add.10-** Practical Application of UNFC for Reserves/ Resources-State of Implementation in Poland, as of October 2000 (**POLAND**)

The UNFC for Solid Fuels and Mineral Commodities- Published Case studies

- **2003**
- **ENERGY /2003/GE.3/3-** Application of UNFC for Reserves/Resources Case Study: Neves- Corvo Copper Tin Mine, Portugal (**PORTUGAL**)
- **ENERGY /2003/GE.3/3/Add.1-** Practical Application of UNFC for Reserves/Resources-Application of UNFC to the Turkish Lignite Deposits Case study: Yatagan-Eskihisar Mining Area (**TURKEY**)

The UNFC for Solid Fuels and Mineral Commodities- Case studies

- *Practical Application of the United Nations Framework Classification for Reserves/Resources in Yugoslavia, 2001, (YUGOSLAVIA)*
- *Impact of United Nations Framework Classification on Indian Ore Resource Inventory, (INDIA)*
- *Adoption of the UNFC System and Its Application to the Solid Mineral Commodities- Indian Experience, 2003 (INDIA)*
- *A case study for all energy commodities of Hungary according to UNFC with theoretical considerations, (HUNGARY)*
- *Current Status of UNFC application in Romania, 2003 (ROMANIA)*
- *Application of UNFC to the Mineral Resources Estimation in Slovak Republic (SLOVAKIA)*
- *Reserves Presentations for Velenje Colliery According to United Nations Framework Classification, 2004, (SLOVENIA)*

***The UNFC
for Solid Fuels and Mineral Commodities-
Case studies***

- **SOME CASE STUDIES
PREPARED BEFORE THE
GUIDELINES DOCUMENT**

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GERMANY

Rheinish Lignite Mining Area (1996)

- **ENERGY/WP.1/R.57/Add.1** - *Application of UNFC to the Coal Reserves of Rhenish Lignite Mining Area (GERMANY)*
- **Prepared By: Rheinbraun AG**

Structure

- Lignite in Germany
- Geology of Rhenish Lignite
- Lignite Production in the Rhineland
- Exploration
- Economic Criteria for the delimitation of reserves
- Valuation of Reserves
 - Procedure applied by Rheinbraun
 - Procedure according to UN Classification
- Conclusion

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GERMANY

- Result of the case study
- The attempt to integrate the lignite resources of Rheinland into the UN System has proved to be applicable in general. However there has to be found a solution to subdivide resources/reserves reported under “geological study” into different categories of their economy.
- **National classification system of Germany is compatible with the UNFC for solid fuels and minerals**

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GERMANY

Reserve/Resource Clasification of the Rhenish Lignite According to UNFC

Million tonnes

UN International Framework	National System	Detail Exploration	General Exploration	Prospecting	Reconnaissance
Feasibility Study and/or Mining Report		1 5.000 2	usually		
Prefeasibility Study		1 11.000	not relevant		
Geologic Study*)		3	3 35.000	3	3

Economic Viability
Categories:

1: economic
2: potentially economic

3: economic to potentially economic (intrinsically economic)

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GERMANY

- The case study: Ruhr Basin (1996)
- **ENERGY /WP.1/R.57/Add.2** - Application of UNFC to the German hard coal reserves of the Ruhr Basin, (**GERMANY**)
- **Prepared By: Montan Consulting**

Structure

- Introduction
- RuhrKohle AG (RAG) Classification Procedure
- Compliance with the UNFC
- Conclusion
- Appendices
 - Mine Planning (Reserve Databank, Reserve Classification, Geological Coal Resource- RAG Cutoffs, Degree of exposure, devaluation of reserve, technically extractable planning reserve)
 - UNFC compliance with Ruhrkohle AG Classification system

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GERMANY

Results of the case study

- Objectives of UNFC and Ruhrkohle AG systems are different (RAG system is a mine planning tool for longterm periods)
- Both are based on the same classification principles
 - Increasing geological assurance
 - Increasing mineability assessment
 - Degree of economic mineability
- It is possible with little modification to integrate RAG system into the UNFC

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GERMANY

Results of the case study

UN International Framework	National System	Detail Exploration	General Exploration	Prospecting	Reconnaissance
		DEGREE OF EXPOSURE			
		I	II	III+IV	V
Feasibility Study and/or Mining Report	1.devaluation	1	ECONOMIC MINEABLE RESERVE for the planning period		usually
		2	REMANT MINEABLE RESERVE after the planning period		
Prefeasibility Study	2. devaluation	1	TECHNICALLY EXTRACTABLE		not
		2	PLANNING RESERVE		relevant
Geologic Study*)	1.devaluation General Cut-offs	GEOLOGICAL PLANNING RESOURCES			
		3	GEOLOGICAL COAL RESOURCE		

Economic Viability Categories:

1: economic
2: potentially economic

3: economic to potentially economic (intrinsically economic)

**The UNFC
for Solid Fuels and Mineral Commodities-
Case studies-GREECE**

The Case Study: Greek Lignite Deposits (1999)

- **ENERGY /1999/8/Add.1 - Practical Application of UNFC for Reserves/Resources-Classification of the Greek Lignite Deposits According to the UNFC (GREECE)**
- **In Greece there is no unique classification system. The mining companies and institutes have their own classification systems**

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GREECE

- **Deposits:** Greek Lignite Deposits (Ptolemais, Megalopolis, Florina, Drama, Ellassona, Kozani, Orestias, Various minor deposits)
- **Prepared By:** Centre for the Solid Fuels Technology and Applications

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GREECE

Structure of the case study

- Introduction
- Classification of the Solid Fuels(Lignite) Reserves in Greece
- Comparison with the UN International Framework Classification for Reserves/Resources
- Appendices
 - Classification of Lignite deposits of Greece according to UNFC
 - Classification of Lignite deposits of Greece according to UNFC for Worldwide Survey
 - Classification of Lignite deposits of Greece according to Greek Classification and UNFC

The UNFC for Solid Fuels and Mineral Commodities- Case studies-GREECE

Framework Classification for World Energy Resources Survey Greece: Lignite Deposits

August 1999

		Definitions	Code	10 ⁶ t	10 ⁶ toe
Total Resource	Reserve	Economically extractable quantity, appropriately assessed	111 121 122	4035	561
	Remaining/ Additional Resources	Potentially economically extractable quantity, appropriately assessed, which is currently not economic but may possibly be so in future	211 221 222	2173	302
		Intrinsically economic in-situ quantity with future economic prospect pending appropriate assessment	331 332 333 334	3758	753

Source: N.Koukouzas, Centre for Solid Fuels Technology and Applications (CSFTA), Athens

The UNFC for Solid Fuels and Mineral Commodities- Case studies-HUNGARY

Hungary: Coal Deposits

01.01.2000

		Definitions	Code	10 ⁶ t	10 ⁶ toe
Total Resource	Reserve	Economically extractable quantity, appropriately assessed	111	1826.7	
			121		
			122		
Remaining/ Additional Resources	Potentially economically extractable quantity, appropriately assessed, which is currently not economic but may possibly be so in future	Intrinsically economic in-situ quantity with future economic prospect pending appropriate assessment	211	5449.8	
			221		
			222		
			331	13687.4	
			332		
			333		
			334		

Source: B.Fodor, Hungarian Geological Survey, Budapest

The UNFC for Solid Fuels and Mineral Commodities- Case studies-Slovenia

Slovenia:Lignite Mine Velenje

February 2001

		Definitions	Code	10 ⁶ t	10 ⁶ toe
Total Resource	Reserve	Economically extractable quantity, appropriately assessed	111	230	
			121	0	
			122	0	
	Remaining/ Additional Resources	Potentially economically extractable quantity, appropriately assessed, which is currently not economic but may possibly be so in future	211	120	
			221	0	
			222	0	
			311	74	
		Intrinsically economic in-situ quantity with future economic prospect pending appropriate assessment	331	170	
			332	0	
			333	0	
334			0		

Source: I.Veber, Lignite Mine Velenje

The UNFC for Solid Fuels and Mineral Commodities- Case studies- China

- **2000:**
- **ENERGY /2000/5/Add.8- Practical Application of UNFC for Reserves/Resources in China **(CHINA)****
- ***Prepared By:* Ministry of Land and Resources**

The UNFC for Solid Fuels and Mineral Commodities- Case studies- China

Structure

- Introduction
- The new Chinese classification system
- Compatibility of the Chinese System with UNFC
- Application of the Classification System in China
- Revision of the Classification standards for oil and gas
- Conclusion
- Need for the further understanding of the UNFC

The UNFC for Solid Fuels and Mineral Commodities- Case studies- China

Result of the case study

- **The new Chinese classification system for R/R of Solid Fuels and Mineral Commodities (National standard: T17766) entered into force in 1999.**
- **The new system adapts the UNFC (including adaption of terms and definitions) and successfully applicable for all metals, minerals and coal and uranium.**

The UNFC for Solid Fuels and Mineral Commodities- Case studies-POLAND

- **2000:**
- **ENERGY /2000/5/Add.10-** *Practical Application of UNFC for Reserves/ Resources-State of Implementation in Poland, as of October 2000 (POLAND)*
- ***Prepared By:***
 - Commission of Mineral Resources
 - Polish Geological Institute
- ***Deposits:*** *Upper Siesian Coal Basin, Lublin Coal Basin, Belchatow lignite deposit, Barcin-Pierhcin limestone deposit*

The UNFC for Solid Fuels and Mineral Commodities- Case studies-POLAND

Structure

- Introduction
- Jas-Mos Hard coal deposit
- Belchatow brown coal deposit
- Barcin-Pierchin limestone deposit
- Trzebionka zinc lead ore deposit
- Appendicies
 - Relationship of UNFC and Polish Classification for Coal R/R
 - Hard coal R/R of Upper silician Coal Basin- UNFC
 - Hard coal R/R of Lublin Coal Basin- UNFC
 - Belcatow lignite deposit-UNFC
 - Barcin-Pierchin limestone deposit-UNFC

UNFC and Polish Classification for Coal Resources/Reserves

UN Framework Classification		Detail Exploration	General Exploration	Prospecting	Reconnaissance	
	Polish System	Rozpoznanie szczegolowe A+B	Rozpoznanie wstepne C1*	Poszukiwania C2, D1	Penetracja E(D3) D2,	
Feasibility Study and/or Mining Report	Plan Ruchu Zakladu Gorniczego Operat Ewidency Zasobow	1a. Proved mineral reserves (operational) (111) 1b. Proved Mineral reserves in place (industrial) A+B (111) 2. Feasability Mineral Resources (nonindustrial) A+B (211)	usually			not relevant
Prefeasibility Study	Project zagospodarowania zloza	1. Probable Mineral Reserves in place (probable industrial reserves) A+B (121) 2. Prefeasibility Mineral Resources (probable nonindustrial resources) A+B (221)				
Geological Study, Opportunity Study	Dokumentacja geologiczna zloza	(1-2). Measured Mineral Resources** A+B (331)	(1-2). Indicated Mineral Resources** C1 (332)	(1-2). Inferred Mineral Resources C2, D1 (333)	1-2. Reconnaissance Mineral resources D2, E(D3) (334)	

* Partly category C2 if fullfill the general exploration requirements

** Supposed economic (bilansowe) and supposed subeconomic (potentially economic- pozabilansowe)

Source: M.Niec, M.Piwocki, S.Przenioslo, University of Mining & Metalurgy, Polish Geological Survey

- Poland black coal resources/reserves of Upper Silesian Coal Basin
(million tons)

UN Framework Classification	Polish System	Detail Exploration	General Exploration	Prospecting	Reconnaissance
		Rozpoznanie szczegolowe A+B	Rozpoznanie wstepne C1*	Poszukiwania C2, D1	Penetracja D2, E(D3)
Feasibility Study and/or Mining Report	Plan Ruchu Zakladu Gorniczego Operat Ewidency Zasobow	(111) 1335			
		(211) 656			
Prefeasibility Study	Project zagospodarowania zloza	(121) 151	(122) 2851	(123) 2515	
		(221) 222	(222) 8805	(223) 9099	
Geological Study, Opportunity Study	Dokumentacja geologiczna zloza	Measured coal resources (331) 1448* 1341**	Indicated coal resources (332) 6760* 5299**	Inferred coal resources (333) 23189* 17880**	Reconnaissance coal resources (334) 74333

* Total geologic (supposed economic and potentially economic)

** Supposed economic only (bilansowe)

Source: M.Niec, M.Piwocki, S.Przenioslo, University of Mining & Metalurgy, Polish Geological Survey

- Poland Belchatow area lignite deposit

UN Framework Classification	Polish System	Detail Exploration	General Exploration	Prospecting	Reconnaissance
		Rozpoznanie szczegolowe A+B	Rozpoznanie wstepne C1*	Poszukiwania C2, D1	Penetracja D2, E(D3)
Feasibility Study and/or Mining Report	Plan Ruchu Zakladu Gorniczego Operat Ewidency Zasobow	Proved reserves*** (111) 183.11* 156.80**			
		Feasibility mineral resources (211)			
Prefeasibility Study	Project zagospodarowania zloza	Probable Mineral reserve (121) 444.40* 443.00**	(122) 619.43*		
		Prefeasibility mineral resources (221) 43.39	(222) 149.75		
Geological Study, Opportunity Study	Dokumentacja geologiczna zloza	Measured coal resources (331)	Indicated coal resources (332)	Inferred coal resources (333) 239.81	Reconnaissance coal resources (334) 133.95

* in-situ reserves

** recoverable reserves

*** Belchatow mine only

***The UNFC
for Solid Fuels and Mineral Commodities-
Case studies-POLAND***

Result of the case study:

- The UNFC was successfully applied for the classification of particular deposits in Poland like coal and other mineral commodities as it is not contradictory to national system

The UNFC for Solid Fuels and Mineral Commodities- Case studies- BULGARIA

- **ENERGY /2000/5/Add.5-** *Practical Application of UNFC for Reserves/Resources-Economic Evaluation of Mineral Deposits in Bulgaria: A Training Programme to Implement the Principles of UNFC (BULGARIA)*

Prepared By:

-Ministry of Environment &Water

- Federal Institute of Geosciences and Natural Resources (Germany)

Structure

- ***Introduction***
- ***Training programme***

The UNFC for Solid Fuels and Mineral Commodities- Case studies- BULGARIA

Result of the case study

- **Representatives of several Bulgarian Ministries and companies are able to apply economic evaluation methods according to UNFC,**
- **Government representatives would use their knowledge for a complete reclassification of Bulgarian mineral reserves &resources,**
- **Private companies would apply their knowledge to improve the decision making process with regard to market economic and environmental considerations.**

***The UNFC
for Solid Fuels and Mineral Commodities-
Case studies***

- **SOME CASE STUDIES
PREPARED AFTER THE
GUIDELINES DOCUMENT**

The UNFC for Solid Fuels and Mineral Commodities- Case studies-INDIA

2003

- ***Adoption of the UNFC System and Its Application to the Solid Mineral Commodities-Indian Experience, 2003 (INDIA)***

Structure

- ***Introduction***
- ***Mineral Administration and Resource Estimation in India***
 - ***(Legislative system & Administrative system)***
- ***System of Exploration and Resource Estimation***
- ***National Mineral Inventory***
- ***Indian and UNFC System***
- ***Implementation of the UNFC System in India***
- ***Conclusion***
- ***Appendicies (Conversion table for national mineral inventory database & Impact of UNFC on national mineral inventory as on 1-4 -2000)***

The UNFC for Solid Fuels and Mineral Commodities- Case studies-INDIA

- **Government took decision to adapt and implement UNFC in 1999.**
- **In May 2000, a Task Force established to formulate practical field guidelines for 7 types of mineral groups.**
- **Guidelines were discussed during and after the seminar organized in India by UNECE in the same year, 2000.**
- **Final version of the Guidelines was submitted to government in 2001**
- **After completing 3 levels decision making process-technical, administrative and political, final approval was given in January 2003.**

The UNFC for Solid Fuels and Mineral Commodities- Case studies-INDIA

Reserve/Resource	INDIAN SYSTEM		UNFC System	
	Category	Quantity	Code	Quantity
Copper Ore Reserve	Proved, Probable & Possible	713 million tonnes	111, 121, 122	290 million tonnes
Resource	Conditional Resource	722 million tonnes		1049 million tonnes

***The UNFC
for Solid Fuels and Mineral Commodities-
Case studies-INDIA***

Result of the case study

- Considerable progress has been achieved in case of noncoal, non atomic solid minerals. For coal and lignite also initiative has already been taken.

The UNFC for Solid Fuels and Mineral Commodities- Case studies-TURKEY

Yatagan-Eshihisar Mining Area (2003)

- **ENERGY /2003/GE.3/3/Add.1-** *Practical Application of UNFC for Reserves/Resources-Application of UNFC to the Turkish Lignite Deposits* Case study: Yatagan-Eskihisar Mining Area (**TURKEY**)
- **Prepared By:** Turkish Coal Enterprises

The UNFC for Solid Fuels and Mineral Commodities- Case studies-TURKEY

Structure

- Abstract
- Introduction
- Classification of Solid Fuels (lignite) R/R in Turkey
- UN Framework Classification
- Yatagan –Eskihisar Mining Area
 - Geological Assessment
 - Feasibility Assessment
 - Economic Viability
- Comparison of the Results (National System & UNFC)
- Conclusion & Recommendations

The UNFC for Solid Fuels and Mineral Commodities- Case studies-TURKEY

		(1000 t)					
UN FRAMEWORK CLASSIFICATION	ULUSAL SISTEM	Detail Exploration/ Exploration During Exploitation	General Exploration	Prospecting	Reconnaissance		
		<i>Detay Arama/ İşletme Dönemi Aramaları</i>	<i>Genel Arama</i>	<i>Prospeksiyon</i>	<i>Ön Arama</i>		
Feasibility Study and/or Mining Report	<i>Fizibilite Çalışması ve/veya Madencilik Raporu</i>	1 45,429 (111)* 40,886 (111 _e)**	usually				
		2 1,327 (211)***					
		3 8,266 (311)****					
Prefeasibility Study	<i>Ön Fizibilite Çalışması</i>	1 (121)	+ (122)	not			
		2 (221)	+ (222)	relevant			
Geologic Report	<i>Jeolojik Rapor</i>	(1-2) (331)	(1-2) 4,222	(1-2) (333)	(1-2) (334)		
Economic Viability Categories:		1: Economic 2: Potentially Economic	1-2: Economic to Potentially Economic (Intrinsically Economic)				
<p>* Eskişehir and Y.Bagcilar Deposits ** Extractable reserve of Eskişehir and Y.Bagcilar deposits *** Turgut Deposit **** Pillars left for ancient city, landslide and Milas highway ***** Turgut-2 deposit</p>							
						Date: July 2003	

CASE STUDY: Yatagan-Eskihisar Mining Area

Comparision of Classification Results

<u>Deposit</u>	<u>NATIONAL SYSTEM</u>		<u>UNFC</u>	
	<u>Term</u>	<u>Quantity</u> (Mt)	<u>Term</u>	<u>Quantity</u> (Mt)
<u>Y.Eskihisar Mining Area</u>				
Eskihisar Deposit	Proved Reserve	37.3	Proved Mineral Reserve	37.3
Y.Bagcilar Deposit	Proved Reserve	8.1	Proved Mineral Reserve	8.1
Turgut Deposit	Proved Reserve	1.3	<i>Feasible Mineral Resource</i>	1.3
Pillars	Proved Reserve	8.3	<i>Abandoned Mineral Reso.</i>	8.3
<u>Turgut-2 Deposit</u>	Proved Reserve	4.2	<i>Indicated Mineral Resource</i>	4.2
TOTAL RESERVE		59.2	TOTAL MINERAL RESOURCE	59.2
<hr/>				
Total Extractable	Reserve	45.9	Extractable Min.Reserve	40.9



13.8 Mt difference in Proved Mineral Reserve

The UNFC for Solid Fuels and Mineral Commodities- Case studies-TURKEY

Result of the case study:

- UNFC can be well adapted to Turkish lignite deposits
- Main difference btw National System and UNFC;
 - National system bases on geological assessment (G)
 - UNFC bases on economic viability, geological assessment & feasibility assessment
- UNFC provides a guideline in preventing terminology chaos

The UNFC for Solid Fuels and Mineral Commodities- Case studies-TURKEY

- **Benefits gained by the study:**
 - All related data were collected, analysed and put into an order in the form of geological & feasibility assessment, and economic viability
 - Consistency of the reserves/resources figures among the operation management and TKI Headquarter was provided by re-estimation and evaluation of the deposits
 - Operation management will carry out its planning studies for the future base on more reliable information.
 - This study will be taken as a model for the classification of the other basins

The UNFC for Solid Fuels and Mineral Commodities- Case studies- Problems faced

- **Problems relating with;**
- dividing the stages of geological investigation into four steps
(*as reconnaissance, prospecting, general exploration, detail exploration*)
- not fitting country's Mining Laws with UNFC (*re-evaluation and revision process are needed*)
- difficulty in evaluating "economic viability" because of lack of clear economic criteria for countries in transition
- terminology chaos particularly for "reserve" and "resource"
- classifying in-situ, base reserve, extractable reserves/resources
(*usage of letters is recommended*)

CONCLUSION and Recommendations

- Earlier case studies have been prepared by the countries in various structures (particularly before the Guidelines document) which need to be standardized.
- While preparing Case studies to follow Guidelines document is essential
- Guidelines document needs to be updated to answer specific problems arised while preparing case studies



Ways of Successful UNFC Implementation

