



NORWEGIAN PETROLEUM
DIRECTORATE



Petroleum Resource Data Management in Norway

Workshop on CCOP metadata standard & requirement analysis for
the CCOP Natural Gas Metadata Database

Shanghai, China 1 – 3 April 2009

Mr. Kjell Reidar Knudsen, Norwegian Petroleum Directorate

Topics given in invitation (will be covered)

- ◆ Data & information management
- ◆ Legal framework
- ◆ Data bank organization: history of development
- ◆ Quality control and Quality assurance
- ◆ Data types & standards
- ◆ Data reporting & data access
- ◆ Lessons learned & best practices
- ◆ Questions & Answers (Q & A)

Data & information management

- ◆ Importance
- ◆ Norw. Authority bodies and their mother ministry
- ◆ Co-operations
 - ◆ Between agencies (especially NPD and PSA)
 - ◆ With oil companies

Authorities Functions

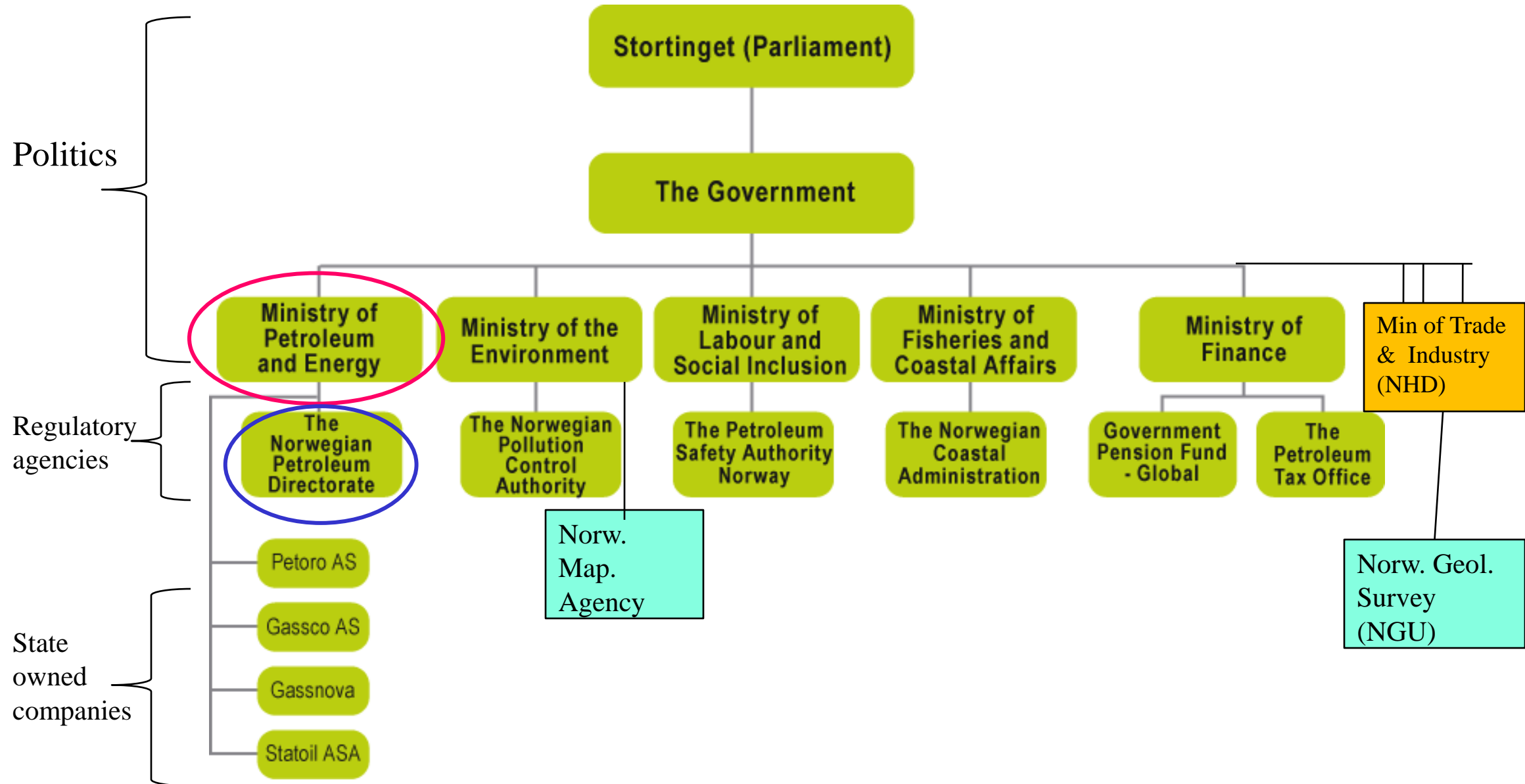
- ◆ **Manage the resources to the best of the people**
 - ◆ Be aware of the potential to establish the optimal petroleum strategy
 - ◆ Promote the potential to attract capital and skilled capacity
 - ◆ Increase the national content (people, revenues, related activities)
- ◆ **Establish regulations to guide the activity towards the national goals**
 - ◆ Health & Safety
 - ◆ Resource Management
 - ◆ Environment
- ◆ **Monitor/Supervise that the companies comply with regulations**
 - ◆ Inspections, Revisions, Status reports, etc
- ◆ **Give advice to the politicians (Ministry/Parliament)**
 - ◆ Forecast production, investment, operation cost, labour, income (tax)
- ◆ **Keep administrative records of obligations and rights**
 - ◆ Activities , Licenses, Production, Export, Taxation

Data management is important for

- ◆ Making The Nations Policies
- ◆ Deciding the Exploration Strategy
- ◆ Levelling the Frame Condition (Tax, License period....)
- ◆ Achieve a high Recovery Factor
- ◆ Good governance



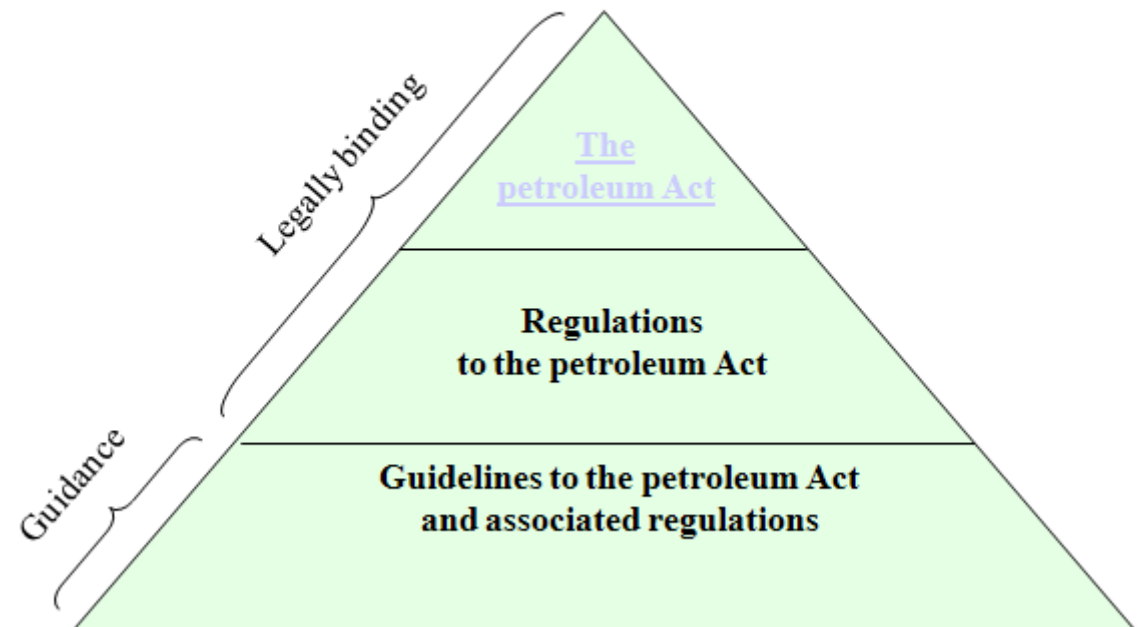
Norwegian Petroleum Administration



Legal framework

- ◆ Petroleum Act
- ◆ Regulations by Ministry
- ◆ Regulations by NPD

Hierarchy of legislation



The Petroleum Act 29 November 1996

(a revision of the previous legislation)



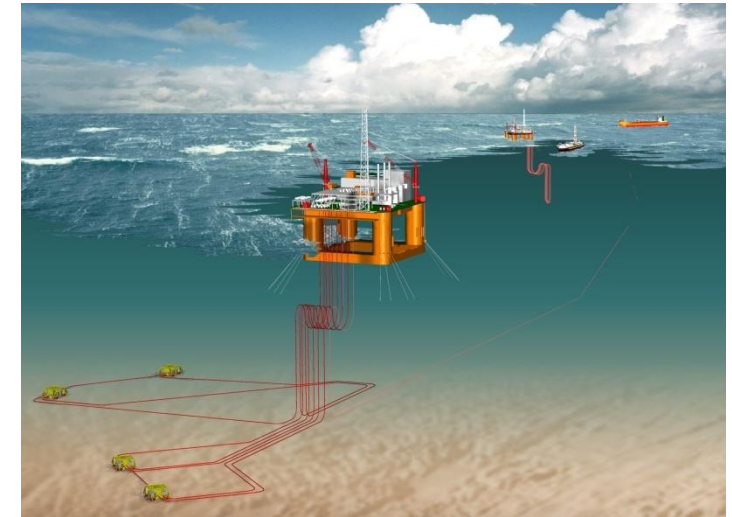
- ◆ §10-4 Material and information concerning the petroleum activities
 - ◆ Outlines the framework for reporting to the authorities
 - ◆ Legislation apply to anyone generating information regarding petroleum activity
 - ◆ Licence operators have a special responsibility for data
 - ◆ Material and information shall be submitted to the Ministry or to anyone designated by the Ministry.



Data Reporting to the NPD



- ◆ NPD is entitled to all information the oil companies have regarding their activity in Norway.
- ◆ The Petroleum Act allows NPD to formulate detailed routines for reporting.
- ◆ NPD holds a seat in all licence committees as an observer.
- ◆ NPD gives drilling permission.
- ◆ NPD gives permission to perform all seismic surveys.
- ◆ If received information is not sufficient, additional reporting can be requested by NPD.



Kristin Field - Statoil

“Data bank” organization: history of development



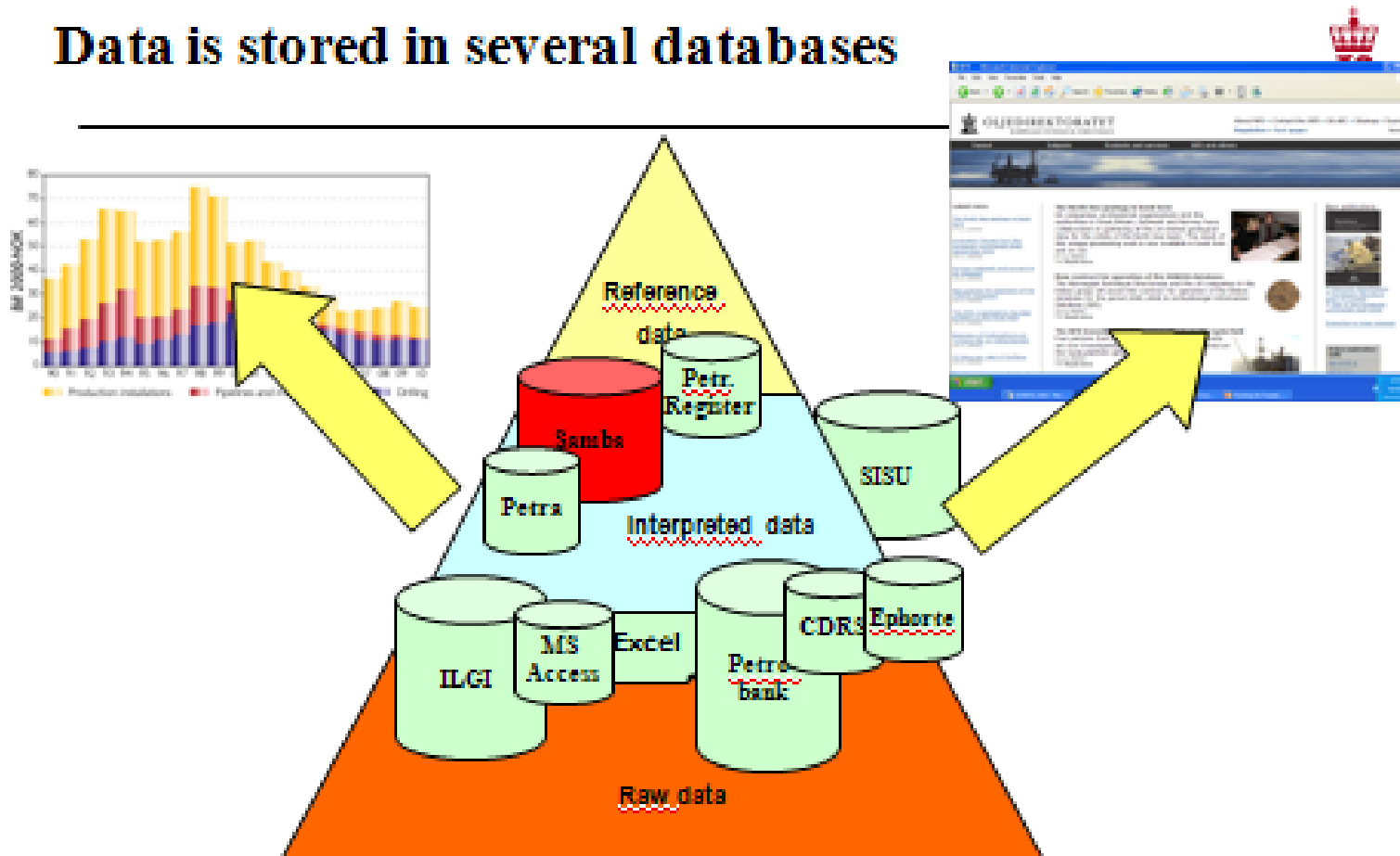
- ◆ NPD internal databases
- ◆ NPD Internet
 - ◆ Web site
 - ◆ Fact Pages
 - ◆ Fact Map
- ◆ Co-operations for digital reporting from oil comp
- ◆ DISKOS- project

Data flow to and from NPD

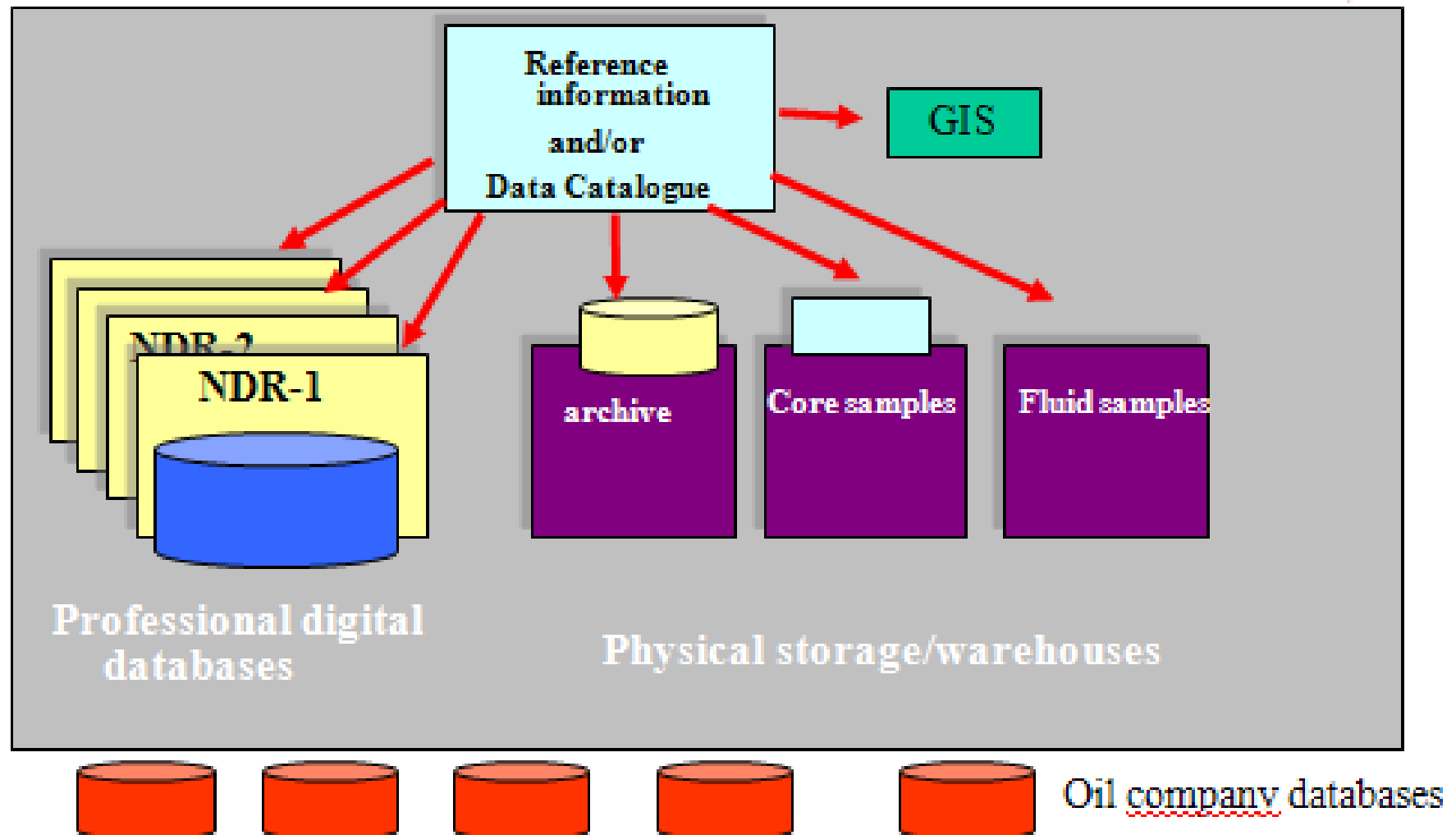


NPD internal databases

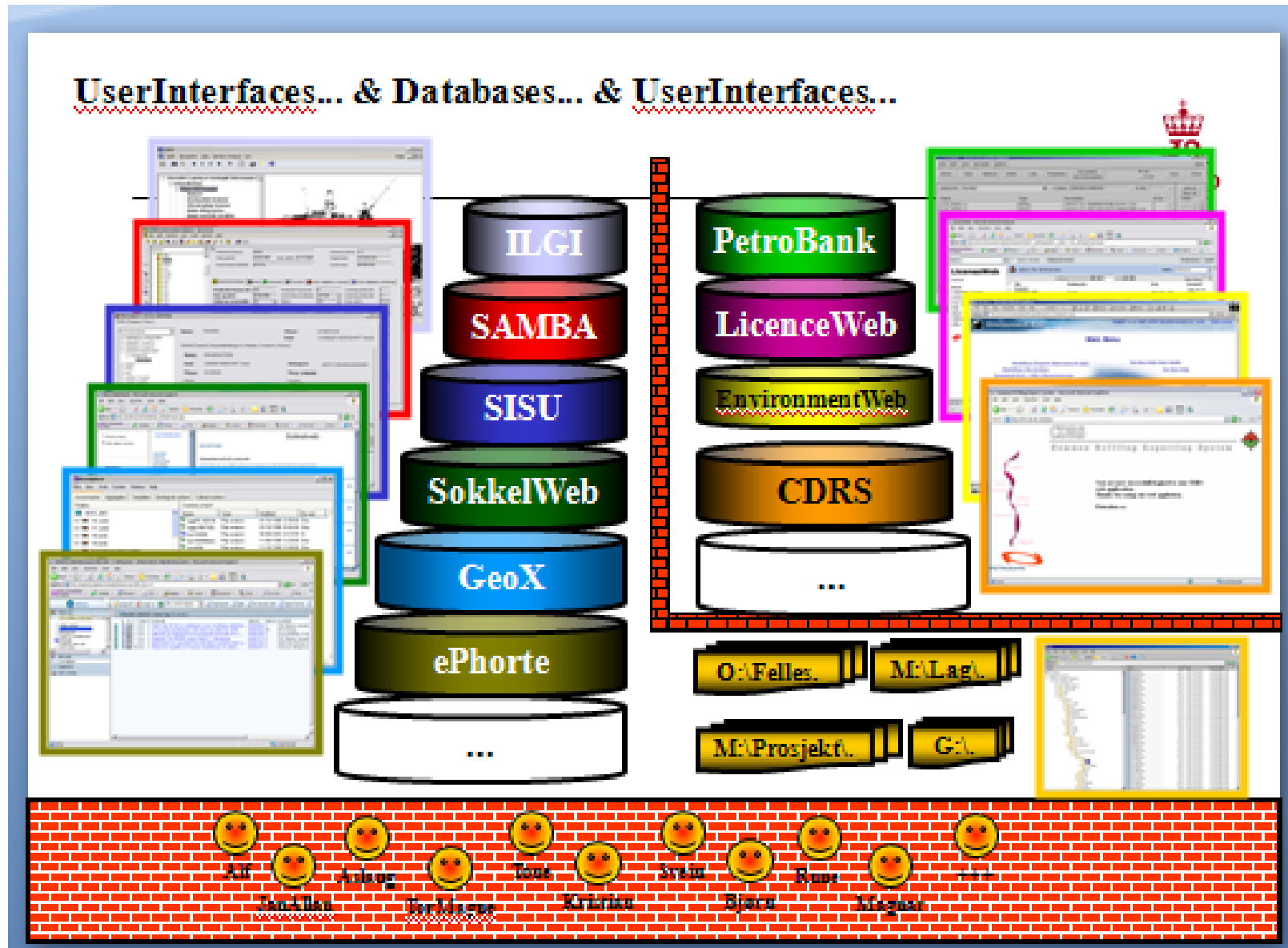
Data is stored in several databases



National Data Repository Concept

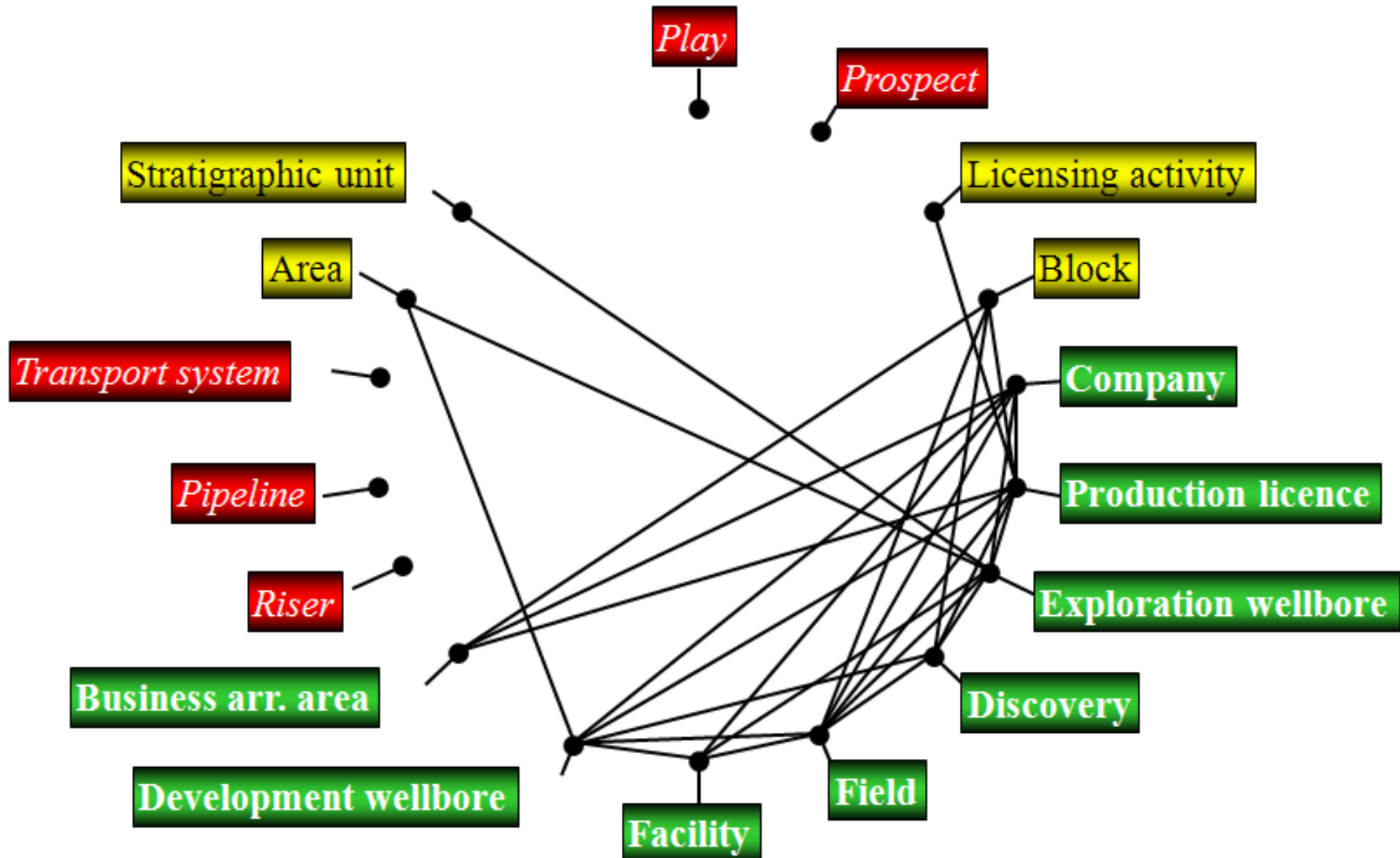


Databases inside and outside firewall

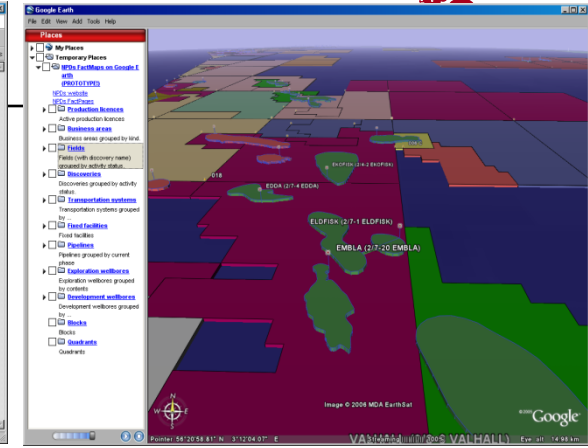
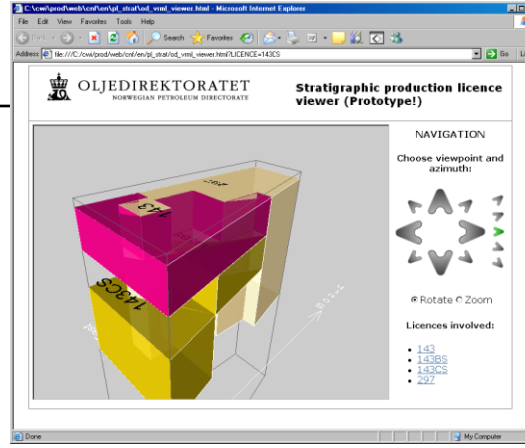
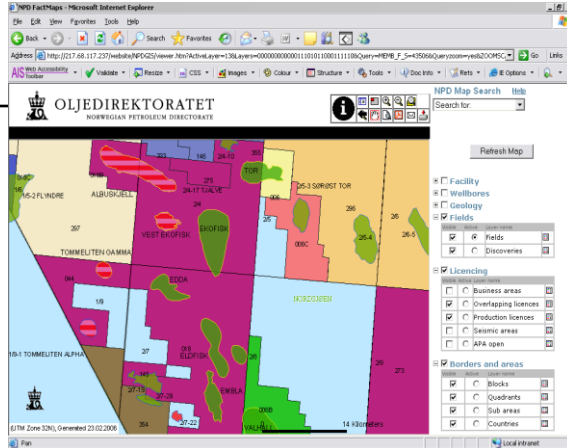
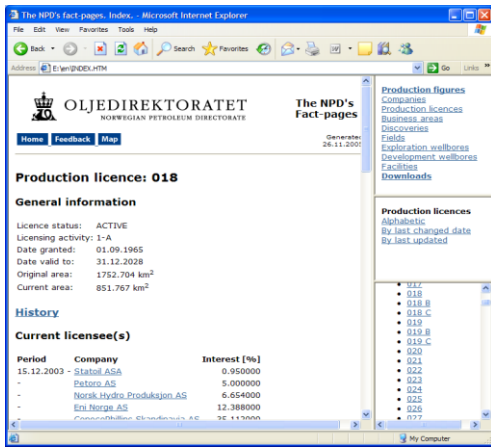


Information Carriers

..... and relations between them.



FactWareHouse inside Norwegian Petroleum Directorate (NPD)



FactPageGen

FactMapGen

FactVrmlGen

FactGlobeGen

FactWareHouse

FactLoadUtility

ILGI

SAMBA

**Sokkel
WebDB**

SISU



Alf



JanAllan



Aslaug



TorMagne



Tone



Sigmund



Svein



Bjørn



Rune



Magnar



+++

External Window to information

<http://www.npd.no/English/>



Norwegian Petroleum Directorate - The Norwegian Petroleum Directorate - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <http://www.npd.no/English/Frontpage.htm> Go

OLJEDIREKTORATET
NORWEGIAN PETROLEUM DIRECTORATE

Rules and regulations Factpages/maps Norsk

Search

Topical Subjects Products and services About the NPD

LATEST NEWS

- ▶ **Drilling permit for well path 7122/6-2 in production licence 110B**
21.06.2006
- ▶ **Announcement: Seismic surveys in the Norwegian Sea**
21.06.2006
- ▶ **Announcement: Seismic surveys in the Barents Sea**
16.06.2006
- ▶ **Talisman Energy Norge has completed the appraisal well 7/8-5 S**
15.06.2006
- ▶ **Statoil has completed appraisal well 6506/11-8**
15.06.2006
- ▶ **Statoil has completed exploration well 34/11-5 S in the North Sea**
15.06.2006

Fragments from another Norwegian oil history
Two documents are frequently quoted when recounting Norway's early oil history - Erik Pontoppidan's Natural History of Norway of 1752 and a letter from the Norwegian Geological Survey to the Ministry of Foreign Affairs in 1958*. Little worth noting by the oil historian seems to have happened between these two dates. But appearances can be deceptive.
30.05.2006
▶ [Read more](#)

Slim pickings can yield big rewards
The oil in thin zones beneath the Frigg gas field was lost as the gas was produced. Similar resources beneath Troll have become a gold mine, while a decision is pending on the Snøhvit case. Such formations have been and remain a challenge.
14.05.2006
▶ [Read more](#)

Facts 2006

07.04.2006
▶ [Read more](#)

The Norwegian Petroleum Directorate and the Ministry of Petroleum and Energy hereby launch "Facts 2006 - The Norwegian petroleum sector". The publication provides a general overview of all relevant information regarding the Norwegian continental shelf.

Active exploration wells

6608/11-5
6403/6-1
6506/11-8
9/4-5

SHORTCUTS

- Active production licenses with owners
- Contact the NPD
- Drop zone
- Reports
- Pre-qualification
- Submission of material and information
- Subscribe to press releases

TOPICAL

[Map of the Shelf](#)

<http://www.npd.no/English/> Local intranet

start | Inbox - Mic... | oedkina190... | 3. NPD - da... | Opplaering... | 6 Interne... | Forslag til p... | LicenseWeb | NO | 10:09

The NPD Fact Pages and Fact Maps



OLJEDIREKTORATET
NORWEGIAN PETROLEUM DIRECTORATE

The NPD's Fact-pages

[Home](#)
[Feedback](#)

Total production from the Norwegian Continental Shelf per year. Charts.

Net production of saleable products (Norwegian share)

Last 24 months

Complete history

Current licensee(s)

Period	Company
06.05.2003 -	Total E&P Norge AS
-	Marathon Petroleum

Current operator(s)

Period	Company
06.05.2003 -	Total E&P Norge AS

Current area(s)

Period	Nation	Block	Polygon	Area
09.03.1992 -	NO	24/6	1	

Exploration wellbore(s) or development wellbore(s)

Name	Wellbore entry date	Completed
24/6-1	09.02.1985	25.08.1985

- [Production figures](#)
- [Companies](#)
- [Production licences](#)
- [Business areas](#)
- [Discoveries](#)
- [Fields](#)
- [Exploration wellbores](#)
- [Development wellbores](#)
- [Facilities](#)
- [Downloads](#)

Production figures
[Norwegian continental shelf](#)

- [Complete history](#)
- [Per field, current year](#)



NPD fact map

NPD FactMaps - Microsoft Internet Explorer

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Address <http://217.68.117.237/website/NPDGIS/viewer.html> Go Links

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NORWEGIAN PETROLEUM DIRECTORATE

NPD Map Search [Help](#)

Search for:

Facility
 Wellbores
 Geology
 Fields

Visible	Active	Layer name
<input checked="" type="checkbox"/>	<input type="radio"/>	Fields
<input checked="" type="checkbox"/>	<input type="radio"/>	Discoveries

Licencing

Visible	Active	Layer name
<input type="checkbox"/>	<input type="radio"/>	Business areas
<input checked="" type="checkbox"/>	<input type="radio"/>	Overlapping licences
<input checked="" type="checkbox"/>	<input type="radio"/>	Production licences
<input type="checkbox"/>	<input type="radio"/>	Seismic areas
<input type="checkbox"/>	<input type="radio"/>	APA open

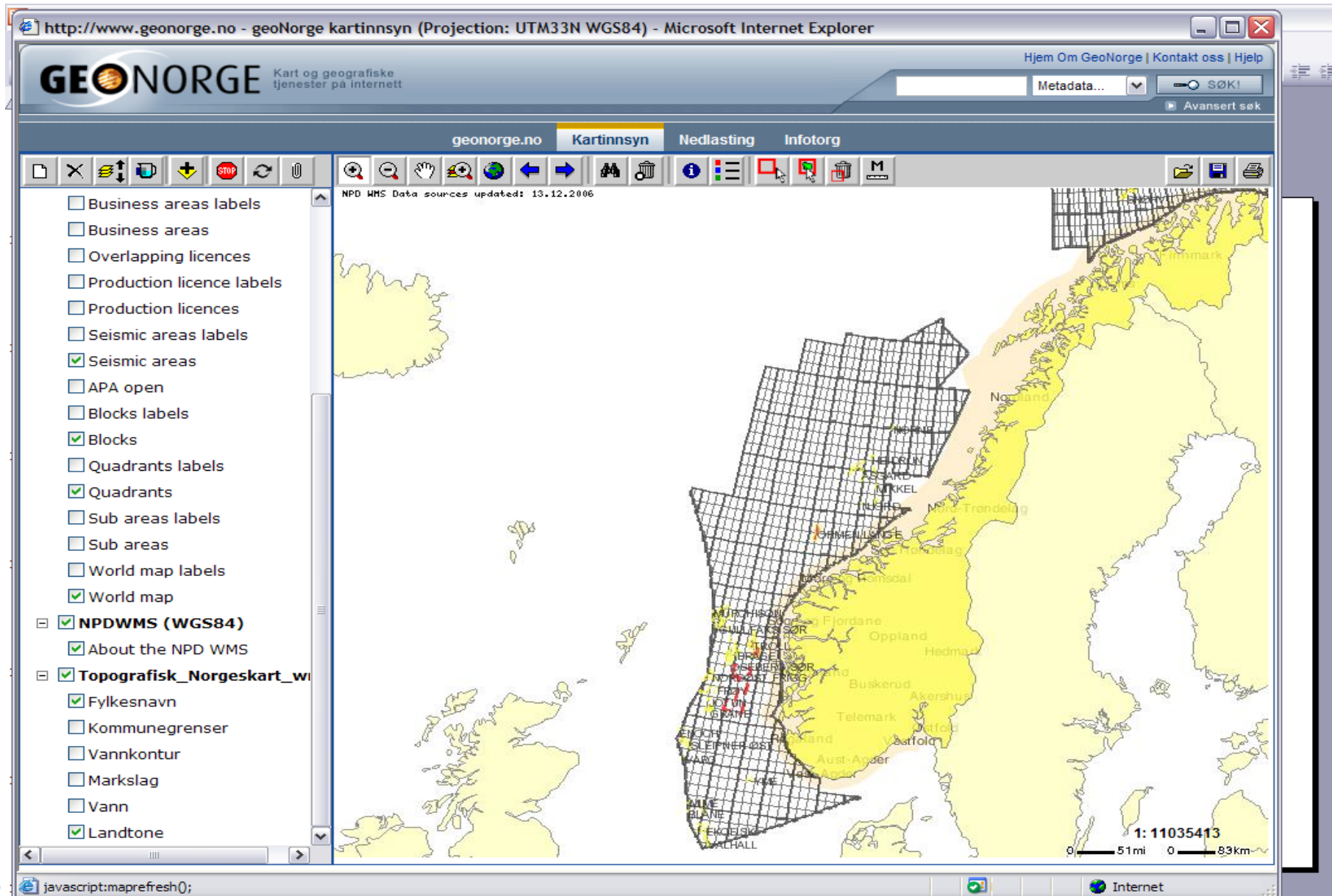
Borders and areas

Visible	Active	Layer name
<input checked="" type="checkbox"/>	<input checked="" type="radio"/>	Blocks
<input checked="" type="checkbox"/>	<input type="radio"/>	Quadrants
<input checked="" type="checkbox"/>	<input type="radio"/>	Sub areas
<input checked="" type="checkbox"/>	<input type="radio"/>	Countries

(UTM Zone 32N), Generated 28.06.2006

start | Inbox - Microso... | RE: Jordan - re... | 4 Microsoft Of... | Internet Ex... | Microsoft Word | LicenseWeb | NO | 10:40

NPD-map imported into GeoNorge WMS



http://www.geonorge.no - geoNorge kartinnsyn (Projection: UTM33N WGS84) - Microsoft Internet Explorer

GEONORGE Kart og geografiske tjenester på internett

Hjem Om GeoNorge | Kontakt oss | Hjelp

Metadata... SØK! Avansert søk

geonorge.no **Kartinnsyn** Nedlasting Infotorg

NPD WMS Data sources updated: 13.12.2006

- Business areas labels
- Business areas
- Overlapping licences
- Production licence labels
- Production licences
- Seismic areas labels
- Seismic areas
- APA open
- Blocks labels
- Blocks
- Quadrants labels
- Quadrants
- Sub areas labels
- Sub areas
- World map labels
- World map
- NPDWMS (WGS84)**
 - About the NPD WMS
- Topografisk_Norgeskart_w**
 - Fylkesnavn
 - Kommunegrenser
 - Vannkontur
 - Markslag
 - Vann
 - Landtone

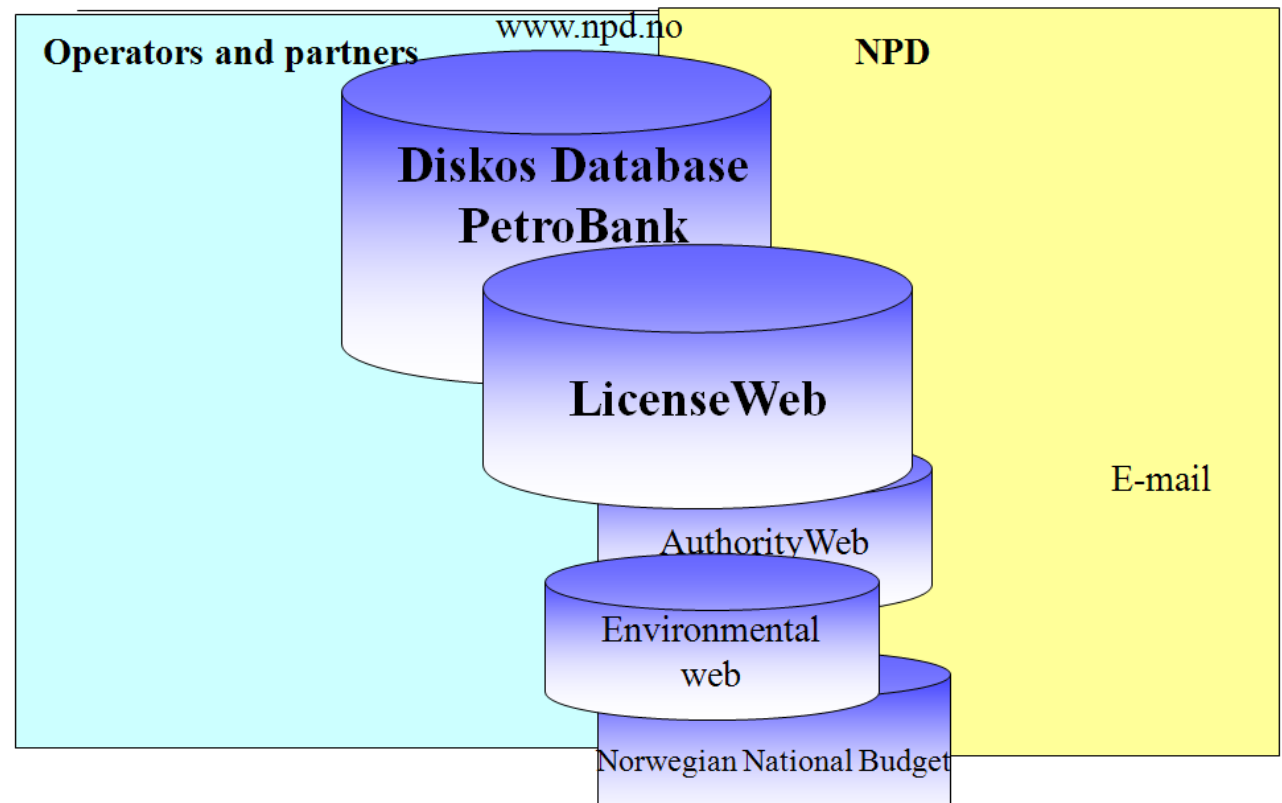
1: 11035413

0 51mi 0 83km

3/24/2009 javascript:maprefresh0; Internet

Co-operations for digital reporting from oil comp

- ◆ NBR-Reporting
- ◆ Licence Web
- ◆ Environment Web
- ◆ DDRS
- ◆ DISKOS



Reporting Petroleum Related Data to the Norwegian National Budget



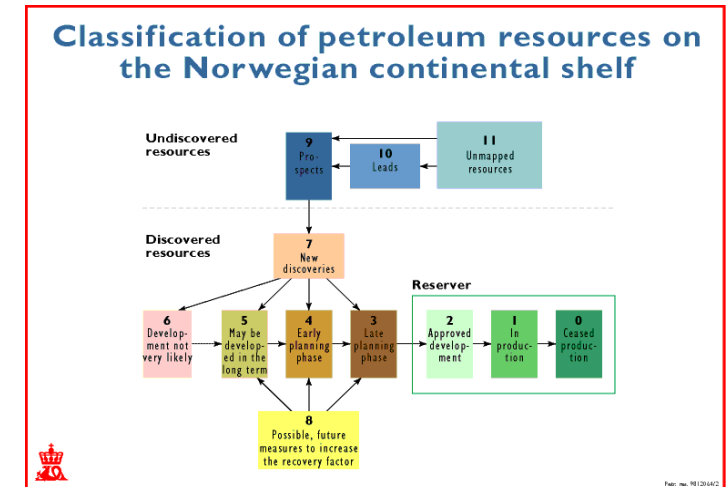
- ◆ The data collected by NPD in connection with the Norwegian National Budget is used in the basis for :
 - ◆ Norway's oil policy
 - ◆ Norway's economical policy
 - ◆ Norway's environmental policy
- ◆ Petroleum activities in Norway account for:
 - ◆ 15 % of the Gross Domestic Product
 - ◆ 30 % of Norway's total export
- ◆ Legislation requires reporting both produced and planned volumes annually



Types of Data

◆ Resources (volume)

- ◆ In-Place volumes (Oil, Gas – both associated and free)
- ◆ Proved reserves (Oil, NGL, Condensate, Gas)
- ◆ Contingent resources (Oil, NGL, Condensate, Gas)
- ◆ Undiscovered prospects within licensed areas



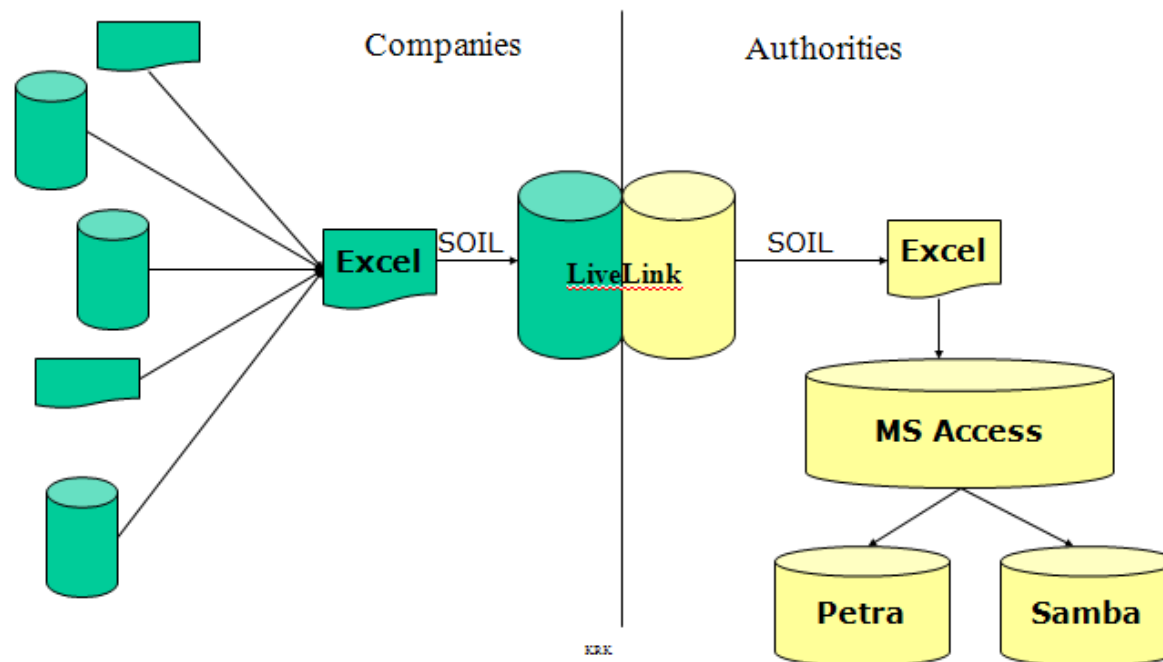
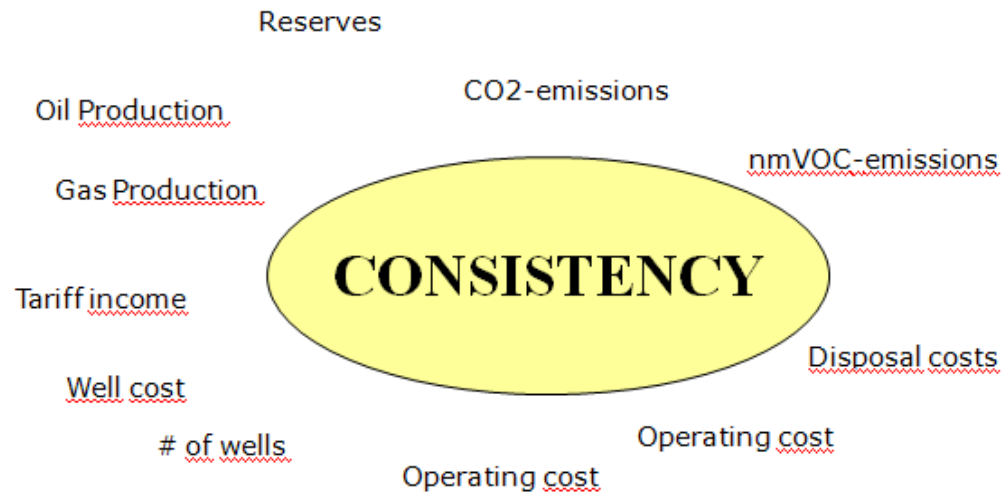
◆ Profiles (annual data - 84 data types)

- ◆ Production sales profiles
 - Oil including uncertainty ranges
 - NGL
 - Condensate
 - Gas – also including purchased gas
- ◆ Costs
 - Investments (CAPEX)
 - Operating cost (OPEX)
 - Tariff expenditures

◆ Environmental data

- ◆ Background data
 - Water production
 - Injection profiles
- ◆ Emissions
 - CO₂
 - NO_x
 - nmVOC
 - CH₄

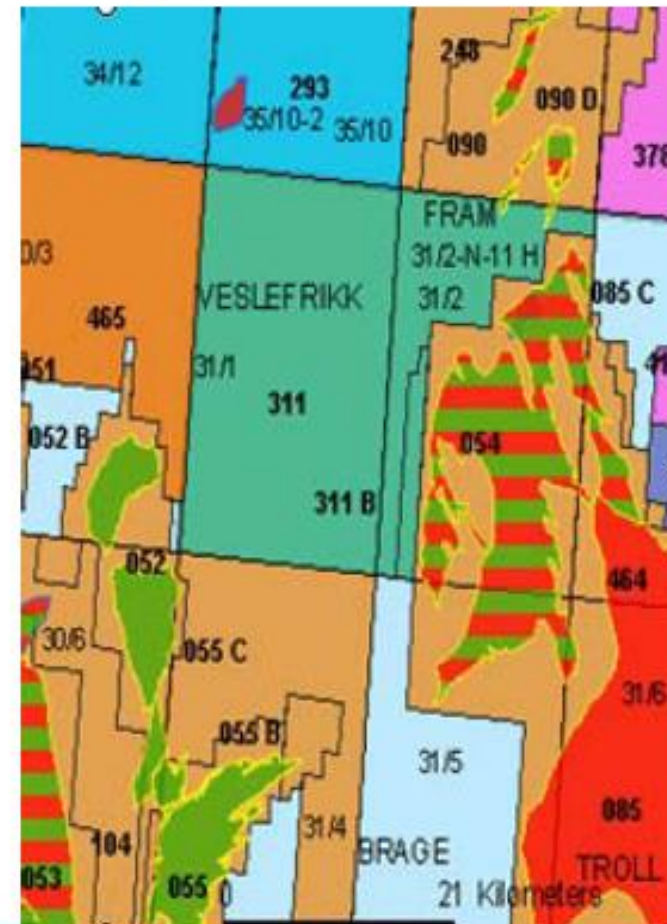
The Reporting Process



License web

Licenses or business units are joint ventures

- Awarded by NPD
- Each joint venture is regulated by a License Agreement
- The joint venture is steered by Management Committee
- The operator is expected to act on behalf of the parties of the joint venture
- A joint venture may consist of more than one production license
- Owners may not be the same in all production licenses in one joint venture (business unit)
- A LicenseWeb is a collaboration room and archive for one particular joint venture

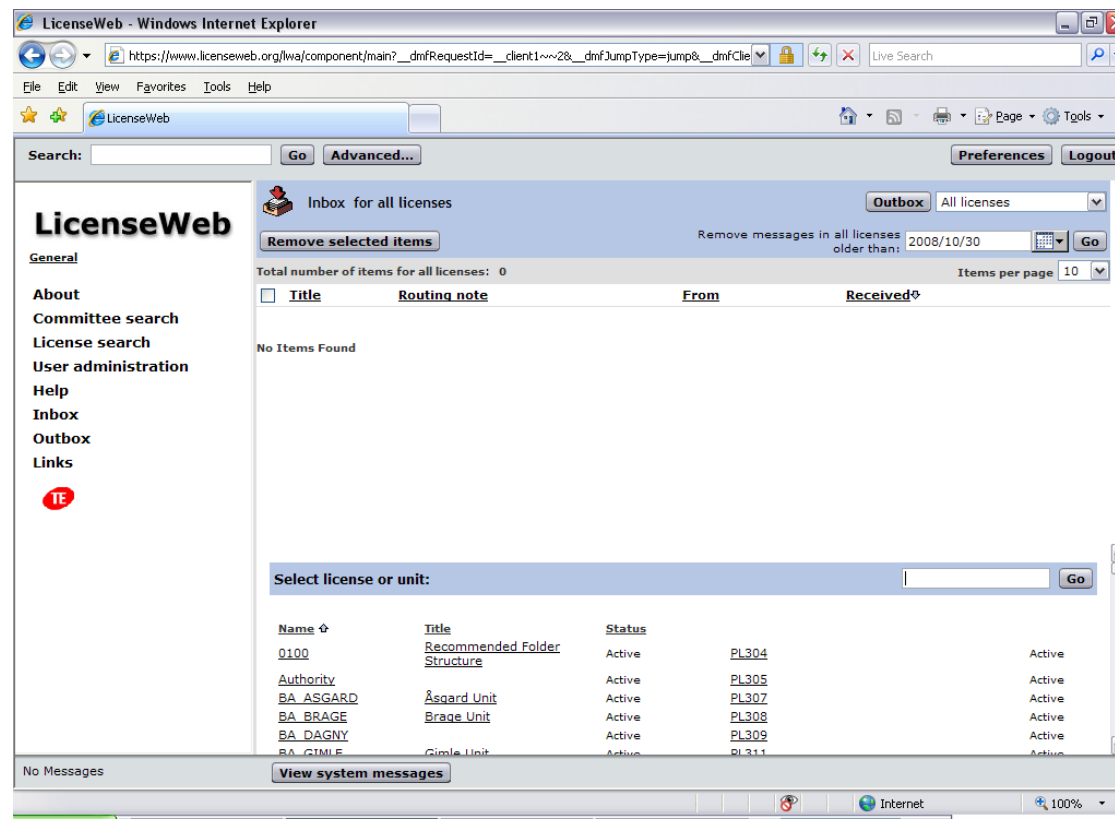


LicenseWeb

License web

- ◆ LicenseWeb is the official communication and archiving tool for administrative interaction between operators, partners and authorities for all licenses on the Norwegian Continental Shelf.

The application is designed to meet the requirements for information handling as stated in the license agreements.

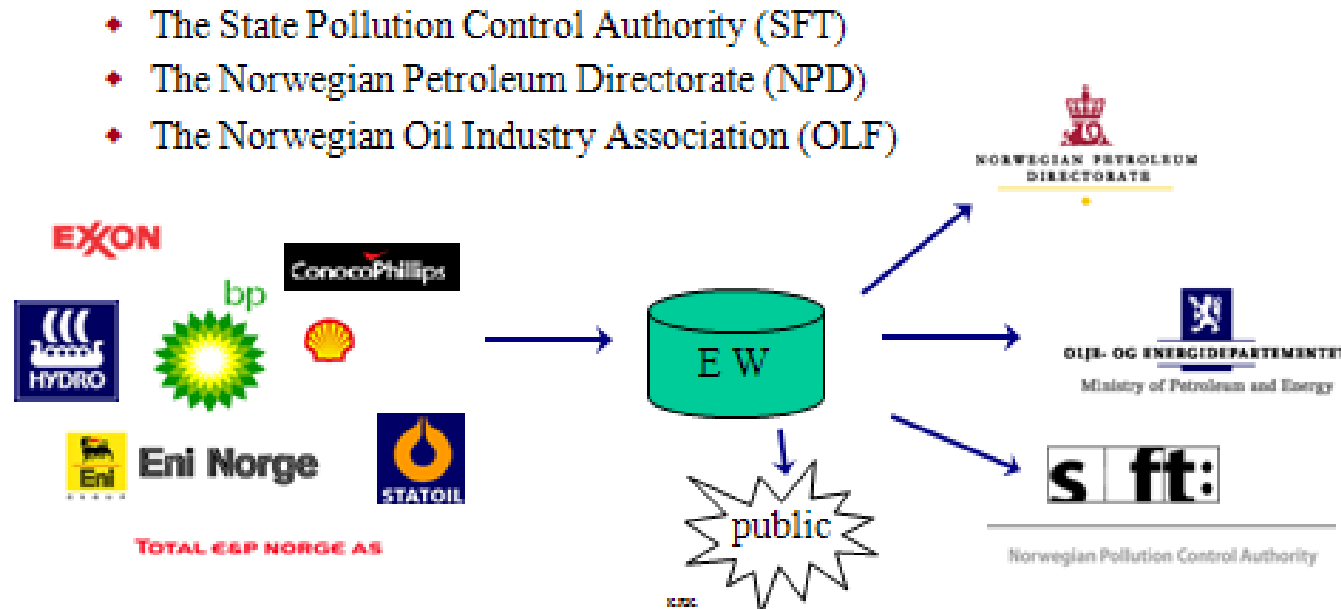


The screenshot shows the LicenseWeb application interface. The browser window title is "LicenseWeb - Windows Internet Explorer". The address bar shows the URL: https://www.licenseweb.org/lwa/component/main?__dmfRequestId=__client1~~~2&__dmfJumpType=jump&__dmfCie. The page has a search bar and navigation links like "Inbox for all licenses", "Outbox", and "All licenses". A table of license units is displayed below.

Name	Title	Status	From	Received
0100	Recommended Folder Structure	Active	PL304	Active
Authority		Active	PL305	Active
BA ASGARD	Asgard Unit	Active	PL307	Active
BA BRAGE	Brage Unit	Active	PL308	Active
BA DAGNY		Active	PL309	Active
BA GIMLE	Gimle Unit	Active	PL311	Active

The “Environment Web” database

- ◆ A joint database for emission to air and discharges to sea for the Norwegian petroleum activity
- ◆ Co-operation between NPCA, NPD, OLF and the operators on NCS



Environment Web - objectives

- All data in one place and up-to-date
- Consistent reporting
- Improved data quality
- Reduced workload by avoiding double data entry by different bodies
- Automatic entry of discharge data possible
- Reduced costs
- Improved possibility for analyses
- Consistency with other databases



Environment reporting

- ◆ Production figures
 - ◆ Oil
 - ◆ Gas
 - ◆ NGL
 - ◆ Condensate
- ◆ Discharges to sea
 - ◆ Produced water
 - ◆ Chemicals
 - ◆ Drilling waste
- ◆ Emissions to air
 - ◆ CO₂
 - ◆ NO_x
 - ◆ nmVOC
 - ◆ CH₄
 - ◆ Sox
- ◆ Waste
- ◆ Spills





Import ed ”Masterdata” from NPD

- List of all valid names and relations of
 - Exploration wellbores
 - Development wellbores
 - Fixed Facilities
 - Movable facilities (drilling rigs)
 - Fields
 - Operator oil companies
 - Partner oil companies
 - Transportation and utilization facilities
 - Land terminal owners

The DISKOS Database



Diskos , The Norwegian Data Bank for petroleum well data and seismic



- ◆ National Data Bank

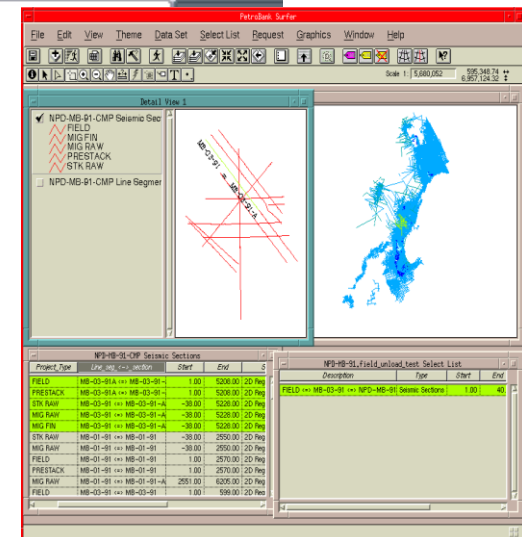
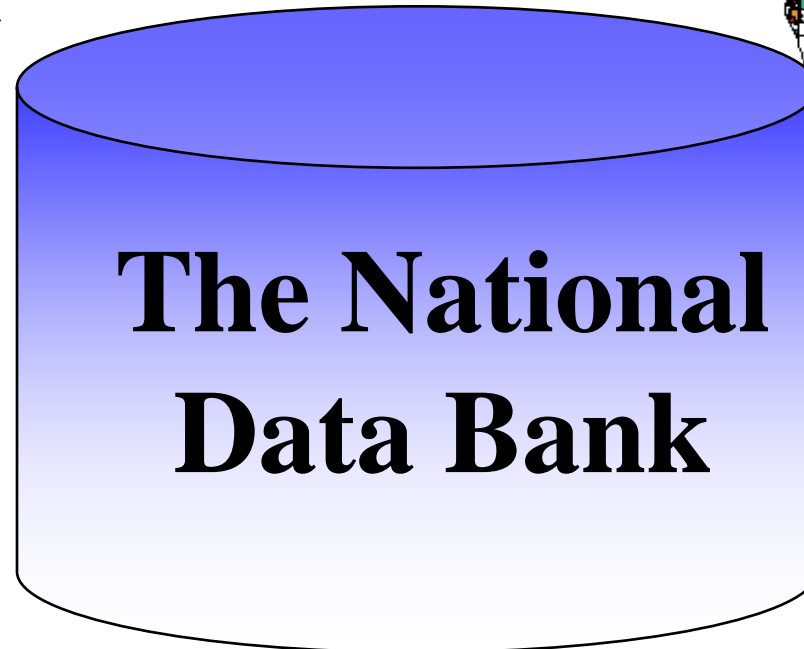
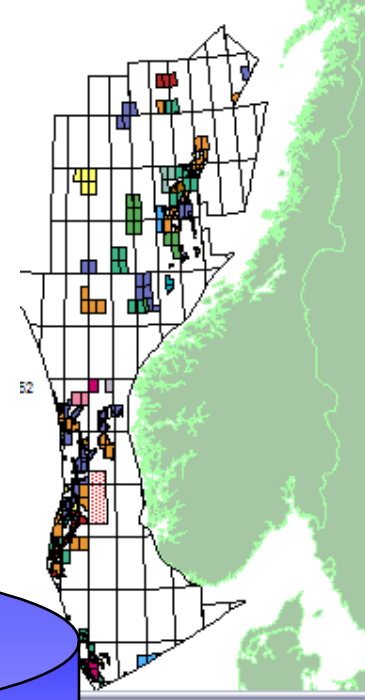
- ◆ Data of common interest for activities on the Norwegian Continental Shelf

- ◆ Raw data

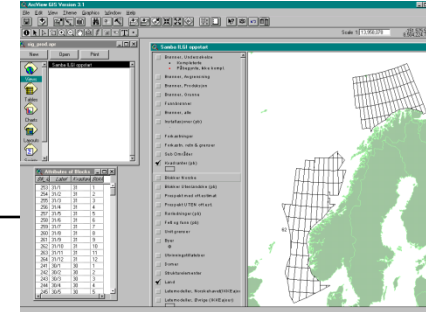
- ◆ Non-interpreted data

- ◆ Standardizing

- ◆ Data types
 - ◆ Data formats
 - ◆ Data model (POSC)
 - ◆ Procedures



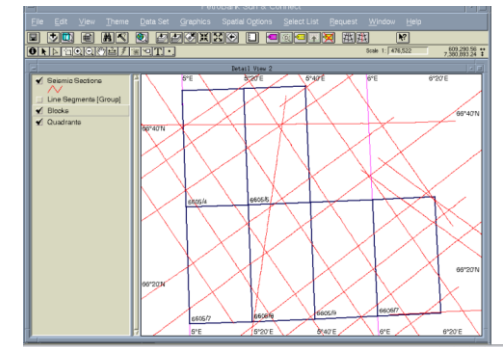
DATATYPES



Quality controlled data from NPD, every week

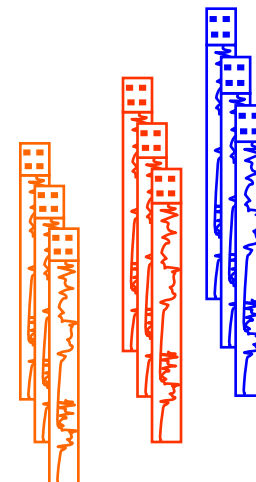
- ◆ Administrative data
 - ◆ License, block, quadrant, coastlines, national borders
 - ◆ Field, platform, pipeline, water depth

- ◆ Well data
 - ◆ Position, name, category



From companies

- ◆ Post stack seismic data
 - ◆ All processed 2D and 3D data, velocity data
- ◆ Well Data
 - ◆ Historical and future reporting
- ◆ Production Data
 - ◆ Historical and future reporting



DISKOS SOLUTION

3 ELEMENTS



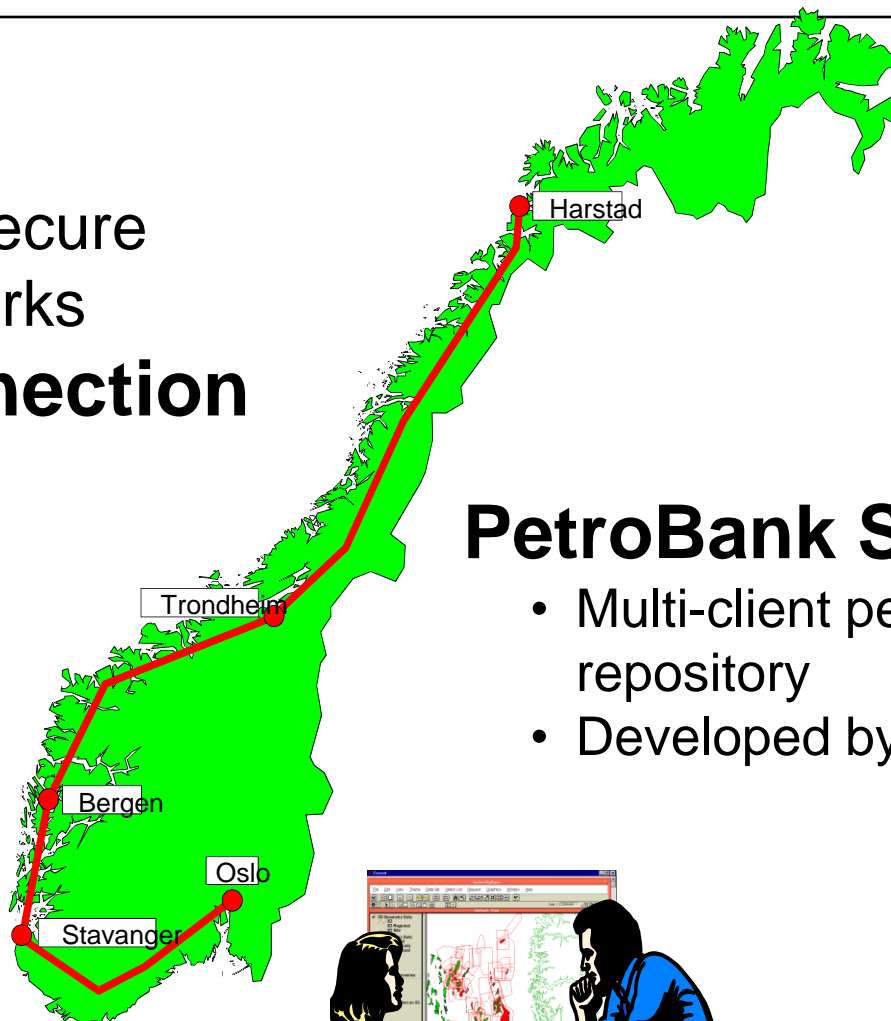
SOIL network

- High-speed secure closed networks

Lan2Lan connection

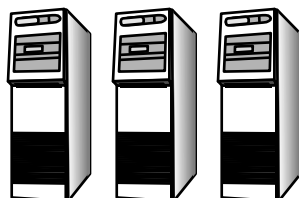
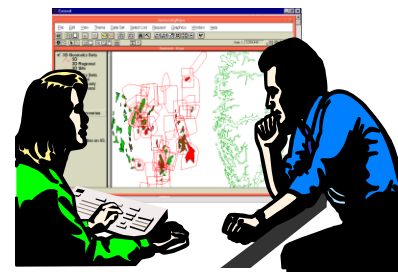
The Diskos Database

- Central storage of company data
- Run by PetroData from 1995
- By Schlumberger from 2004
- By Landmark from 2009



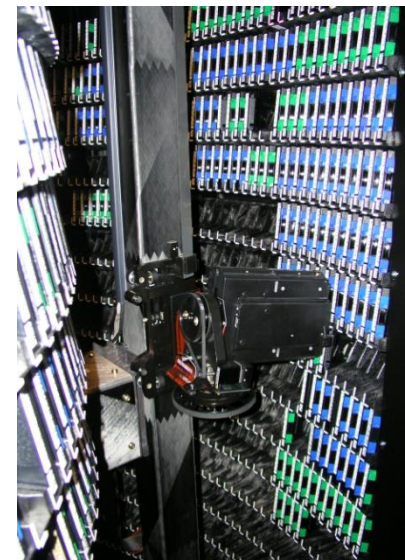
PetroBank Software

- Multi-client petroleum data repository
- Developed by Landmark



Statistics – Data Storage - 2008

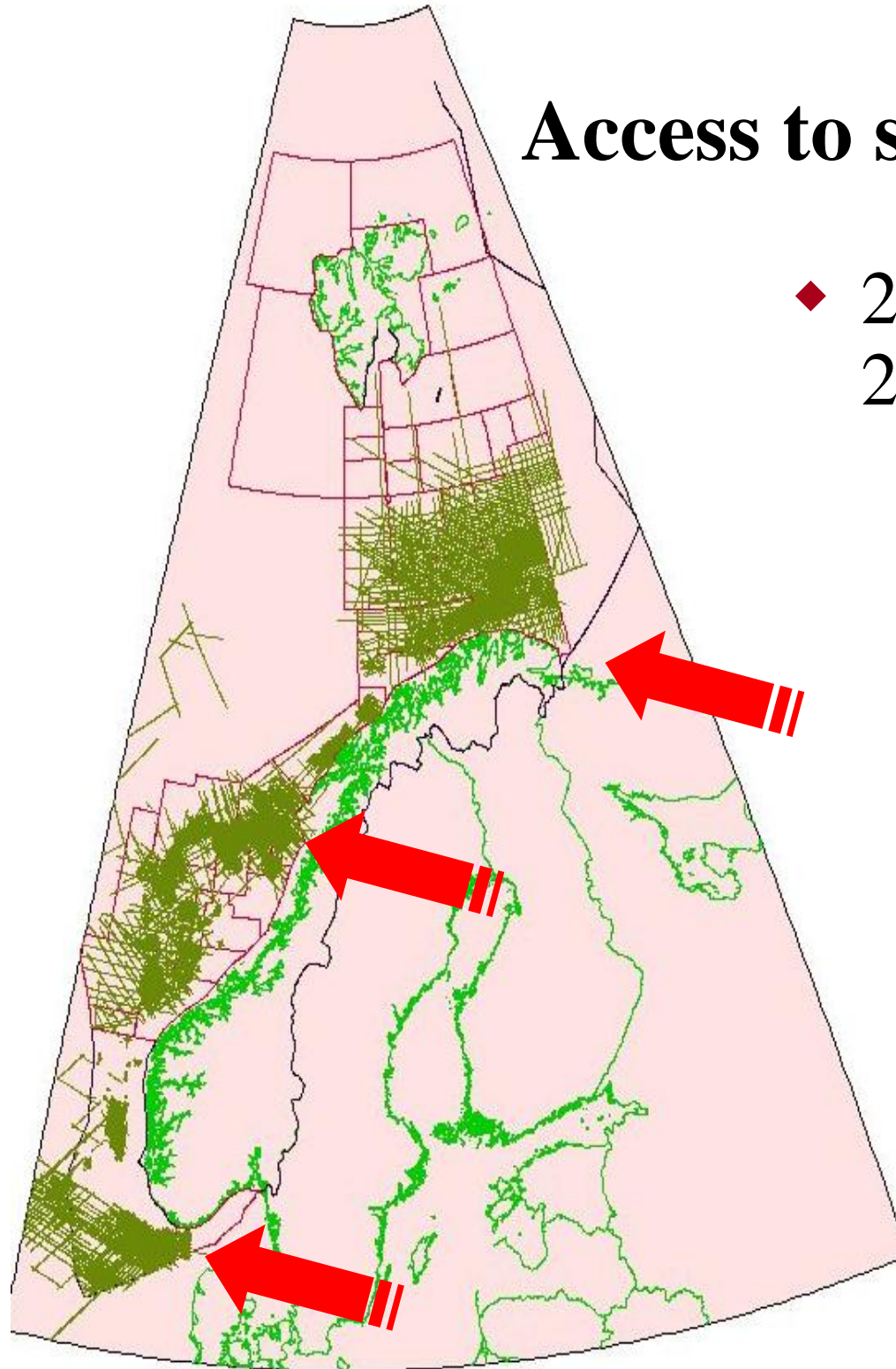
- ◆ SINAS's storage capacity
 - ◆ Oracle Database – ~ 150 GB
 - ◆ Netapp Disc storage systems – ~ Total 150 TB.
- ◆ StorageTek Tape robotics system - 1800 TB of storage capability
- ◆ IBM 3590H and IBM 3592 Tape technology
- ◆ Tivoli Storage Manager (TSM) to manage Post Stack data.



Access to seismic data - Diskos

- ◆ 2D coverage – surveys from 2002-date on NCS
 - ◆ Area of interest generated in PowerExplorer (PetroBank)

Users zoom in and can download specific data sets



Making a select list



PowerExplorer

File Task TaskDetail View Windows Help

Tools Task

GISView Tableview

GISView

Related Information

3D Velocities
3D bin grids
3D navigation sets
Archive object links
Line segments
Line segments start a
Physical object links
UKOOA header

Wells (public) - Constraints

Get	Attribute	Operator	Value
<input type="checkbox"/>	PB Well ID		
<input checked="" type="checkbox"/>	Well name		
<input checked="" type="checkbox"/>	Well type		
<input checked="" type="checkbox"/>	Well operator		
<input checked="" type="checkbox"/>	Sorting alias		
<input checked="" type="checkbox"/>	Nation		
<input checked="" type="checkbox"/>	Private		
<input checked="" type="checkbox"/>	Plotting symbol		
<input checked="" type="checkbox"/>	Shape		

Viewers

Use	Viewer	Target Viewer
<input type="checkbox"/>	Tableview	New
<input checked="" type="checkbox"/>	GISView	GISView.1

GISView 1

Reference Lines
 Wells (public)_11 : SINAS.D
 Wells (public)_1 : SINAS.DIS
 3D navigation sets (public)
 2D navigation sets (public)
 Borders_7 : SINAS.DISKOS
 Installations_5 : SINAS.DISK
 Coastline_3 : SINAS.DISKOS
 Fields and discoveries_4 :
 Area of Interest
 Blocks_6 : SINAS.DISKOS
 Lat/Lon 3D Deg
 World Countries 1

AOI: Min Lon: -21.965 Min Lat: 50.093 Max Lon: 35.359 Max Lat: 72.314

inline: X: 729,831.699 1:2,426,239
 Y: 7,114,326.1... One Centimeter = 24 Kilometers

TableView 1 3D navigation sets (public) outline_9 : SINAS.DISKOS

	Survey name	Navigation set name	Survey ty...	Location ty...	Operator	Survey y...	Area	Country	Shaj
1	MC3D-MGS2002	MC3D-MGS2002-PSTM-GATHER-BIN	3D	BIN	PGS EXPLORATION	2003	BLOCKS 6403,6404	NORWAY	Polyg
2	MC3D-MGS2002	MC3D-MGS2002-RS-BIN	3D	BIN	PGS	2003	BLOCKS 6403,6404	NORWAY	Polyg
3	MC3D-MGS2002	MC3D-MGS2002-BIN	3D	BIN	PGS EXPLORATION	2003	BLOCKS 6403,6404	NORWAY	Polyg
4	MC3D-MGS2002	MC3D-MGS2002-BIN	3D	BIN	PGS	2003	BLOCKS 6403,6404	NORWAY	Polyg
5	AG-TBN99	AG-TBN99-BIN	3D	BIN	AKER GEO	1999	6710	NORWAY	Polyg
6	AG-TBN99	AG-TBN99R01-BIN	3D	BIN	AKER GEO	1999	6710	NORWAY	Polyg
7	AG-TBN99	AG-TBN99-RS-BIN	3D	BIN	AKER GEO	1999	6710	NORWAY	Polyg
8	AN01-9201	AN01-9201-BIN	3D	BIN	BP NORGE	1992		NORWAY	Polyg
9	AN09201	AN09201R01-BIN	3D	BIN	BP NORGE	1992	VALHALL BL 2/8, 2/11	NORWAY	Polyg
10	AN09201	AN09201-BIN	3D	BIN	BP NORGE	1992	VALHALL BL 2/8, 2/11	NORWAY	Polyg
11	AN09201-BPN0201	AN09201-BPN0201R0401-BIN	3D	BIN	BP NORGE	2004	VALHALL	NORWAY	Polyg
12	AN09403	AN09403-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
13	AN09403	AN09403-RM-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
14	AN09403	AN09403M-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
15	AN09403	AN09403STR99-RS-BIN	3D	BIN	STAT OIL	1994		NORWAY	Polyg
16	AN09403	AN09403M-RS-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
17	AN09403	AN09403M-RM-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
18	AN09403	AN09403-RS-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
19	AN09403	AN09403_MN9602_R03	3D	BIN	BP NORGE	1994		NORWAY	Polyg
20	AN09403	AN09403_MN9602_R03-RM	3D	BIN	BP NORGE	1994		NORWAY	Polyg
21	AN09403	AN09403_MN9602_R04-BIN	3D	BIN	BP NORGE	1994		NORWAY	Polyg
22	AN09602	AN09602-BIN	3D	BIN	BP NORGE	1996		NORWAY	Polyg
23	AN09602	AN09602-RM-BIN	3D	BIN	BP NORGE	1996		NORWAY	Polyg
24	AN09602	AN09602-RS-BIN	3D	BIN	BP NORGE	1996		NORWAY	Polyg
25	AN09701M	AN09701M-BIN	3D	BIN	BP NORGE	1997		NORWAY	Polyg
26	AN09706	AN09706-BIN	3D	BIN	BP NORGE	1997	VALHALL	NORWAY	Polyg
27	AN09706	AN09706R01-BIN	3D	BIN	BP NORGE	1997	VALHALL	NORWAY	Polyg

CURRENT: row 1, column 1 TOTAL: 1084 rows (0 hidden), 9 columns (0 hidden) SELECTED: 4 rows 1 columns

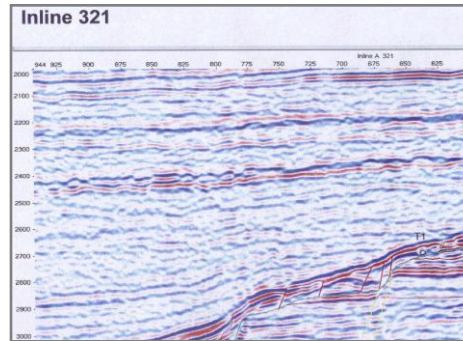
3D navigation sets (public) outline

Send To

- TableView
- TableView 1
- RowView
- GISView
- Geodetic Calculator
- Result Info
- Merge Results

NPD Reporting Requirements – Seismic Data

- ◆ Processed seismic data in the following versions is to be reported:

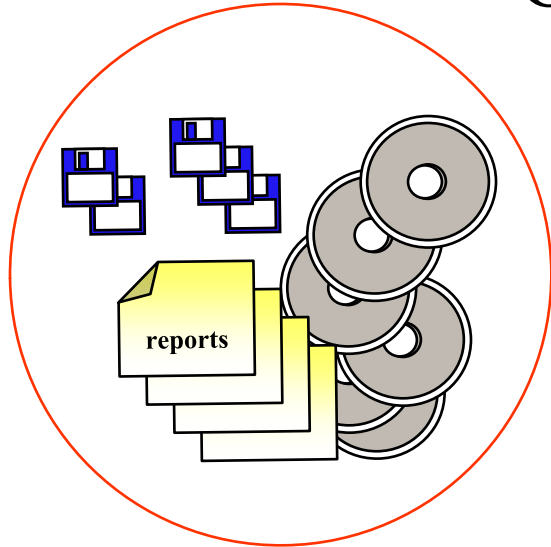


- ◆ Raw Stack
 - ◆ Raw Migration
 - ◆ Filtered Migration
 - ◆ The naming of seismic lines must be in accordance with guidelines (established by Diskos Seismic Work Group)
 - ◆ Velocity Data
- ◆ Digital Navigation data
 - ◆ In accordance with "Specifications and Information for Reporting Navigation Data to PetroData – see also NPD web site

NPD Revision of the reporting requirements for well data - 2000



◆ Objectives



◆ Overall

To build a National Digital Library for well data

To serve the needs of the NPD and allow access to entitled oil companies

◆ The Reporting Procedures

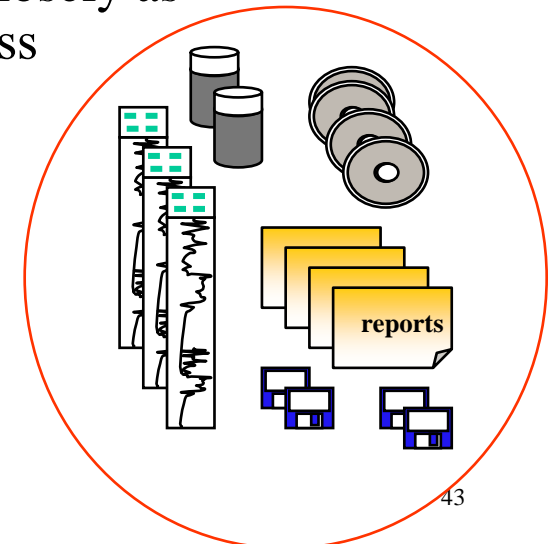
Reported data should be structured and named to be compatible with the National Database

The activity of reporting should be aligned as closely as possible with the oil companies' normal business

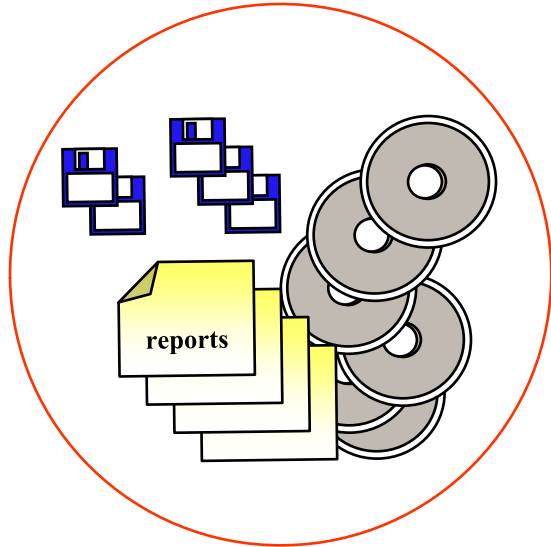
◆ The Reporting Standards

These are set by the database structure.

Now **HIGHER** than previous industry practice



NPD reporting requirements for well data



Regulations - Windows Internet Explorer

http://www.npd.no/regelverk/r2002/frame_e.htm

File Edit View Favorites Tools Help

Regulations

Resource hierarchic

- Acts
- Royal Decrees
- NPD regulations
- Standards
- Thematic guidelines
 - PDO and PIO
 - Revised national budget
 - Start of new fields
 - Annual status reporting
 - Resource classification
 - Production and sales data
 - CDRS user manual
 - CODAM user manual
 - Exploration activities
 - Drilling and well activities
 - Geochemical analysis
 - Production permission
- Interpretations
- Links
- User tips
- Contact the NPD

The HSE-regulations are moved to PSA's new website

About the contents

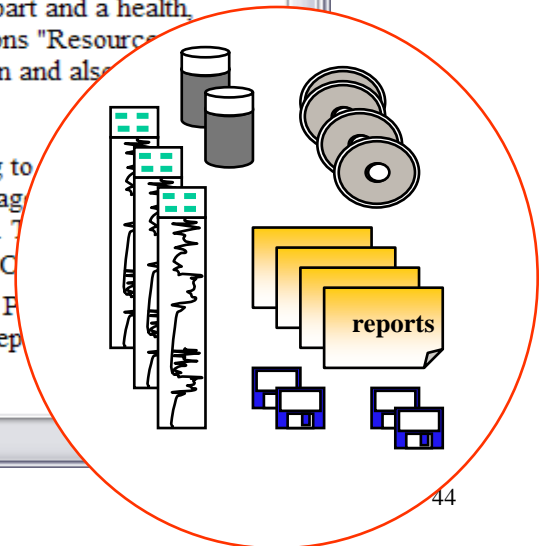
This page displays the petroleum regulations within the sphere of authority of the Norwegian Petroleum Directorate (NPD) and the Petroleum Safety Authority Norway (PSA). Furthermore, the page contains the Norwegian version of regulations issued by other authorities that are referred to in the petroleum legislation.

The legislation consists of a resource management part and a health, environment and safety (HES) part. The menu options "Resource hierarchic" and "HES hierarchic" reflect this partition and also legislation levels.

The NPD has issued two sets of regulations relating to management: "Regulations relating to resource management" and "Regulations relating to measurement of petroleum". These are issued in pursuance of the Petroleum Act and the CO₂ Act.

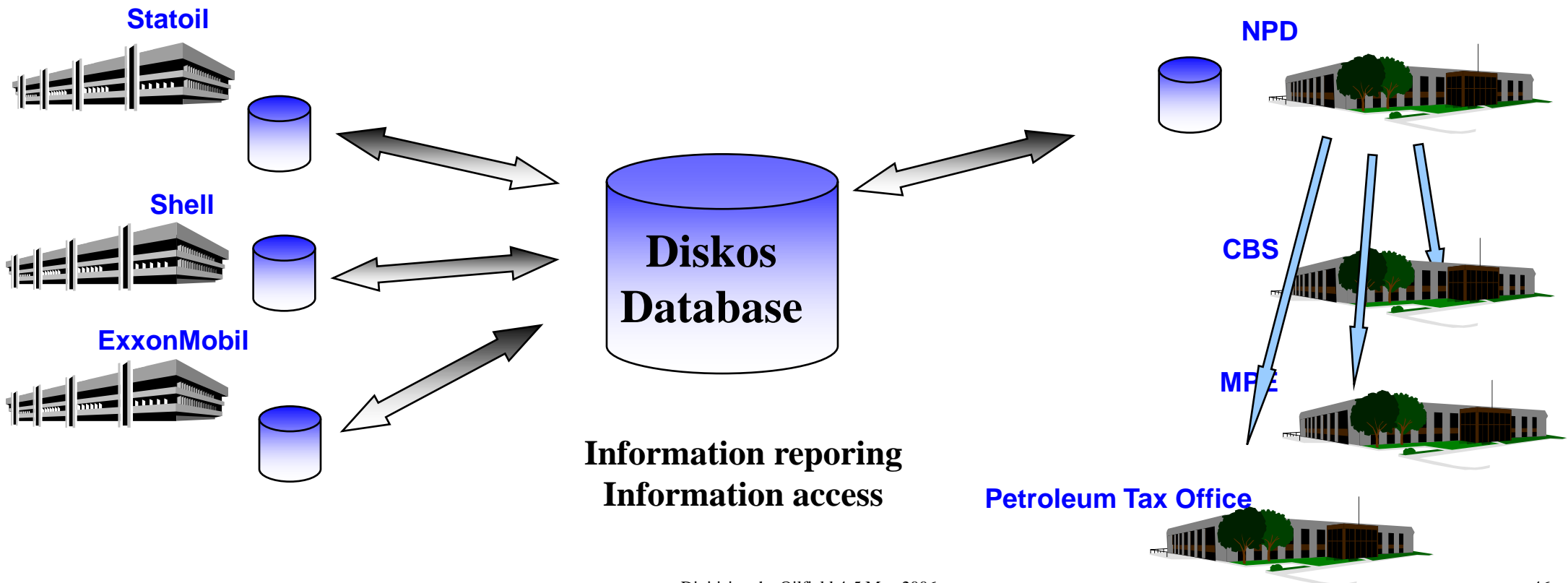
Guidelines to production permission

http://www.npd.no/regelverk/r2002/Bare_paa_norsk.htm



Production Data

- ◆ Monthly reported data available in one database.
 - ◆ Information can be shared within a licence and reported easily to third parties
 - ◆ Central Bureau of Statistics, Ministry of Petroleum and Energy



Production and Sales Information



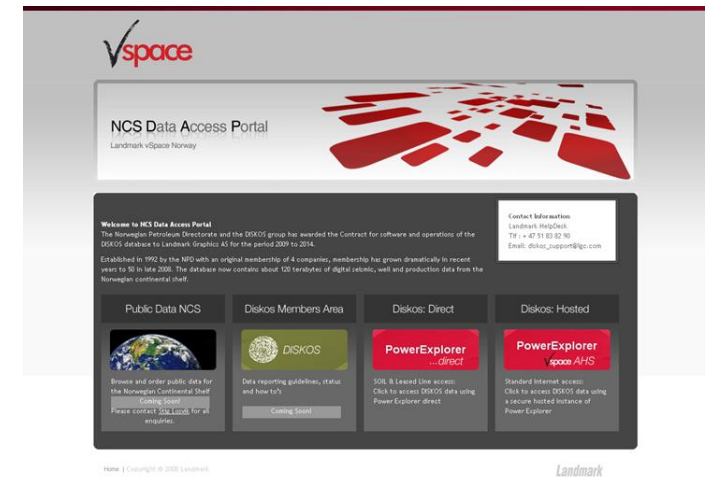
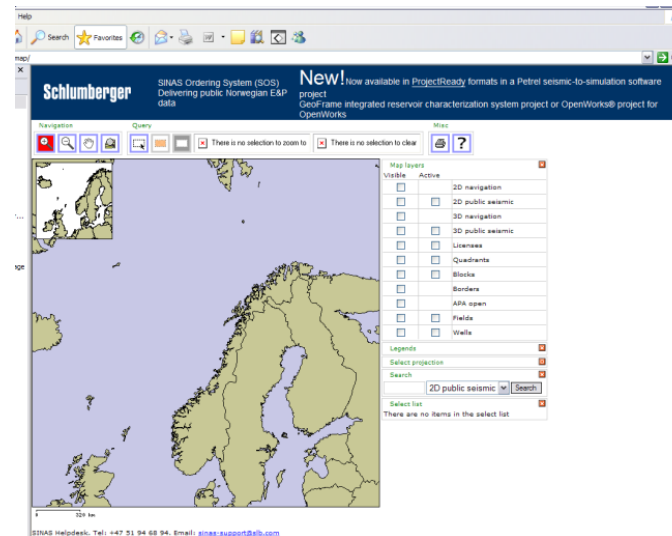
- ◆ Monthly allocated production data is reported to the Diskos database
- ◆ The following data is reported:
 - ◆ Production per well
 - ◆ Injection per well, installation and field
 - ◆ Flared gas consumption
 - ◆ Fuel and diesel used per installation
 - ◆ Stored quantities per company
 - ◆ Sales of oil, condensate and NGL products per ship cargo
 - ◆ Gas sales by sales company and buyer



Gullfaks B- Statoil

DISKOS-portal

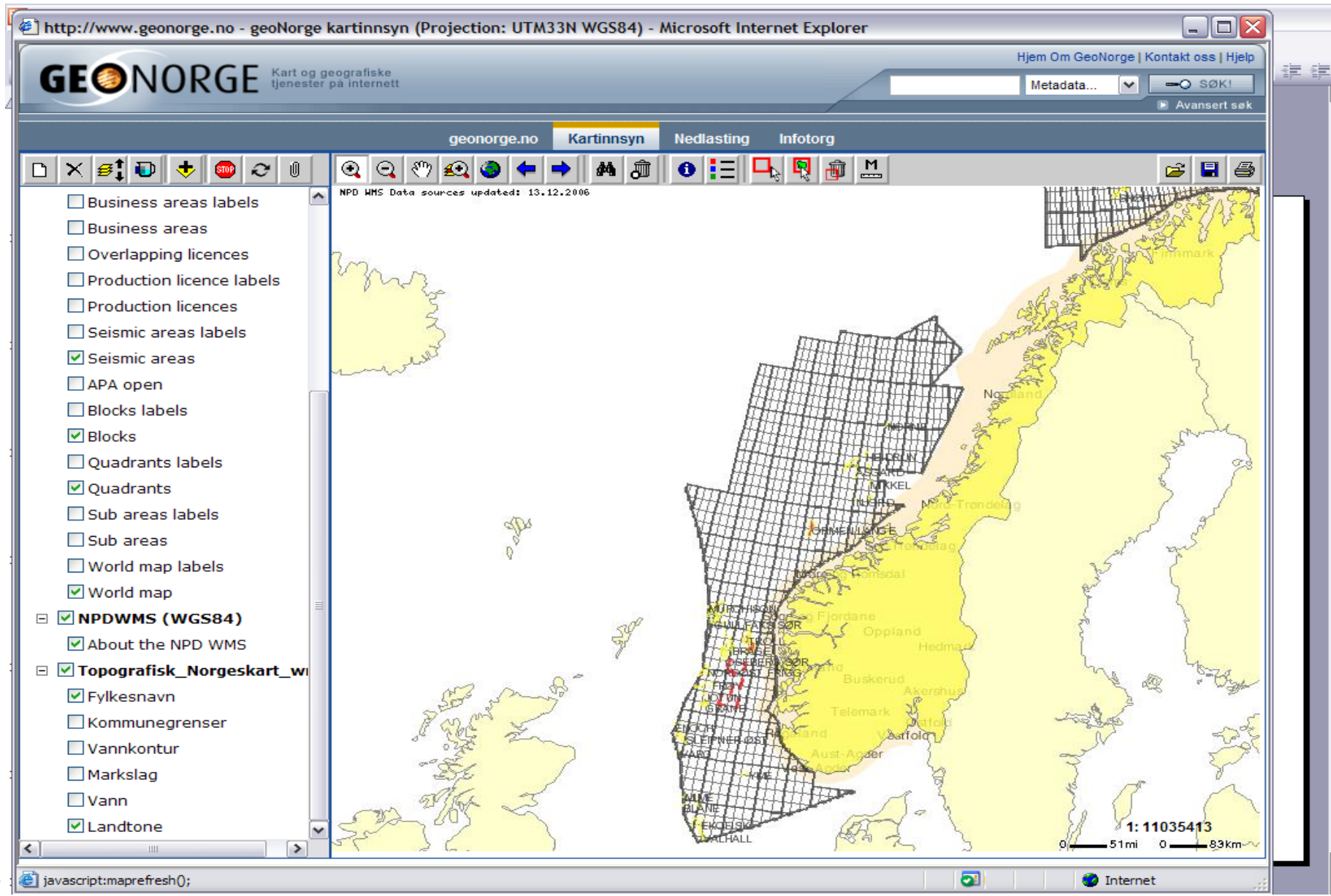
- ◆ to real data for selected data carriers (wells , seismic surveys and field production data)
- ◆ confidential and public data
- ◆ metadata only for non-members



Norwegian Portals for geographic information

- ◆ GeoNorge
 - ◆ Portal for **”everybody”** to use on internet.
 - ◆ All information providers can register their metadata
By filling out a form or provide XLM-file according to ISO 19115)
 - ◆ Online (Web Map Services, and downloads) and offline information register
 - ◆ Search on categories, themes, etc
 - ◆ Direct access to WMS and map file downloads
- ◆ Norge Digitalt
 - ◆ Portal for **selected partners** in Norway (Kommuner, fylker og statlige organ)

NPD-map imported into Geonorge WMS



The screenshot shows the Geonorge web application interface. The browser address bar displays "http://www.geonorge.no - geoNorge kartinnsyn (Projection: UTM33N WGS84) - Microsoft Internet Explorer". The page header includes the Geonorge logo and navigation links like "Hjem Om GeoNorge | Kontakt oss | Hjelp". A search bar with "SØK!" and "Avansert søk" is present. The main menu has tabs for "geonorge.no", "Kartinnsyn", "Nedlasting", and "Infotorg".

The map displays a grid overlay over a yellow-shaded area of Norway. The legend on the left lists various layers, with several checked:

- Business areas labels
- Business areas
- Overlapping licences
- Production licence labels
- Production licences
- Seismic areas labels
- Seismic areas
- APA open
- Blocks labels
- Blocks
- Quadrants labels
- Quadrants
- Sub areas labels
- Sub areas
- World map labels
- World map
- NPDWMS (WGS84)**
 - About the NPD WMS
- Topografisk Norgeskart_w**
 - Fylkesnavn
 - Kommunegrenser
 - Vannkontur
 - Markslag
 - Vann
 - Landtone

The map shows a grid overlay over a yellow-shaded area of Norway, with labels for various regions like Nordland, Trøndelag, and Oppland. A scale bar at the bottom right indicates 0 to 51 miles and 0 to 83 kilometers. The status bar at the bottom shows "javascript:maprefresh0;" and "Internet".

NorgeDigitalt portal:



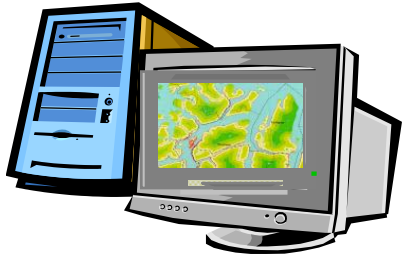
General access:

Users

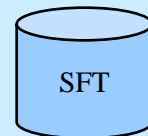
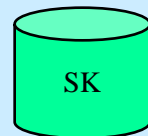
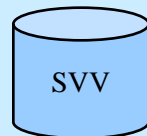
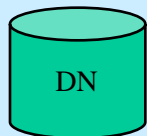
Use data in own application:

Thematic applications:

Dataset downloading:



Internet-services (WMS, WFS)



Fylke



Nye parter

434 pcs

19 x 2 pcs.

- ◆ Bruk av geografisk informasjon over landegrensene
Hva kan Inspire bety for prosjektet
 - ◆ Steinkjer 29. mai 2008
 - ◆ Kåre Kyrkjeeide
Statens kartverk



Inspire web site

<http://www.ec-gis.org/inspire/>



Inspire document archive:

<http://www.ec-gis.org/inspire/reports.cfm>

Inspire overview theme specifications

http://www.ec-gis.org/inspire/reports/ImplementingRules/inspireDataspecD2_3v2.0.pdf

- End of presentation



Questions & Answers (Q & A)

