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Strategic policy and the logistics of crude oil transit in Lithuania

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Abstract

This paper examines the crude oil transit market in Lithuania and the significant economic and political role played by Russia. Beginning with an analysis of the strategic and political role played by crude oil in Lithuania there follows a discussion of the policies followed by the Lithuanian authorities following independence in 1992 from the Former Soviet Union. A content analysis approach is taken to establishing the main policy issues that dominate the sector. This technique combines both quantitative and qualitative approaches to a review of published material on oil transit in Lithuania and acts as a means of assessing expert opinion on the issues involved. The results from this analysis will be used in developing policy initiatives for the sector. The paper ends with some suggestions for further applications of the techniques used to oil transit policy issues in the region.

Keywords: Transit; Lithuania; Policy

1. Introduction

This paper presents the first stage of a strategic policy analysis of the crude oil industry in Lithuania with the primary objective of analysing the economically and politically significant Russian oil transit market (Twaalfhoven, 1999). The ultimate aim of the research is to derive composite strategic policies for the industry in the context of impending EU accession (Lithuania in the World, 2000a), overseas privatisation of the sector (The Baltic Review) and competition from neighbouring transit routes through Russia, Latvia and elsewhere.

The first stage of the paper consists of a comprehensive review of academic, industrial and commercial literature both within and external to Lithuania, to identify the major policy themes. These were structured through a quantitative as well as qualitative content analysis to produce identifiable trends, which are widely felt to direct the sector (Weber, 1990). It is this review by content analysis of the major themes that characterise the Lithuanian oil transit industry that makes up the body of this paper

In the second stage of the research which is not outlined here, these categories of policy issues will be rewritten as statements and presented to experts within the region. Their agreement/disagreement will be quantified using a scaling approach from which the most significant issues will emerge (DeVellis, 1991). Finally, these quantified expert opinions will be used as input to a multivariate approach (Krzanowski, 1988) to derive composite policies for oil transit in Lithuania.

1.1. Overview of the region

In the post Second World War period, Lithuania was administered as one of the republics of the USSR and the entire economy was structured along Soviet lines, with collectivisation of agriculture, Soviet style industrialisation and central planning from Moscow (Lavigne, 1999).

In 1991, Lithuania became independent and since then has faced up to a number of fundamental changes. The Government adopted comprehensive stabilisation and reform programmes, which led to the rapid development of a market economy (Estrin, 1994). An extensive privatisation programme has transferred around 50% of small and medium enterprises from state property to the private sector and most trade has gradually shifted from former Soviet to western markets and in particular those of the European Union (Lavigne, 1999).

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One of the major problems that Lithuania had to face (along with the other Baltic State ex-USSR Republics of Latvia and Estonia) was the fact that the country was heavily dependent upon external energy both for domestic consumption and transit revenue, and this was to a very large extent Russian oil and gas. In response to Lithuania's declaration of independence Russia initially refused to supply oil either for domestic consumption or transit, but nevertheless, after considerable negotiation, a compromise was found. The loss of many of their port facilities on the Baltic Sea coast (in particular Ventspils in Latvia and Klaipeda in Lithuania), meant that Russia became largely dependent on the Baltic States for its oil transit from this region and therefore the establishment of good relations between the countries was of a vital importance. This uncomfortable situation, with Russia dependent on its ex-Republic neighbours for oil transit logistics and the Baltic States themselves dependent on Russia for a considerable proportion of their overseas earnings and domestic energy needs, has driven the changes and policies that this paper analyses.

2. The Russian oil market

The Russian oil industry has been analysed in many different ways since the breakup of the Soviet Union, mainly because this opened many new investment opportunities for the established oil and gas companies. However, it is also very interesting in itself as one of the major oil markets in the world and has been widely discussed. Locatelli (1995) focused on the:

> 'economic conditions concerning the constitution of Russian oil companies in an uncertain environment'.

Balabanov (1998) outlined the main issues in

> transition from a centrally planned energy integration to the diversification of energy markets

and again Locatelli (1999), analysed how the

> '…fall in international oil prices, has clearly shown the structural weaknesses in an oil industry that is still conspicuously beset by heavy production costs…'.

In 2001, Sagers discussed Russian crude oil production including detailed analysis of reserves, organizational structure, foreign investment, pricing policy, taxation, legislation and production-sharing agreements. More general overviews on the oil industry were provided by Cofala (1994) and Giraud (1995).

Meanwhile, oil and gas exports generate nearly half of Russia's hard currency revenue and therefore represent the most important industrial sector in the country by far (Petroleum Economist, 1999a). While aggregate crude oil exports declined between 1989 and 1998 (Energy Information Administration, 2000a), Russia's overall export structure also underwent drastic changes which meant that the oil sector retained its dominant position.

Oil exports to the countries outside the former Soviet Union (FSU) increased rapidly from 1992 to 1998 (Energy Information Administration, 2000b) and reached 337 million tonnes by 2001—an increase of 7.69% over 2000. The first 7 months of 2003 produced figures of 275 million tonnes which was some 11.7% greater than the same period of 2002 (Alexander's Gas and Oil, 2003a). The main reason for this increase was the higher price available in these markets and therefore increased hard currency earnings. Most of Russian oil exports are destined for Western European customers, including the United Kingdom, France, Italy, Germany and Spain.

About 60% of Russia's crude exports are shipped by tankers and nearly 50% of these shipments depart from the Novorossiysk terminal on the Black Sea. The rest transit via the other two Black Sea ports at Tuapse (Russia) and Odessa (Ukraine) and the Baltic Sea ports of Ventspils (Latvia), Tallinn (Estonia) and Klaipeda (Lithuania). The remainder (40%) of crude oil is exported via the Druzba (Friendship) pipeline, which passes through Ukraine on the way to Slovakia, the Czech Republic, Poland, Hungary and Germany (Energy Information Administration, 2000b).

Since 1991, after the break up of the Soviet Union, one of the major concerns for Russia was the loss of oil export terminals on the Baltic Sea coast which forced Russian oil companies to some extent, to use the facilities of oil terminals in particular in Latvia and Lithuania. Attempts to divert oil exports through Russian Black Sea ports and the Druzba Pipeline were thwarted by a combination of capacity constraints and difficulties in the logistics of transporting crude oil from some Siberian fields to exit points other than those traditionally used on the Baltic Sea coast.

The Russian government has been well aware of the political and economic significance of the dependence upon Lithuanian and Latvian ports. The first plans by the Russian state to build an alternative oil export terminal on the Baltic Sea coast date back to 1993 when the Russian Government decided to restore exports via the Gulf of Finland (Oil and Capital, 2001a). However, Klaipeda and Ventspils possessed considerable advantages in that they were ice-free (unlike any ports to their east including all actual and potential locations in Russia) and of course, the facilities were already there. Thus, there remained an uneasy co-dependency in terns of oil transit between the Baltic States and Russia. Meanwhile a rivalry between Lithuania and Latvia also emerged as the former recognised the economic and political power that the latter possessed with its larger and more flexible facilities in the Latvian port of

Ventspils compared with those in the Lithuanian port of Klaipeda.

In 1997, the Russian Transport Minister Nikolai Tsakh stated that every year Russia lost approximately US$600 million by exporting its cargoes through the foreign ports of the Baltic States (News and Trends in CIS/Russia, 1997). More recently in 2001, 'Transneft' (the Russian state owned pipeline operator) announced that Russia would save up to US$1.5 billion per year in transit tariffs, when it had completed its own oil transit terminal on the Baltic coast at Primorsk (Energy Information Administration, 2002).

2.1. Primorsk terminal, the Baltic Pipeline System (BPS) and the new Murmansk terminal

Since 1997, the Russian state-owned pipeline operator Transneft had planned to build a new port on the Baltic Sea coast at Primorsk (The Moscow Times, 2000), which would handle crude oil, oil products, gas and liquid chemical cargoes within the limits of 45 million tonnes a year. This would be the third largest Russian port on the Baltic Sea.

There have been many obstacles since 1997, which delayed the terminal construction works. Nevertheless, in 1999 the Russian government announced their continued determination to complete the new oil terminal (News and Trends in CIS/Russia, 1999b), convinced that Russia needed its own oil terminal, because it was heavily dependent on exports for budget revenues and at that time, the only access to the Baltic Sea was through the ports of Lithuania and Latvia (News and Trends in CIS/Russia, 1999). The terminal eventually started operating in December 2001 with an initial capacity of 240,000 barrels per day (Energy Information Administration, 2002). In addition to the new terminal, the Russian state also took another decision, to create a new Baltic Pipeline System, which would deliver oil directly to the Primorsk terminal.

The original agreement to build the Baltic Pipeline System (BPS) was signed in 1996 by Russia's state owned oil pipeline operator 'Transneft', two Russian oil companies ('Komitek' and 'Rosneft'), Russian–Belarussian oil company 'Slavneft' and five overseas companies: British Gas (UK), Conoco (USA), Williams International (USA), Neste (Finland) and Total (France) (Petroleum Economist Special Report, 1998). The interest of overseas companies has fluctuated with the collapse of the Russian economy in 1998 (The Moscow Times, 1998), and with the improved economic situation (and resultant improved oil price) since then between 2000–2001 (Sagers, 2001).

The BPS was planned to be a 2700 km long network of pipelines connecting Kharyaga in the Far North of Russia and the new terminal at Primorsk (Energy Information Administration, 2002). The major Russian oil exporting company LUKoil is also supporting the BPS, despite the fact that a big share of LUKoil's exports moves through the Baltic ports and this has caused extra concern in Lithuania as it suggests that these exports may well move in the near future to the Russian outlet (Oil of Russia, 2001). The BPS was opened in 2002 and by the end of 2003 was expected to increase annual capacity from its initial 12 to 18 million tonnes. However, almost immediately plans were announced by Transneft to increase capacity further to 30 million tonnes to accommodate the predicted growth in crude oil exports (Pravda, 2003).

Meanwhile, an offshore terminal capable of transhipping around 5.4 million tonnes of crude oil annually was opened in May 2003. Owned and operated by the Murmansk Shipping Company, the terminal is located in the far north of Russia and was planned to complement the other Russian owned and operated oil terminal facilities including those at Primorsk. Maximum tanker size is 150,000 tonnes but the facilities can operate 24 h a day and the terminal is well protected from severe weather that often affects the region. The terminal is the first in the Kola Bay and is dedicated to exports by the Yukos oil company. By the end of 2007, the terminal is planned to be linked to a new 3600 km pipeline system linking the new facility to the existing network (Alexander's Gas and Oil, 2003b).

3. The Lithuanian oil industry

Oil exploration in Lithuania began in 1958 and since then more than 400 wells have been drilled and 19 oil fields discovered (The Baltic Times, 2001). Nevertheless, oil resources in Lithuania are too small to meet the country's domestic demands for oil products and therefore a substantial amount of crude oil has to be imported.

In addition, during Soviet Union times, Lithuania was an important region mainly because of its oil industry and the facilities it provided for the export of crude oil to hard currency earning markets (The Baltic Times, 2001). It has a number of facilities, which were built in order to provide the Baltic region with required oil products but more importantly to facilitate oil transit. These facilities included a major oil refinery, a network of pipelines, storage facilities and port transfer facilities.

Since Lithuania became independent in 1992, the oil industry has faced tremendous changes. It was split early on by the new Lithuanian Government into three sectors: the oil refinery Mazeikiu Nafta, the Port of Klaipeda oil terminal Klaipedos Nafta, and the crude oil pipeline Naftotiekis which connects in particular the refinery at Mazeikai with the terminal at Ventspils

in Latvia and the Russian oil pipeline network which in turn is connected to the major oilfields in Siberia and beyond. However in October 1998 the president of Lithuania Valdas Adamkus signed a law reorganising Mazeikiu Nafta and Naftotiekis and creating Butinges Nafta, a new crude oil import/export terminal on the Baltic Coast which would enable Lithuania to obtain crude oil supplies from other sources than Russia. The reorganisation created a joint-stock company AB Mazeikiu Nafta by merging all three major institutions (East European Energy Report, 1999).

3.1. Mazeikiai oil refinery

Mazeikiai crude oil refinery started its operations in 1980 (Randburg Report, 2002), but it is still the most modern refinery in the Baltic region and was the only refinery in the Baltic USSR. According to a survey carried out by the Mazeikiai research department (1998), the refinery can be ranked fifth of other refineries in Finland, Poland, Czech Republic, Slovakia, Hungary, Belarus, Russia and Ukraine, based on the quantity and quality of produced oil (East European Energy Report, 2000). Mazeikiai has a capacity of producing 14 million tones of products per annum.

Until 1991 (under the Soviet Union), Mazeikiai oil refinery supplied all the oil products required by Lithuanian domestic consumers and also a large Soviet hinterland (Lloyd's List, 1999a), including distillate required by Latvia and most of the gasoline required by Estonia. Around 14% of the refinery's product mix was also exported to other neighbouring regions. Due to its convenient location and technological advantages, Mazeikiai oil refinery was highly competitive with other regional refineries (The Russia Journal, 1999) and as a consequence exercised a significant political influence both before and after the collapse of the Soviet regime in 1992.

Mazeikiai is the only crude oil refinery in the Baltic States and was designed to achieve a greater conversion of crude oil to higher value distillates than any other refinery in the FSU west of the Urals. Operating in the 'conversion mode' at 8 million tones per annum, it is the only refinery in the region, which could be viable at Western Europe refinery-grade product and crude oil prices (Energy Information Administration, 2001).

Since Lithuanian independence there have been a number of problems for the new Baltic country arising from the fact that the only crude oil supplier for the refinery was Russia, through a branch of the Druzba pipeline. A solution for this dependency for Lithuania was found in 1996, when the Lithuanian Government took a strategic decision to build a new oil import/export terminal at Butinge on the Baltic coast (Petroleum Economist, 1998) and a pipeline connecting it with the Mazeikiai refinery. In 1999 the new oil import/export terminal in Butinge started operating allowing both the export, but more politically significant, also the import of crude oil and oil products to Lithuania (Klaipeda Port News, 2000). The dependency on Russian oil supplies for the largest generator of overseas income in Lithuania was broken.

3.2. Butinge oil terminal

Butinge terminal is the most modern branch of Mazeikiu Nafta, designed according to the most recent American Petroleum Institute (API) and Lithuanian standards (Butinge Terminal, 2000). It is a reverse oil import/export terminal built on the coast of the Baltic Sea, which is all year ice-free and offers opportunities for exporting oil from CIS (Commonwealth of Independent States) countries and importing light or medium oil from Western countries. The Single Mooring Buoy (SPM) with the Catenary Anchor Leg Mooring (CALM) system is located 7.5 km from shore and in 20 m water depth. It is connected with the Butinge terminal by a 36-inch diameter oil pipeline, which was designed for reverse flows (Butinge Terminal, 2000).

The terminal consists of the onshore pipeline connecting Mazeikiai oil refinery and Butinge terminal, Mazeikiai pump station, terminal facilities and a tank farm in Butinge, an offshore pipeline and SMS buoy. The tank farm capacity is 150,000 m^3, but there are plans to extend it by another 150,000 m^3 and build an oil product import/export pipeline (News and Trends in CIS/Russia, 2000).

The main competitor for Butinge oil terminal is Ventspils port in Latvia (Ventspils Nafta), which was the main facility used for the export of Soviet crude oil to various Western countries and remains to this day the main oil outlet for Russian oil in the Baltic Sea (The Baltic Times, 1999). It can accommodate tankers up to 12.4 m draft and its total export capacity is about 30 million tonnes per annum (Lloyd's List, 2000).

3.3. Oil pipeline Naftotiekis

Following Lithuanian independence, the oil pipeline pump station in Birzai and the pipelines served by it, became a state-owned Transportation Company—Naftotiekis. Currently, the company serves around 500 km of crude oil and product pipelines, which include two pipelines of 87.4 km for crude oil and oil products between Polock and Ventspils, 225.5 km of crude oil pipeline between Polock and Mazeikiai and 91.5 km of crude oil pipeline between Mazeikiai and Butinge. There are also plans to build a product pipeline connecting Mazeikiai and Butinge (http://www.nafta.lt/).

In 1998, Naftotiekis transported a total of 14.5 m tonnes of crude oil, 3 million tonnes of diesel oil to Ventspils and 6.3 million tonnes of crude oil directly to Mazeikiai. The Russian companies transporting most of the oil using Naftotiekis are the oil majors LUKoil, Ozako Tupeks, Sidanko and Yukos.

3.4. Oil terminal Klaipedos Nafta

Until 1999 the oil terminal in the port of Klaipeda was mainly used for exporting fuel oil from refineries in Russia, Belarus and Ukraine. However, the terminal has been modernized and the port access facilities improved and since 2000 can be used as an import terminal, as well as being capable of handling a range of products, such as technological fuels, marine fuel oil, diesel fuel, vacuum gas oil, gasoline and jet fuel (Jura, 2000). It was generally considered to be

> …one of Europe's most advanced and best-equipped terminals (Oil and Capital, 2001b, p. 36).

The requirement for terminal capacity at Klaipeda mainly depends upon the choices made with respect to the output of the Mazeikiai oil refinery, and Russian and Belarusian transit, which in turn of course, is dependent upon a range of other issues including the world price for oil, the political situation in Russia and a number of other potential indeterminables. In 2001, Klaipedos Nafta handled 7.1 million tonnes of oil products, 16% of which were Mazeikiu Nafta production, 38% Belarusian transit and 46% Russian transit (Klaipedos Nafta, 2001).

3.5. The structure of the oil industry and privatisation

The first talks about privatisation of the oil industry in Lithuania started in 1996, when the Government took a decision to create a public company, Lietuvos Nafta, which was to consolidate the efforts of four main players in the industry, including Mazeikiai oil refinery, Butinge terminal (when opened), the oil pipeline company Naftotiekis and a chain of petrol stations Lietuvos Kuras. A main objective was to be the Lithuanian State, a number of Russian oil suppliers and Western oil companies each were to hold one-third ownership of Lietuvos Nafta. However, the plan for Lietuvos Nafta was abandoned due to changes in the leading party in the Lithuanian Government. Thereafter the history of privatisation of the Lithuanian oil sector became ever more complex.

At the beginning of 1998 the Lithuanian Government opened negotiations with the US based company Williams International, about potential privatisation. Williams International is specialised in building pipelines and telecommunications and was rumoured to have close links with senior politicians in Lithuania (Lloyd's List, 1998). The company had investments in more than 29 countries in Asia, Latin America and Europe (News and Trends in CIS/Russia, 1998).

On 16 July 1998, Williams offered to buy a 33% stake in Mazeikiu Nafta, Butinges Nafta and Naftotiekis. However, agreement was not reached, as the Lithuanian Government could not accept the offered price.

On 8 October 1998, the president of Lithuania Valdas Adamkus signed a law on the reorganisation of Butinges Nafta, Mazeikiu Nafta and Naftotiekis. This involved creation of Mazeikiu Nafta by merging all three major companies involved in the Lithuanian oil industry.

On 14 April 1999, Lithuania's State Defence Council approved the Government's plan to privatise all three enterprises by selling 66% of shares to a foreign investor (News and Trends in CIS/Russia, 1999b).

In July 1999, Lithuanian president Valdas Adamkus signed amendments to the oil privatisation law, allowing Williams International (through a local subsidiary) to take up to 66% ownership of Mazeikiu Nafta if they wished (News and Trends in CIS/Russia, 1999c). The Lithuanian Parliament passed the legislation.

In September 1999 the Lithuanian Government was asked to sell a 12.5% stake in Mazeikiu Nafta to a major crude oil supplier from Russia—Yukos. In return, Yukos offered an annual of supply 1.7 million tonnes of crude oil to Mazeikiai refinery and to export 2.5 million tonnes annually though the Butinge terminal (Lietuvos Rytas, 1999). However, the Lithuanian Government failed to show any interest. Meanwhile, on 27 October, 1999 Lithuanian Prime Minister Rolandas Paksas resigned due to 'his opposition to a controversial oil industry privatisation' (Lloyd's List, 1999b).

On 29 October 1999, the deal was finally closed when Williams International and representatives of the Lithuanian government signed the protocol.

4. European Union influence in the energy affairs of Lithuania

The role of the European Union (EU) in Lithuanian energy affairs cannot be overlooked as Lithuania is an accession country and expects to enter the EU in 2004. As such it is required to meet a number of EU energy laws and to comply with a variety of policy measures.

A general overview of EU energy policy is provided by the European Parliament Briefing No.43 (1999). The paper provides an outline of

> …problems relating to enlargement as far as energy policy is concerned (European Parliament, 1999).

More specific issues concerning Lithuania, such as relations with Russia, privatisation and progress, are addressed in a survey published by The Financial Times (2001a) and also in European Parliament Briefing No. 11 (European Parliament, 2000).

European Union accession has been a major issue in Lithuania for a number of years and in June 2000 the Chief negotiator for Lithuania's Accession to the EU stated that the EU is:

> …a model for democratic, economic and social reforms in Lithuania (The European Union from a Lithuanian Perspective, 2000).

Since regaining its independence the country has made significant progress in terms of economic stability, reduction of fiscal and external imbalances, privatisation and especially in the liberalisation and restructuring of the energy sector (The Association Council, 2001). The latter is presented in detail in the 'Position Paper of the Republic of Lithuania' (2000), which analyses Lithuania's status where the internal market and competitiveness, efficient use of recourses and nuclear power issues is concerned.

The negotiations for EU accession, have had a major impact upon Lithuania's energy policy and to a large extent, upon oil policy (Financial Times, 2001b). It was therefore one of the main factors influencing the structure of research carried out and was expected to feature in the review of dominant themes in Lithuanian oil policy in the past few years.

5. Content analysis

There are three categories of research—qualitative, quantitative and a combination of both. Any research method that can be adopted for a specific study will fall in to one of these categories.

Qualitative research mainly concentrates on the importance of the context in understanding the issue (Neuman, 1997), as well as requiring the issue to be viewed in the context of the case (Holloway, 1997). Gordon and Langmaid stated that this approach is best used when the results will

> …increase understanding, clarify issues, generate hypotheses and expand knowledge (Gordon and Langmaid, 1988).

Quantitative research defines the relationship between variables and involves examining various issues in order to 'understand the patterns and relationship between variables' (Abdel-Fattah, 1997). The advantages of this type of approach are the reliability of findings and suitability for

> identifying general patterns … testing theories and making predictions (Ragin, 1994).

However, both types of research (qualitative and quantitative) despite being very different, are complementary and 'most sophisticated research designs contain elements of both' (Abdel-Fattah, 1997). One such method is content analysis.

This research was aimed at establishing the dominant themes within the Lithuanian oil industry since independence with an ultimate objective of directing future oil policies for the country with particular respect to oil transit. A technique to identify these dominant themes was needed that would take account of the widest possible opinion of the major issues within the industry. For this reason content analysis was chosen as it can be applied to all types of source material and has the ability to integrate the benefits of both qualitative and quantitative measures of opinion and discussion.

Content analysis has been defined as

> …a systematic, replicable technique for compressing many words of text into fewer content categories based upon explicit rules of coding (Stemler, 2001).

As such it provides an excellent way of reducing large quantities of text—such as that produced on Lithuanian oil policy over the past few years—to a much restricted number of main themes, but done so in a way that is consistent and logical. Essentially, it involves collecting the widest range possible of texts with relevance to the study and then analysing the content of these texts by word count, mention, paragraph association or title to assess the frequency of occurrence of topic (Holsti, 1969). These frequencies can then be used in the selection of themes for further analysis. Clearly important are the selection of texts (initially) and methods used to extract topics—guidelines and rules exist for both.

Content analysis was selected because it was considered to be the most appropriate method for deriving the dominant themes in Lithuanian oil policy. It is a widely recognised, effective, reliable and relatively easy method to apply, which has been used in a large number of disciplines to identify the major issues that characterise an area of study.

In order to apply a certain research method within a particular study, a number of issues should be considered, for example, difficulties that will arise or whether there will be a substantial amount of information available. Content analysis has advantages in that it is a method that generates both quantitative and qualitative results, which can be replicated if it is required and also provides clear definition of the main themes for the topic. An additional advantage that it had over other methods was, that it was possible to use the material published in other languages (in this case Russian, Latvian and Lithuanian) as well as in English.

5.1. Use of content analysis

Content analysis has been used in a very wide range of studies through a variety of disciplines but only Cullinane and Toy (2000) have used the technique in a logistics or energy context. They applied the technique to identify attributes in freight route/mode choice decisions in international trade in the Baltic Sea region. The outcome was that

> …the results … confirm(ed) what most would expect to be the most often considered facts or influences in freight route/mode choice decision making (Cullinane and Toy, 2000).

Overall content analysis can be applied

> …to study the content of any book, magazine, newspaper, individual story or article, motion picture, news broadcast, photograph, cartoon, comic strip, or a series or combination of any of these (Budd, 1967).

Simple random sampling within content analysis was chosen as it is the most widely employed method, and used to identify the main themes that have dominated Lithuanian oil policy since independence. The sampling population for this study included a very large range of publications, such as leading newspapers and commercial as well as academic journals in the United Kingdom, Lithuania, Latvia, Estonia and Russia, internet sites related to the oil industry and other relevant topics, book chapters, a number of brochures and reports from interested companies and research papers from relevant conferences. The reason for selecting a large sampling population was outlined by Carney (1972), when he stated that 'the greater the sample of data, the less the risk of sample errors'.

6. Results of the content analysis

After, all the required steps to establish valid and reliable content analysis were undertaken, over 300 publications from 1991 to 2001 were examined in order to complete the analysis for this study and eight categories were derived to accommodate all variables which were relevant to the project. Two types of recording units are normally used to represent the findings of content analysis—single words (manifest content) and items (latent content) (Krippendorff, 1980). The results are presented in Tables 1 and 2.

Table 1 shows the results obtained by manifest analysis, using a single word as a recording unit. Four dominant themes were determined

Butinge oil terminal: was found to be the most important issue, when determining Lithuanian oil policy. It was a major concern for a number of years, as Lithuania's oil supply was completely dependent on Russian oil suppliers. The content analysis results show that it is of a vital importance to the country and will be a major factor when determining policy.

Table 1
Results of manifest analysis, using a single word as a recording unit

	Category	Number of mentions	Percentage of total mentions	Rank
1.	Privatisation	654	20.0	2
2.	Modernisation	59	1.8	8
3.	Butinge oil terminal	789	23.9	1
4.	Lukoil	302	9.2	6
5.	Yukos	328	9.9	5
6.	Russian oil supply/transit	192	5.8	7
7.	Baltic Pipeline System	538	16.5	3
8.	European Union Accession	426	12.9	4
Total		3288	100%	

Privatisation: was the second biggest issue. It is a process, which started in 1995 and was still incomplete in 2003 as the state retained partial ownership. The privatisation of major oil company Mazeikiu Nafta, pipeline system Birzu Naftotiekis and the oil terminal at Butinge had a very big influence over Lithuania's economy and its politics.

The Baltic Pipeline System (*BPS*)*:* is another concern, which will have a major impact upon Lithuania's oil policy, when it is completed. Plans to create such a pipeline were initiated by the Russian Government in order to avoid high prices charged by all Baltic States' ports for Russian oil transit.

European Union Accession: It is the fourth major issue derived from the content analysis. Since Lithuania became independent, it was aiming to become a member of the European Union and due to the progress made over these years Lithuania is now an associate member which should progress to full member in 2004. Therefore, it is a factor which critically influenced many decisions taken by the Lithuanian Government, including those concerned with the oil industry legislation.

In addition to manifest analysis, in order to determine more accurate results, latent analysis was carried out and the findings are presented in Table 2. This type of analysis is more dependent on the opinion of the person who is conducting the study, as the decision whether the category is represented by the theme of the publication lies with him/her. Therefore it might be considered to be less objective than manifest analysis, but nonetheless in this case every precaution was taken to avoid any misinterpretation and only publications, where the theme was clearly established, were included. A total of 230 publications was considered to be appropriate for inclusion in this analysis.

Table 2
Results of latent analysis using item as a recordng unit

	Category	Articles with the dominant theme	Percentage of total mentions	Rank
1.	Privatisation	41	17.8	3
2.	Modernisation	4	1.7	8
3.	Butinge oil terminal	47	20.4	2
4.	Lukoil	26	11.3	5
5.	Yukos	31	13.6	4
6.	Russian oil supply/transit	9	3.9	7
7.	Baltic Pipeline System	53	23.0	1
8.	European Union Accession	19	8.3	6
Total		230	100%	

The four most important categories derived from this analysis are, the Baltic Pipeline System, Butinge oil terminal, oil sector privatisation and Yukos. The first three categories are the same as those determined by manifest analysis, except that the ranking of them is slightly different. However, in this case instead of EU accession, another category named Yukos emerged fourth in the rank.

Yukos: this category represents the major issues concerned with the Russian oil company Yukos, which has been heavily involved in the oil business of Lithuania. It was also one of the candidates for investment in Mazeikiu Nafta. However initially it was turned down by the Lithuanian Government as US based Williams International was chosen for the deal. Nonetheless in 2001 it was very seriously considered as a potential company to acquire a 33% share in Mazeikiu Nafta and its political role in the business remains important.

Despite the fact, that one of the four categories established by latent analysis was different from those that emerged from manifest analysis, the results generally have a very high level of correlation. This was considered to be a significant indicator of the validity and reliability of content analysis in this case.

7. Conclusions

The content analysis provided a largely objective method of deriving the dominant themes which have influenced crude oil transit policy in Lithuania since independence. Many of these themes were predictable but the content analysis provided a mechanism for their justification in quantitative terms as well as revealing some interesting results in terms of rankings. Thus, the manifest analysis showed that the development of the Butinge terminal and the implications of privatisation of the industry were the major themes viewed by those writing about the industry and were of greater significance than as modernisation or more surprisingly perhaps, the issue of Russian oil supplies. The latter was expected to be of extra significance since much of the investment in the sector and its sale to Williams International of the USA was driven by the political (and practical) need to become independent of Russian suppliers. It was also anticipated, (wrongly as it turned out) that the role of European Union accession would have played a more significant part in the issues derived. In fact in moving from the manifest to the latent analysis, the significance of this issue actually dropped in rank from 4th to 6th perhaps reflecting a failure of those commenting on the sector to recognise the impact that accession would have. It might also have reflected that many commentators at the time of the research were to be convinced that, Lithuania would join the EU in the foreseeable future.

The use of content analysis in assessing the major themes within crude oil transit in Lithuania was a useful approach that could be adopted for other regions, for example, Russia, Latvia or for the Druzhba Pipeline, which would provide an interesting comparison of views about the sector taking a different perspective in each case. Further research might also extend the work to examine the development of new facilities in the Baltic Sea, particularly those in Russia at Primorsk and elsewhere. Interest in crude oil transit in the Baltic States region remains high due not least to the fact that Russia continues to be a major oil exporter through these countries. Meanwhile, the role of USA based Williams International has now largely ceased in Lithuania as they have sold their interests in the country to the major Russian oil concern Yukos (Lelyveld, 2002).

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