

# AB Igrene

## Corporate presentation



# The company - introduction

- AB Igrene is prospecting for gas and oil in the Siljan Meteoritic Impact Ring.
- The company is quoted on Swedish multilateral trading facility, Aktietorget, and been operating since year 2002
- Igrene has made oil & gas discoveries in several locations in the Siljan Ring and secure exploration concessions covering a large part of the area
- Origin and size is currently analyzed by the Igrene team of international scientists and experts
- In parallel to exploration Igrene production testing identified hydrocarbon wells and evaluating best methods in order to commercialize the proven resources

# Background – the Siljan Ring

- The Siljan Ring is the largest known impact crater in Europe. It was caused by a major meteorite impact 377 millions years ago.
- The powerful impact and subsequent explosion caused major deep faults reaching depths of 15-20km within a diameter of 100km around the impact area.
- The returning pressure from within the earth led the magma to rise up into the centre of the impact crater.
- The local population has since long back observed gas wells and oil. Oil was produced in the Rättvik area for industrial use in the 19<sup>th</sup> century
- Intense research is spent in order to understand the theory and mechanisms behind the presence of hydrocarbons

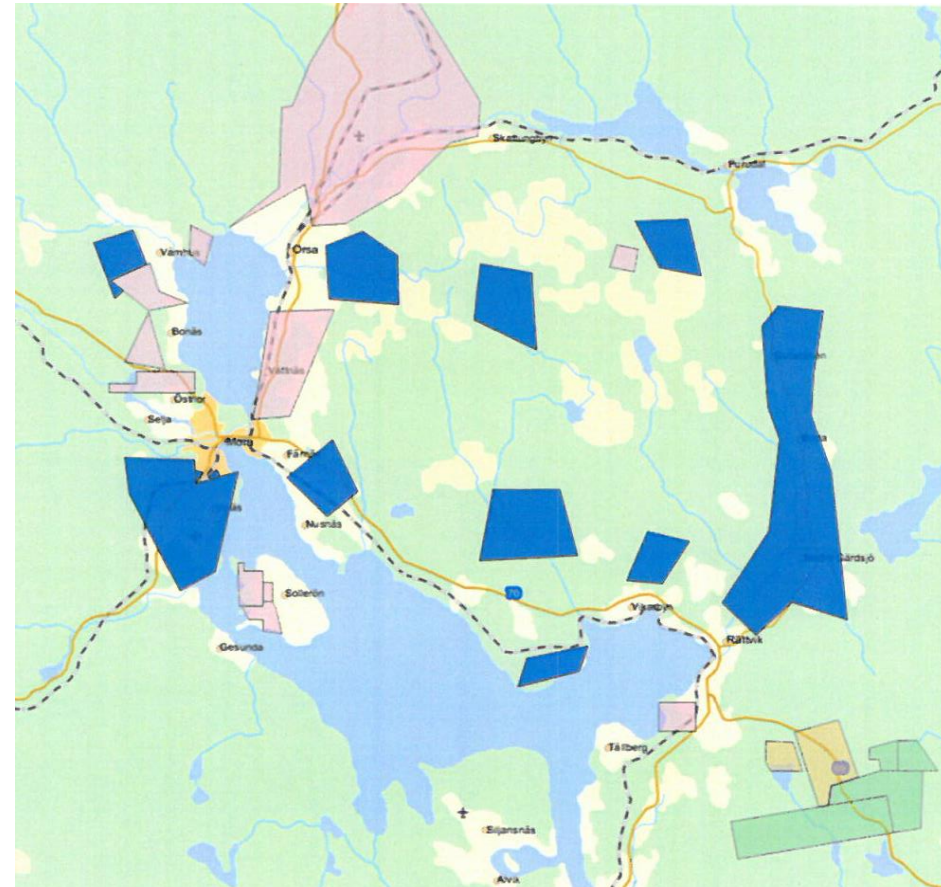


*The impact crater of the Siljan Ring in Sweden*

# Exploration concessions of AB Igrene (publ)

The total area of exploration concessions is 21 651 hektar.

Område och reg.nr	Areal hektar	t.o.m	Avser	Avser år
1 Ryssa, Mora, 107/2009	3 766	2018-06-15	Gas	7-9
2 N:a Gulleråsen, Rättvik, 119/2009	8 155	2018-06-15	Gas	7-9
3 Västbjörka, Rättvik och Mora, 121/2009	610	2018-06-15	Gas	7-9
4 Ryssa nr 3, Mora, 198/2011	42	2017-12-06	Gas och olja	4-6
5 Moldberget, Orsa o Rättvik, 46/2016	953	2019-05-27	Gas och olja	1-3
6 Tövåsen, Rättvik, 47/2016	776	2019-05-27	Gas och olja	1-3
7 Röjeråsen, Mora, 54/2016	2 291	2019-05-31	Gas och olja	1-3
8 Slättberg, Orsa, 55/2016	1 713	2019-05-31	Gas och olja	1-3
9 Grunoberg, Orsa, 56/2016	1 533	2019-05-31	Gas och olja	1-3
10 Färnäs, Mora, 57/2016	1 119	2019-05-31	Gas och olja	1-3
11 V:a Våmhus, Mora, 58/2016	693	2019-05-31	Gas och olja	1-3



# History – key milestones

- **2002** - Mats Budh, Sören Hedberg and Paul Storm starts active prospecting for and research on the potential for geothermal energy in the Siljan ring. .
- **2005** - Sweden geological survey SGU presents its interpretation of electromagnetic air mappings and proposes location for test drillings
- **2008** - Igrene drills two test holes and finds methane gas and warm water (20°C)
- **2009** - Significant amount of methane gas was found in two holes.
- Igrene obtains concessions for 18 areas covering an area of 53.000 hectare in the Siljan Ring.
- **2010** – A core drilling to the depth of 500m southwest of Mora is made.
- Igrene obtains an exploration concession for an additional area of ca 40.000 hectares.
- **2011** - Two further core drillings are carried out down to the depth of 500m
- **2012** - Igrene initiates a cooperation with the French Institute IFPEN
- **2013** - A core drilling was carried out at Vattumyren Mora. Significant amounts of gas were found at the interval 170-510 meters. The drillings had to be stopped due to high gas flow and pressure.
- **2014** – The company goes public, AB Igrene (publ), and becomes quoted at Aktietorget. . The company now has 500 shareholders.
- **2015** – Gas volumes in Mora field was estimated to 0.5-1Bm<sup>3</sup>. The company makes a share issue and uses the capital to finance its first production hole in the Mora area.
- Seismic surveys together with Uppsala University
- ICONOIL Group acquire 5 % ownership in AB Igrene with an option to acquire additional 5%. The option was not exercised.
- The Mining inspectorate in Sweden grants the extension of 3 concessions but denies extension of 7 areas
- **2016** – Production test was at “Vattumyren” was interrupted due to safety reason 35-40 Nm<sup>3</sup> gas per hour. Methane content 97%
- **2017** – Acceleration of production tests at Vattumyren. Well produced 1 000 Nm<sup>3</sup> gas per hour at shallow level. Promising to observe migration of free dry gas.
- Core drilling in “Canada field” confirm promising conditions for Hydrocarbons
- **2018** – The year of breakthrough? Permit process to be started

# After 31 years of exploration we start to see sign of a breakthrough



- 2 promising production wells
- Promising production test, 1 000 Nm<sup>3</sup>/hr of free gas
- High quality natural gas, 96-97 % methane
- Contact and discussions with potential local customers and politicians
- Permit process under preparation

# Estimation of gas volumes in the Mora field

- GRSU estimates that there is 0.5-1bn cubic meter of natural gas in place in the 2 x 2 km field in Mora assuming reservoir rocks down to 690m (the depth of wells until now), gas to liquid ratio (GLR) of 3, and average porosity of 2-3%. Note that so far observed GLR is in the range 18:1 (18 kbm gas per kbm water)
- Should there be reservoir rocks further down due to the force of the meteorite impact, the gas volumes will be larger.
- Also, the current production tests at VM5 points to a higher GLR and contact with free gas
- Furthermore, both GRSU and IFPEN have concluded that the reservoirs are dynamic witch means that gas migration is still taking place

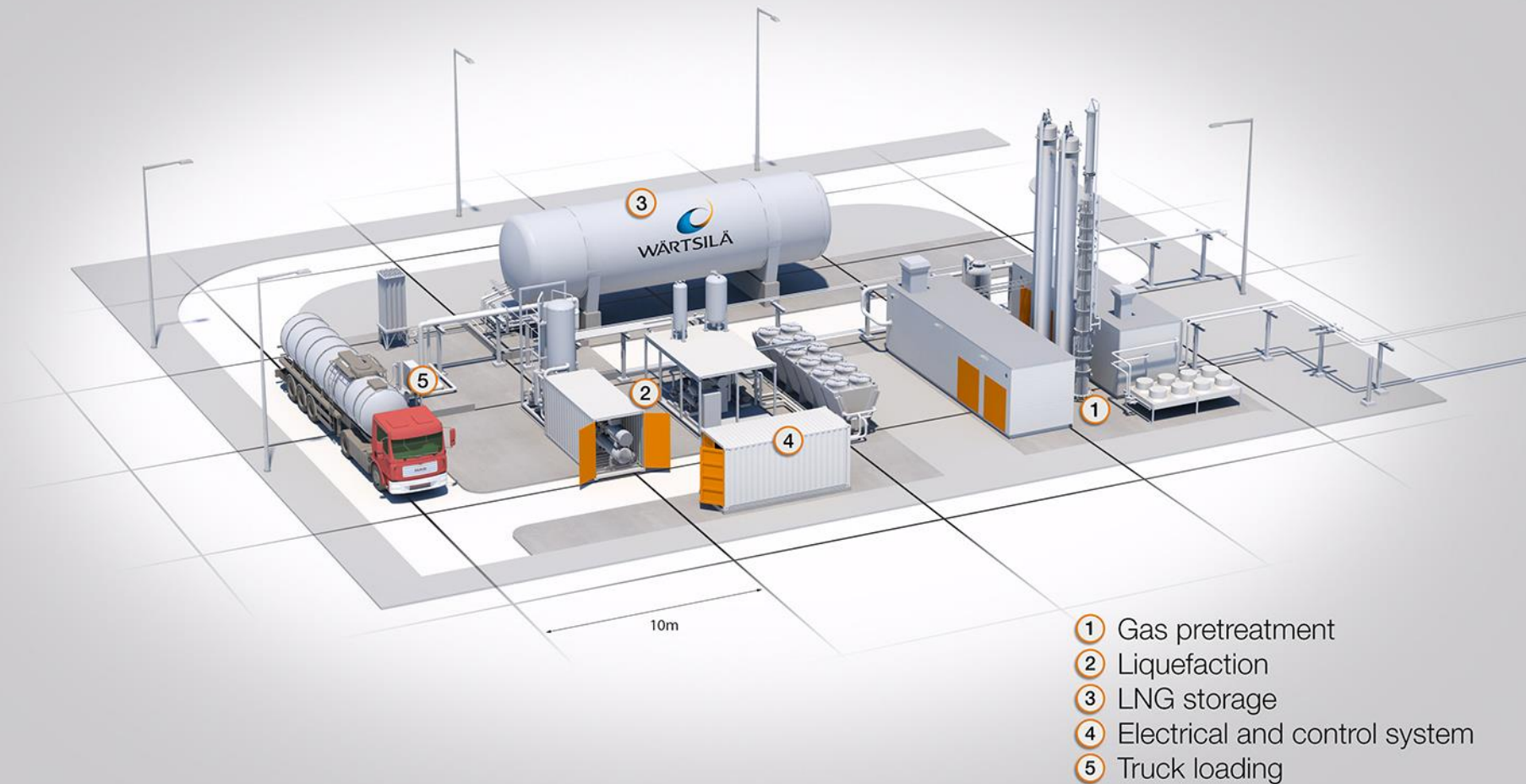


# Gas Market in Dala Region

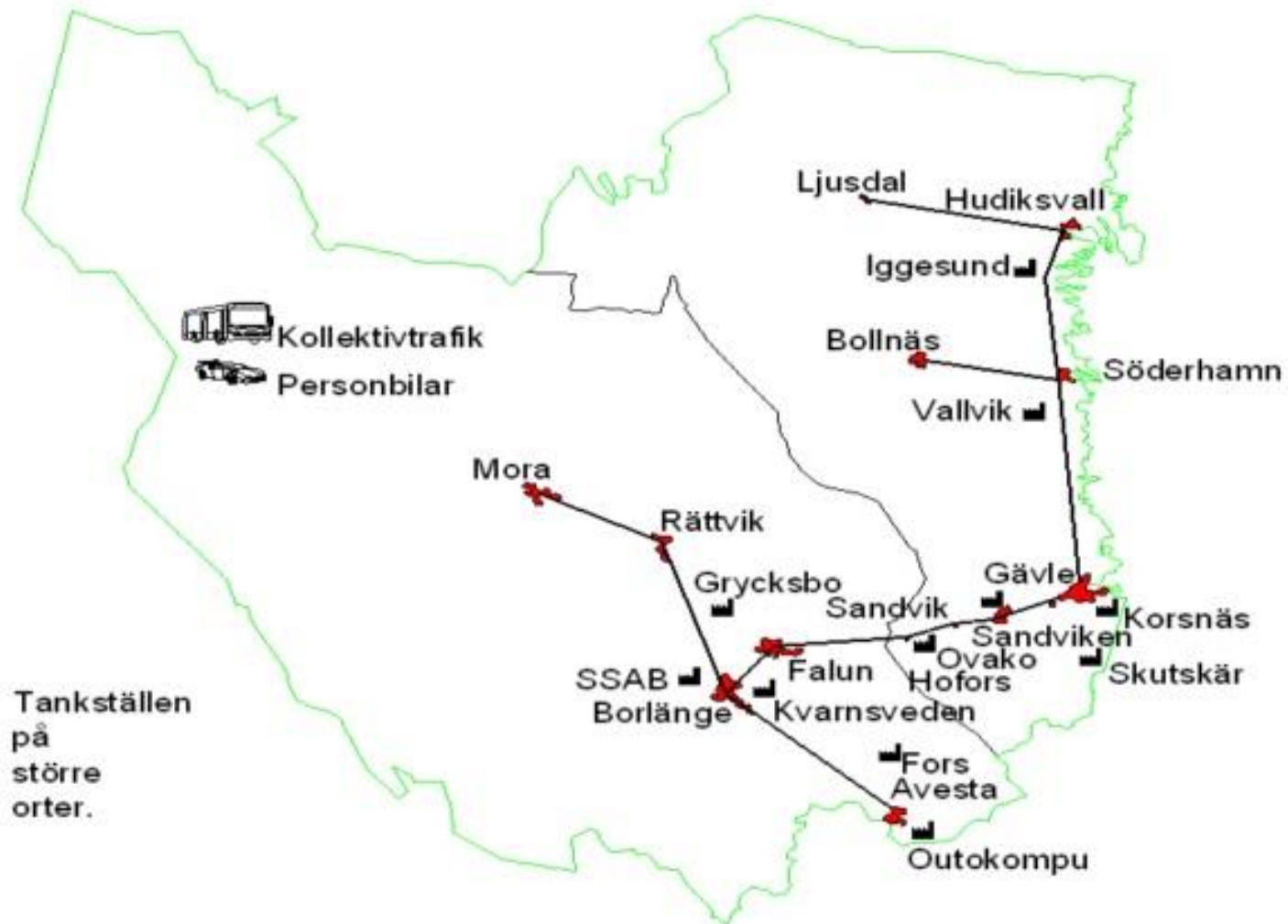
- Major consumer of natural gas is SSAB in Borlänge
  - Currently all gas are imported by ship to Swedish west coast and taken by truck 500 km to Borlänge
- Local energy market
  - Car fuel
  - Heating and electricity
- Base for future energy solutions – fuel cells
  - Reforming methane to hydrogen



# LNG Unit



# Possible future grid of natural gas








# Our environmental deed

- Offload and take advantage of the uncontrolled diffusion of green house gases from The Siljan ring
  - There is a continuous emission of methane gas from the area. The gas is 30-80 times stronger than carbon dioxide
- Offer local produced natural gas to customers in region
- Offer a more enviro-friendly alternative to carbon, diesel and petrol
  - reduce CO<sub>2</sub> emission with 25 % or more
  - Problems with NOx and small particles get negligible
- Establish the base for the hydrogen society – the energy solution of the future

# Organization and key people

- The company has a small organization with a CEO, CTO and two field employees
  - The Company contracts services and hires labor for various purposes. Additional project employment is contracted for field work.
  - The company has engaged an Advisory board consisting of geologist, hydrologists, geochemists, petroleum engineers and professionals with hands-on experience from drilling and field work who are supporting Igrene as needed
- Igrene Advisory Board
- *Erik Steenken*  
Dutch petroleum engineer with extensive experience of gas and oil production.
  - *Vladimir Kutcherov*  
Researcher and professor in the department of Energy Engineering at KTH Royal Institute of Technology in Stockholm and Professor of Gubkin Russian State University for Oil & Gas.
  - *Christopher Juhlin*  
Professor at Uppsala University Geological Institution.
  - *Virgile Rouchon, Eric Deville, Valerie Beaumont*  
Geochemists at the Institut Français du Pétrole IFPEN.

# Igrene supervisory Board

Anders Rydberg	Mats Budh	Karl-Ake Johansson	Anette Berkhahn	Yvonne Vertes von Sikorszky
Chairman	Board member	Board member	Board member	Board member
				
Background/CV				
<p>Former CEO at Cowi AB, consulting engineering company with extensive business concerning processplants for oil &amp; gas and energi.</p>	<p>Founder and former CEO at Igrene, Skistar and Vasaloppet with extensive network connections inside corporate Sweden.</p>	<p>Mining and metallurgical engineer MSC. 40 years experience from different positions including CEO. Presently active as consultant and director.</p>	<p>25+ years of experience as Management Consultant specialized in strategy, business development and sustainability within oil, gas and power (McKinsey, Arthur D Little)</p>	<p>9 years of experience as Management Consultant at Booz, Allen &amp; Hamilton (France, Germany) and 16 years as investment banker at a Swiss bank</p>

# CEO – AB Igrene

Lars Svensson

CEO



## Background/CV

Former MD at Borealis AB  
a leading petrochemical  
company.

Senior positions at Statoil  
gas plants in Norway  
COO at Swedish steel  
companies

MSC in Process  
engineering.

# Shareholder structure

Shareholder	Number of shares	% Share
Paul Storm	915 457	10.55 %
Mats Budh w. family	598 525	6.90 %
Sören Hedberg with family	352 070	4.06 %
Avanza Pension	322 582	3.72 %
Ragnar Krefting and Krefting Finans AB	317 000	3.65 %
Nordnet Pensionsförsäkring	190 359	2.19 %
Claes Gustafsson	120 680	1.39 %
Erik Sverker Arnestrand	112 560	1.30 %
<i>Total large shareholders</i>	<i>2 929 233</i>	<i>33.76%</i>
Other	5 748 437	66.24%
<i>Total</i>	<i>8 677 670</i>	<i>100%</i>

# Financials of AB Igrene (publ)

(Thousand SEK)	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013	2011/2012
Turnover		-	-	-	-	-
Profit after financial items	- 5 942	- 5 983	- 5 363	- 4 501	- 3 977	- 5 476
Total balance sheet	23 682	10 951	13 031	9 619	7 482	11 504
Solidity, %	96	90	84	90	94	96



# Contact information

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