


Enefit



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1. Enefit Overview

Eesti Energia

- Vertically integrated utility (oil shale mining, shale oil production, generation, distribution, supply)
- S&P credit rating of BBB+/stable outlook, Moody's credit rating A3/stable outlook (as at 26 July 2010)
- State owned, Bonds listed on the London Stock Exchange

Oil Shale Mining

- Over 100 years operations, more than 1 bn tonnes of oil shale mined to date
- Reserves of more than 1 bn tons
- Annual production ca. 15-17 M tons
- 4 operating mines: 2 surface, 2 underground
- 3 000 mining employees
- Experienced in remediation 12 000 hectares restored



Oil Shale Power Generation

- Provides 91% of Estonia's electricity, more than 550 TWh produced to date
- 2380 MW of oil shale fired capacity world largest oil shale power plants
- Allows significant electricity exports to Baltic region and Finland
- Ensures security of supply
- Approx 1200 employees



Shale Oil Production

- 50 years of surface retort production, more than 200 M bbl oil produced to date
- Technology involves:
 - Drying unit
 - Rotary kiln reactor
 - Combustion unit for spent shale
- 2 x Enefit140 units (operating)
- New Enefit280 unit under construction



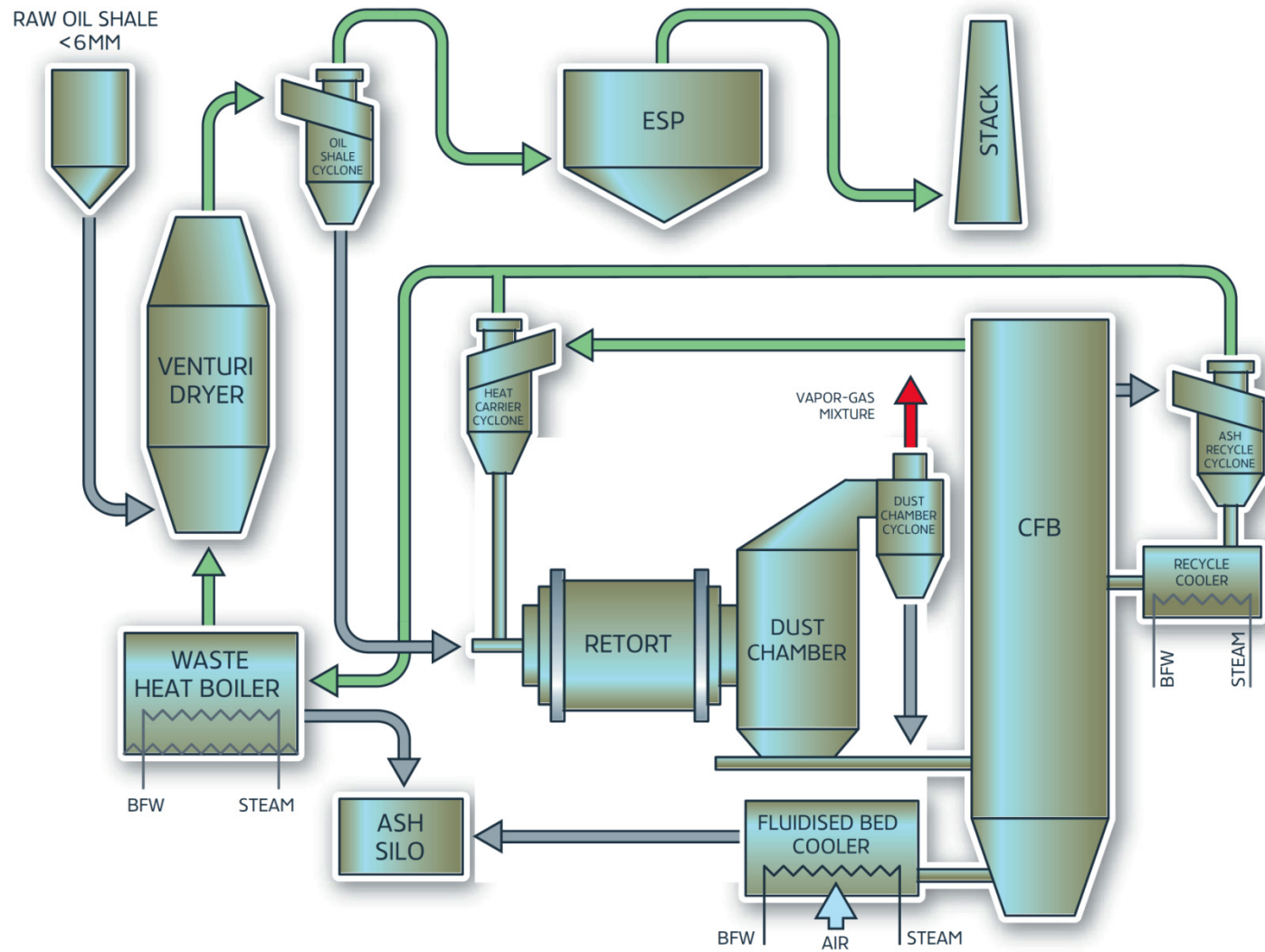
International development

- Enefit is running international development projects based on Enefit280 shale oil production technology
- Jordan 38 000 bbl/d shale oil production, 600-900 MW power production under concession
- USA 50 000 bbl/d shale oil production, resource ownership
- Enefit280 technology is available for licensing



2. Enefit280 process

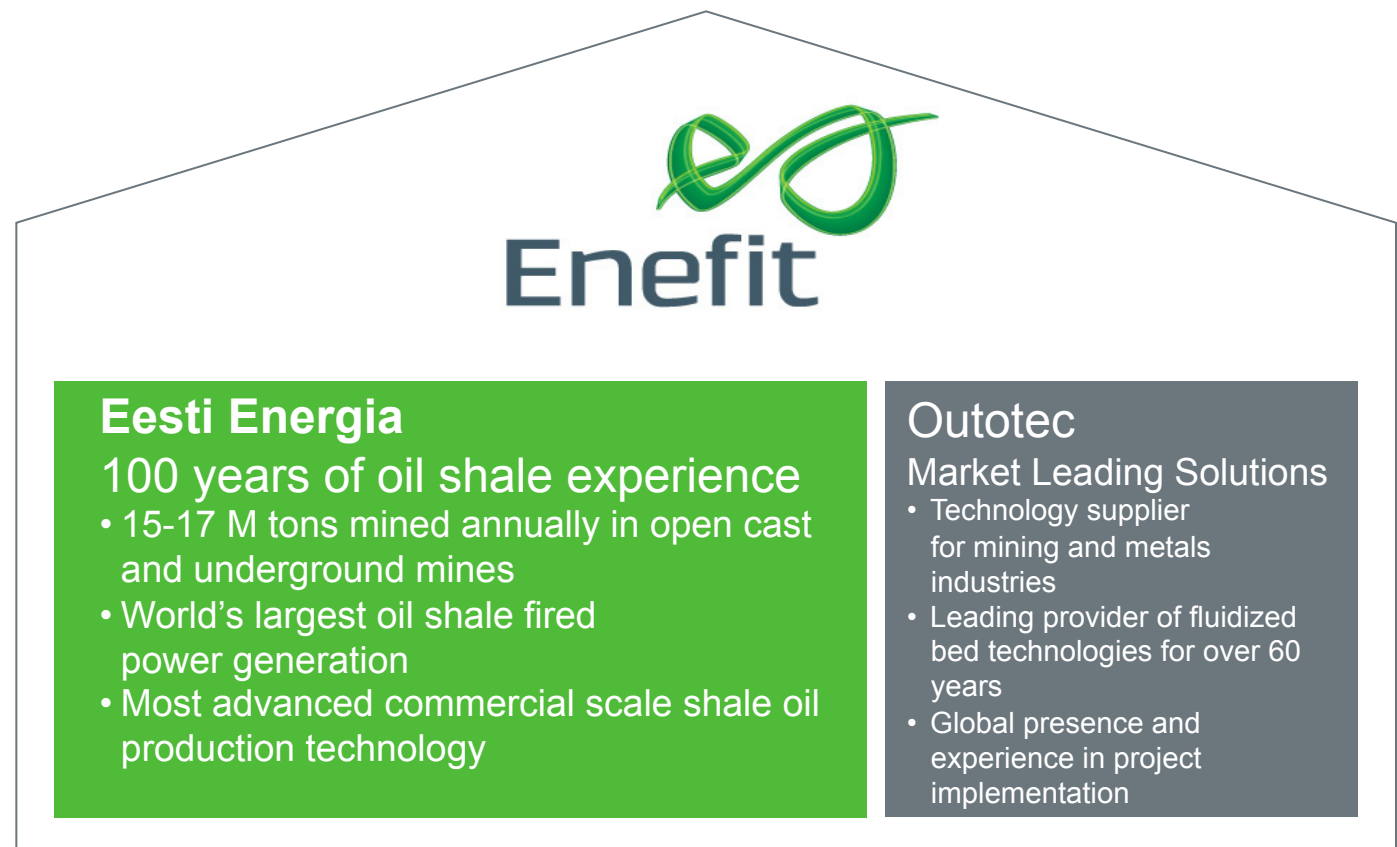
Enefit proprietary technology considered to be best available processing technology



3. Technology development: Enefit Outotec Technology JV

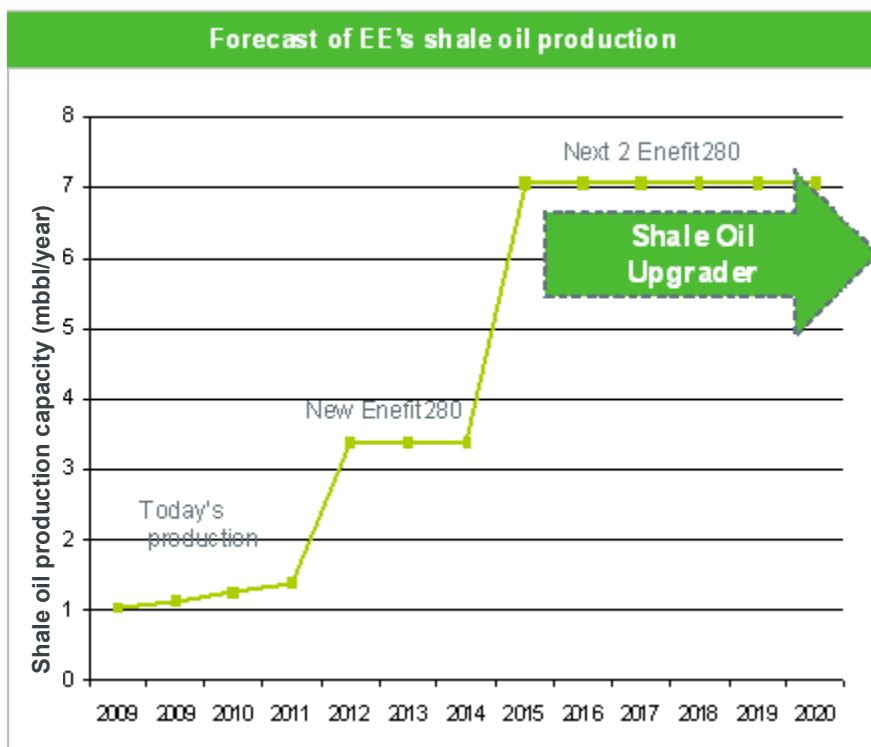
Enefit Outotec technology JV carries out technology licencing and development

- R&D facility in Frankfurt
- Bench scale unit operational
- Pilot plant to be commissioned September 2012
- Pilot to test different oil shale properties, provide emissions data and have sufficient amount of oil for testing



4. Enefit Activities in Estonia

The first application of the new generation Enefit oil plant is currently under construction in Estonia



- ### Design basis for Narva Enefit280
- Our first new Enefit plant will be built in Narva with the investment and operations by Enefit
 - Production figures:
 - oil shale consumption: 2.26 M t/y
 - Oil production: 1,900 M bbl/y
 - retort gas production: 75 M m³/y
 - power output from excess heat: 35 MWe
 - Designed lifetime: 30 years
 - Start-up: 2nd half 2012
 - Construction of two additional Enefit280 units and an upgrader plant will be started in 2013 for commissioning in 2016



4. Enefit280 under construction



April 2011



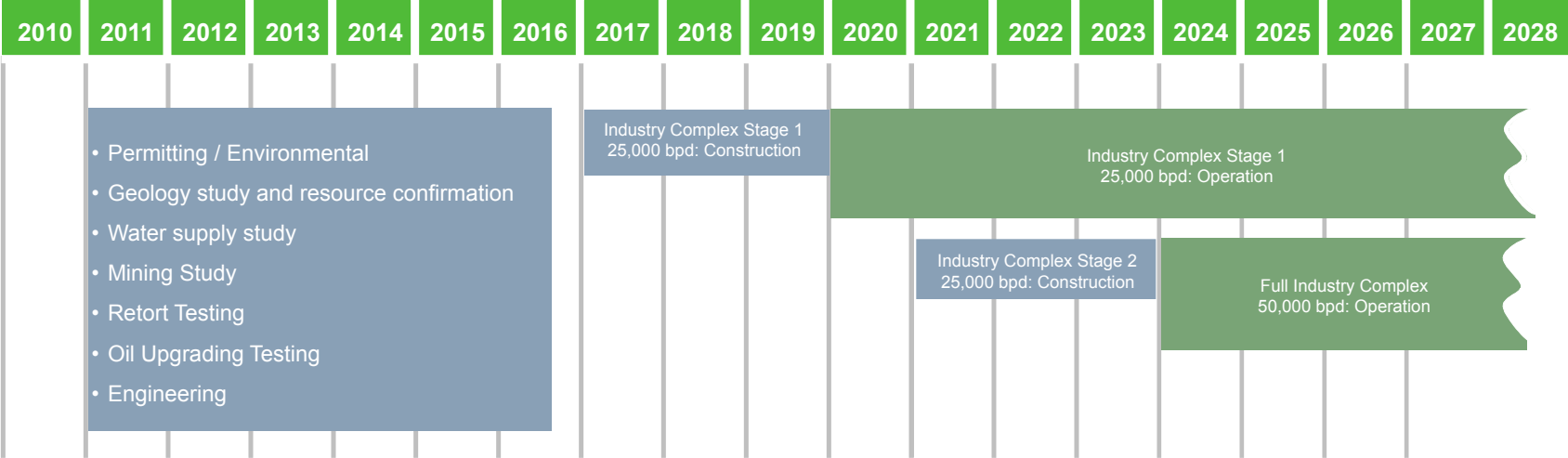
5. Enefit American Oil: Project Overview

Next step is for Enefit to confirm the project development plan and complete the detailed work program

Overview of Key Project Activities	
Mining	<ul style="list-style-type: none">• Combination of surface mining and underground mining• Mining plan to involve not only private but also federal and state lands to be developed• Annual mine production to support oil processing feed: 30 million tonnes/yr• EAO priority is to continue research, demonstration and development on RD&D lease• Our goal is to convert RD&D lease to commercial lease
Processing	<ul style="list-style-type: none">• Enefit280 to be adjusted to Utah oil shale characteristics, upscale to be determined• Annual production: Currently planned for ~ 50 000 bbl/d in 2 phases (25 000 bbl/d each); subject to confirmation• Raw shale oil upgraded to Synthetic Crude Oil (SCO), refinery feedstock• First oil planned for end of 2019/2020
Marketing	<ul style="list-style-type: none">• Transport to market via pipeline• First Target: local Market in Salt Lake City, rail link from SLC to eastern markets
Environment	<ul style="list-style-type: none">• Industry concept optimized for water minimization and recycling• 1.5 years of baseline data collection to start 2011 and full EIS planned• Ash leaching tests and backfilling concept to be developed.

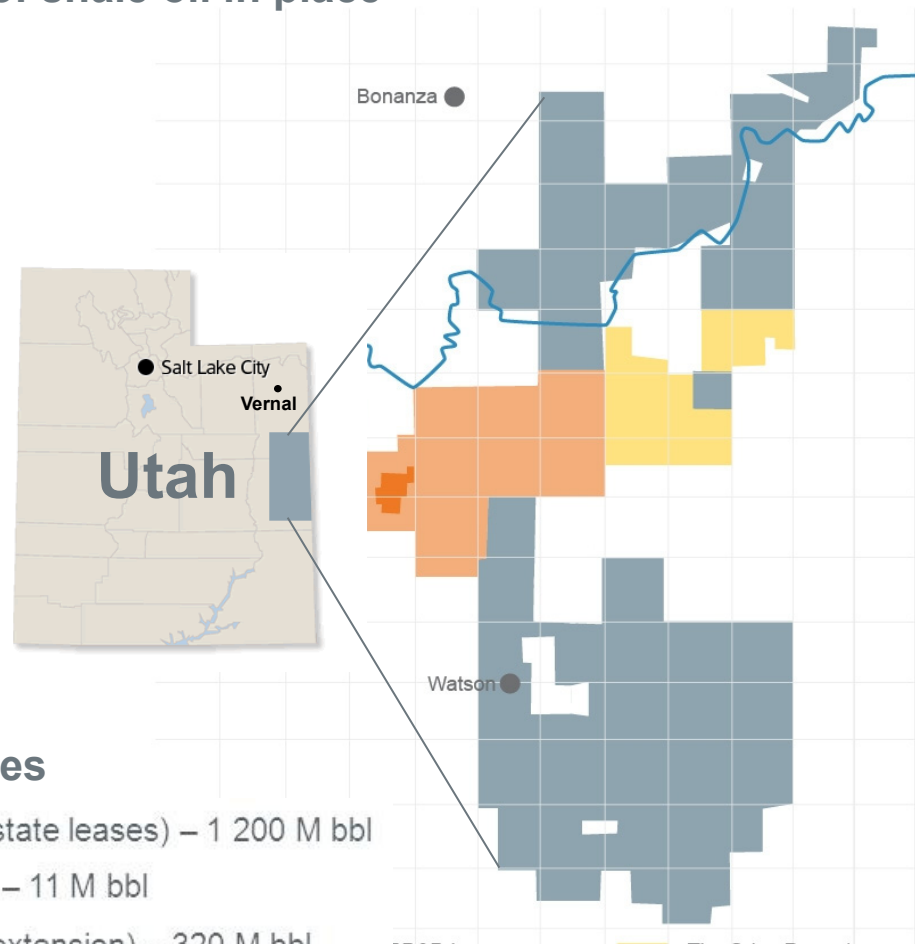
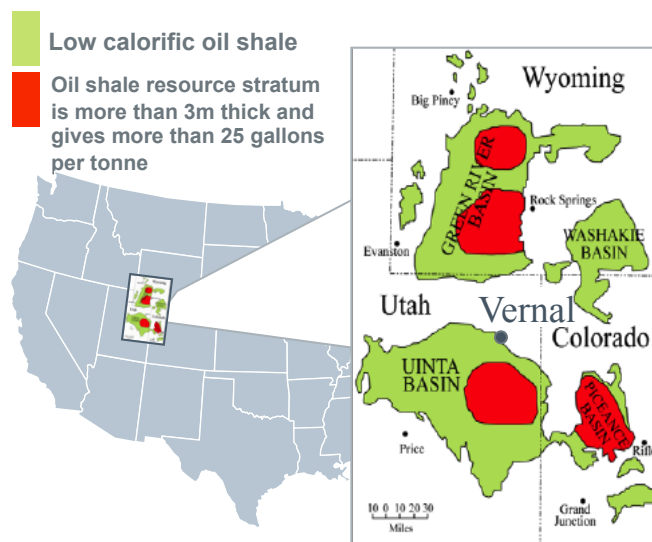


5. Enefit American Oil : Project Development Timeline



5. Enefit American Oil : Location of Resources

Enefit American Oil Assets are located in the Uinta Basin in the State of Utah, comprising a total of 2.1 billion barrels of shale oil in place



Mineable Resources

- Skyline (mainly owned + state leases) – 1 200 M bbl
- White River (BLM Lease) – 11 M bbl
- White River (BLM Lease extension) – 320 M bbl
- Orion (options to acquire) – 80 M bbl

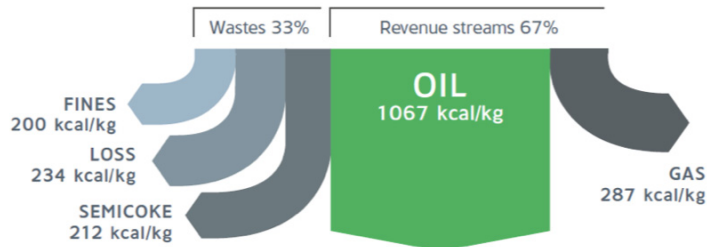
ANNEXES



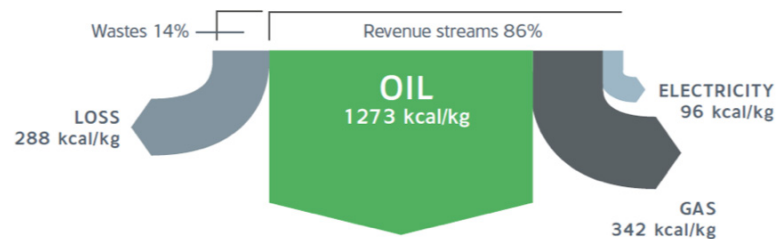
Enefit Key Benefits: Clean, Efficient, Economic

Energy distribution from mined oil shale – Enefit vs vertical retorts based on Estonian example

Vertical retort mined oil shale energy distribution (based on Estonian example)



Horizontal retort mined oil shale energy distribution (based on Estonian example)



Enefit280's high profitability originates from 100% usage of the mined shale. 10-60% of oil shale is mined as fine particles and is wasted by vertical retort technologies. High oil extraction performance is further aided by additional revenue streams:

- Process retort gas with a high calorific value can be used for power generation
- Gas combustion and excess heat utilization provide more power than the process requires
- Due to the low organic content the process ash can be used as a raw material in the construction industry



Enefit Key Benefits: Clean

- Satisfies strict EU requirements
- Ash is suitable for the cement and construction industry
- The process is water free



AIR	<p>CCS adaptable All new Enefit plants can be CO₂ capture ready</p> <p>Air quality Proven experience in meeting requirements: PM< 25 mg/Nm³, SO₂< 50 mg/Nm³, NOx< 200 mg/Nm³*</p> <p>Average CO₂ intensity 0.36 t CO₂ / bbl oil (in Estonia)*</p>
WATER	<p>Low Water Use Enefit oil extraction process is water free</p> <p>Safe Groundwater Waste is a stable ash, no leaching of toxins</p>
WASTE	<p>Ash utilization Ash can replace clinker in cement production</p> <p>Landscape Impact Mining areas are remediated according to government approval</p>

* Based on Estonian oil shale characteristics



Estonian raw and hydrotreated products vs Brent Crude

Quality	Unit	Raw Shale Oil Composite [C5 to 525°C]	Hydrotreated Shale Oil Product [C5 to 525°C]	Brent Crude Syn Crude Oil Analog [C5 To 565°C]
Volumetrics	Vol %	100 % In	107 % Out	-
API Gravity	°API	15°	35°	42°
Sulphur	Wt%	0.8	0.015	0.3
Nitrogen	Wt%	0.25	0.025	0.045
Oxygen	Wt%	6.1	< 0.3	0.15
Hydrogen	Wt%	9.8	12.9	13.3
Diesel Cetane	CI(D976)	~ 28	~ 47	~ 49
Bromine No.	'g Br2	45	1	< 2
UOP/Watson K	-	10.5±	11.7±	11.9±

