



LOGSTOR

Defining Network Efficiency

• Zagreb, 13.10.2017

Smart urban municipalities
and energy efficient industries
// Danish Experiences

EMBASSY OF DENMARK



LOGSTOR

Defining network efficiency

Who We Are & Our Vision

The world's leading manufacturer of pre-insulated pipes for energy efficient transportation of gases and liquids for district energy.



To make the World's energy supply more efficient and reduce the global energy loss with leading insulation products, improving the environment for the populations in all continents.



LOGSTOR identity

LOGSTOR in the old days



- First Pre-Insulated pipes 1964

- Renovation 1989



Our Focus

District energy – heating & cooling



Oil & Gas

Industry



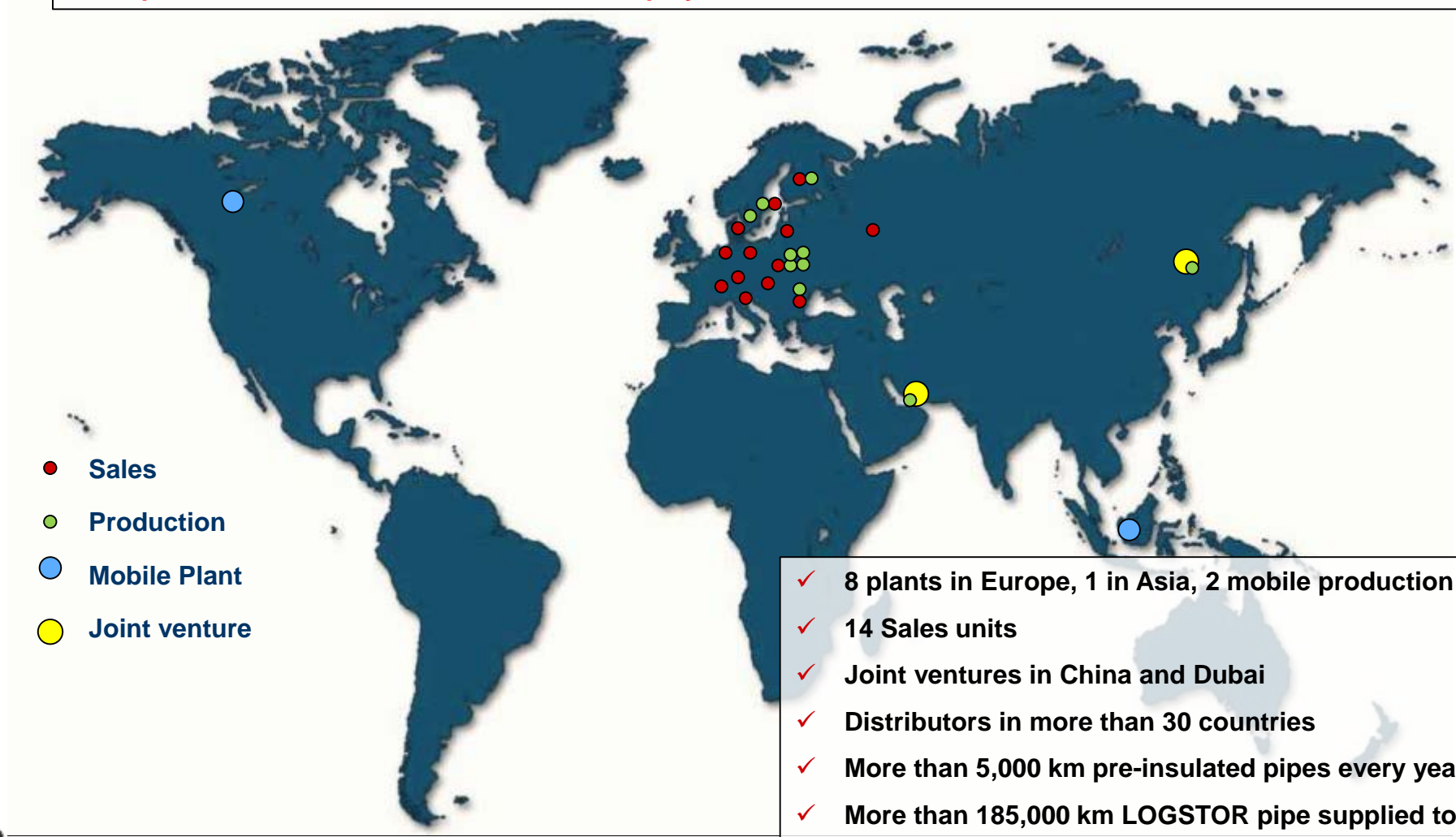
The LOGSTOR Group & our global presence

Headquarters in Denmark

1,500 employees

Annual turnover > 250 MEUR

Owner: Triton Fund III



- ✓ 8 plants in Europe, 1 in Asia, 2 mobile production units
- ✓ 14 Sales units
- ✓ Joint ventures in China and Dubai
- ✓ Distributors in more than 30 countries
- ✓ More than 5,000 km pre-insulated pipes every year
- ✓ More than 185,000 km LOGSTOR pipe supplied to date

What we are trying to change.



What we need to change ???



• *Mentality*

Stop making quality compromises.

otherwise

- The result will be the same,
- sooner or later





Total Cost of Ownership / Lifetime costs

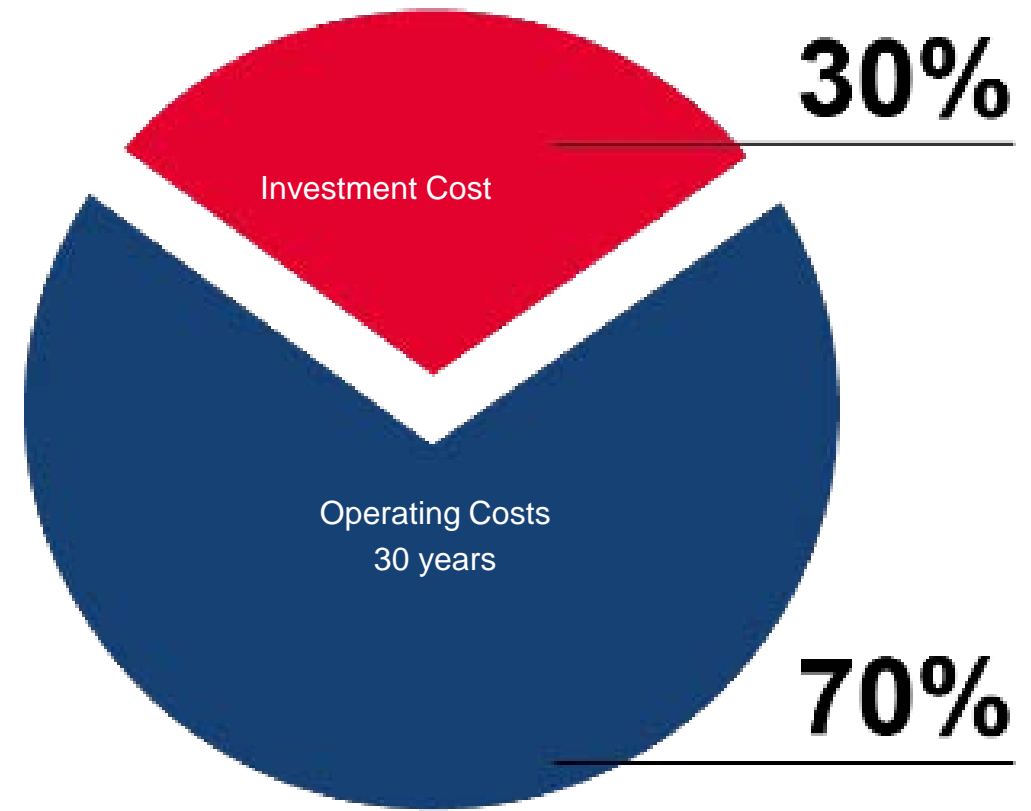
1. Investment costs (Non-recurrent costs)

- Purchase costs, components
- Installation costs
- Costs of planning and commissioning

2. Operating costs (annual costs)

- Costs of energy & heat loss
- Costs of maintenance
- Costs of repairs
- Costs of poor quality

3. Total costs of the solution

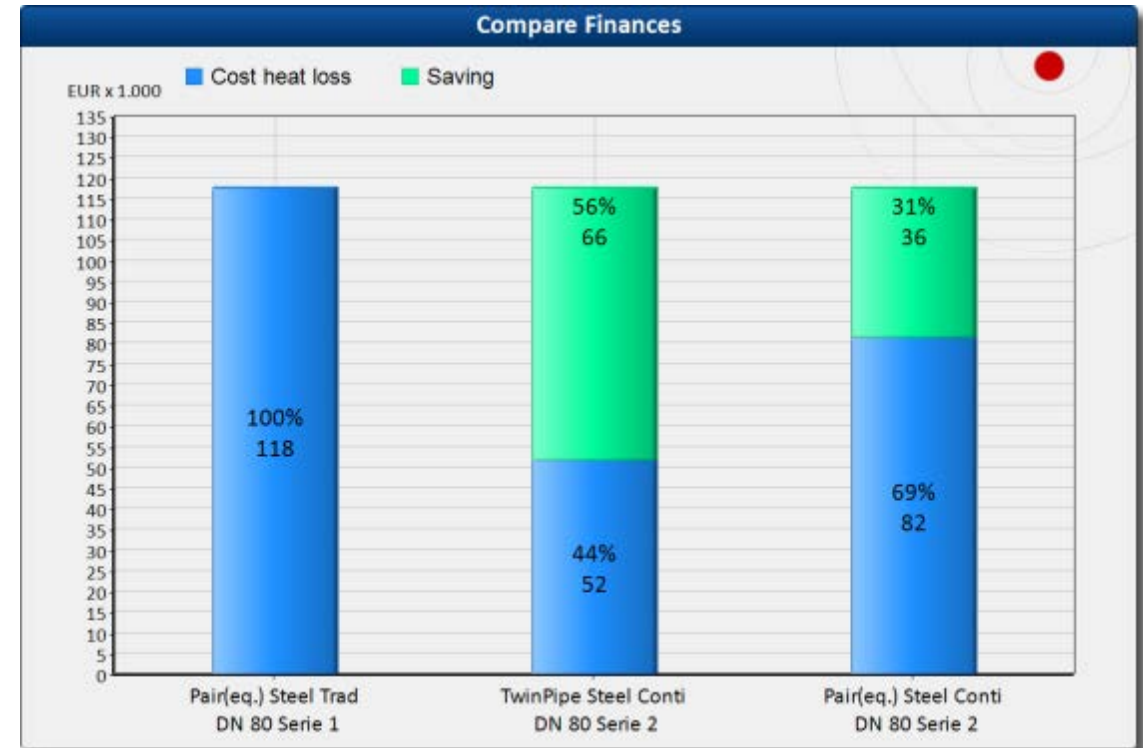
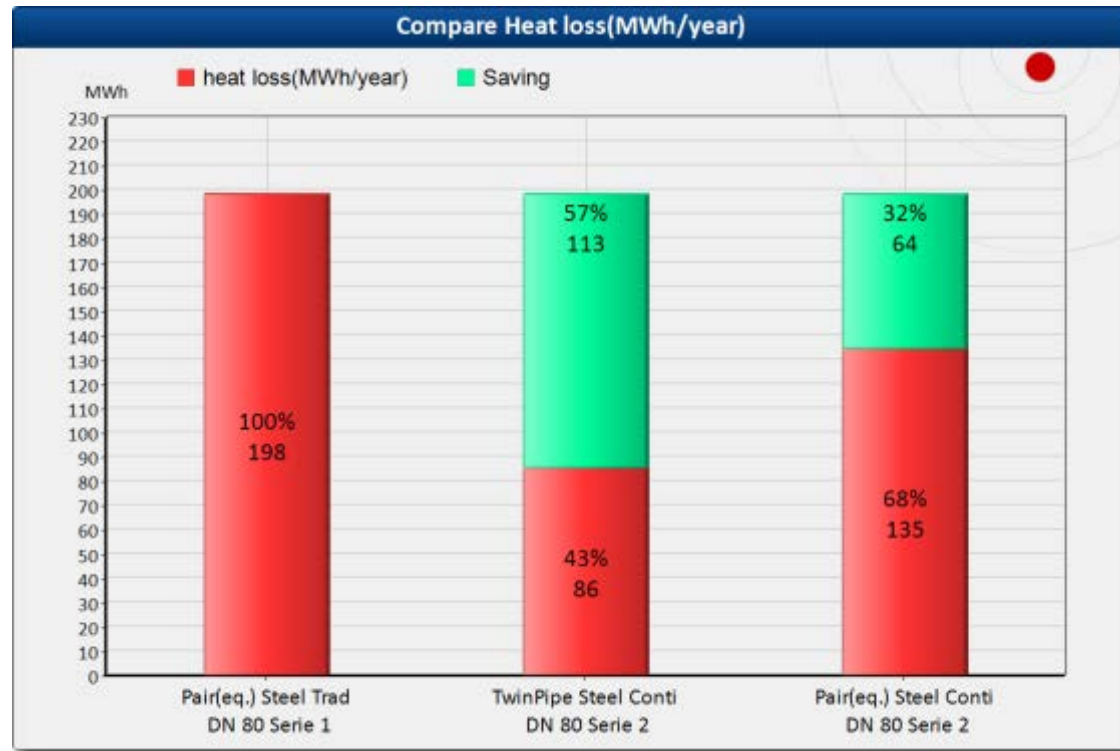


Total Cost of Ownership / Lifetime costs

- The heat loss is an essential part of the total operating costs of an energy company.
- Dependent on the individual district heating system the operating costs may amount to as much as 70% of the total costs of ownership (TCO).
- *For an energy company a reduction in the heat loss is the most efficient means to reduce the operating costs.*
- Twin Pipe installation is the best way to do this.



Heat loss comparison for DN 80 over 30 years – 1000m of trench



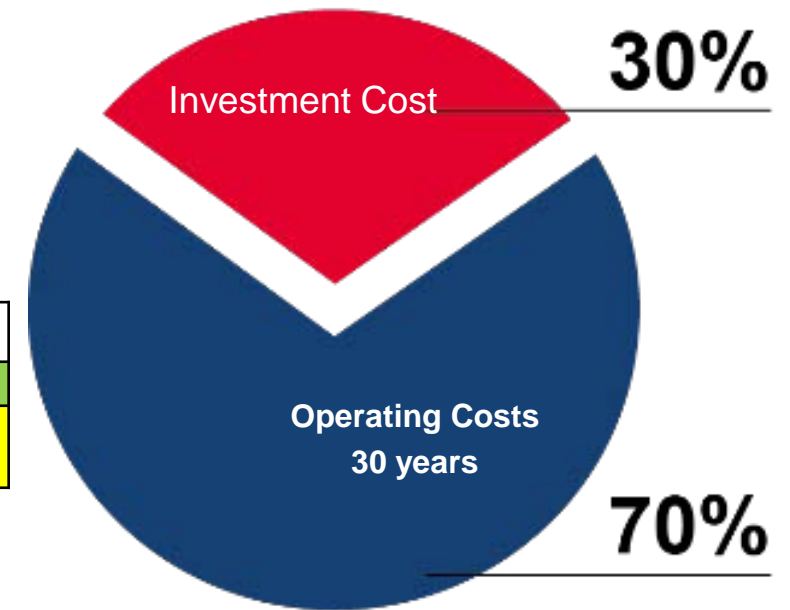
No	Type of system	PipeSystem	Length (m)	C (mm)	Series d1	d1	D1	Series d2	d2	D2	Diff.	Lambda	W/m	MWh/year
1	Pair(eq.)	Steel Trad	1000	150	1	80	160	1	80	160	<input type="checkbox"/>	0.027	45.92	198.36
2	TwinPipe	Steel Conti	1000		2	80	280	2	80	280	<input checked="" type="checkbox"/>	0.023	19.80	85.52
3	Pair(eq.)	Steel Conti	1000	150	2	80	180	2	80	180	<input checked="" type="checkbox"/>	0.023	31.19	134.74

Heat loss comparison for DN 80 over 30 years – 1000m of trench

Product type	Seria	DN	Length	Lambda	Energy Loss MWh/year	Energy Loss €/year	Energy Loss €/30 years	Savings Vs traditional €
Pair of preinsulated steel pipes traditional insulation	1	DN80/160	1000	0.027	198.36	6,942.60	208,278.00 €	
Twin Pipes - Preinsulated.	2	2xDN80/280	1000	0.023	85.52	2,993.20	89,796.00 €	118,482.00 €
Pair of preinsulated steel pipes with Diffusion barrier	2	DN80/180	1000	0.023	134.74	4,715.90	141,477.00 €	66,801.00 €

Product type	Seria	DN	Length	Price/m	Investment Cost 1km trench + Joints	ROI years
Pair of preinsulated steel pipes traditional insulation	1	DN80/160	1000	29.11 €	30,934.84 € -	
Twin Pipes - Preinsulated.	2	2xDN80/280	1000	36.96 €	40,696.45 €	5.86
Pair of preinsulated steel pipes with Diffusion barrier	2	DN80/180	1000	35.04 €	37,279.52 €	5.36

Summary :	Savings over 30 years	
Twin Pipes - Preinsulated.	118,482.00 €	Additional 3000 m of DN 80 TWIN PIPES
Pair of preinsulated steel pipes with Diffusion barrier	66,801.00 €	Additional 1700 m of DN 80 Pair of single pipes with diffusion barrier



Through Innovative design, We can Reduce Costs

Designed to reduce the meter of pipes and components required

- Reduced purchase costs & installation costs
- Reduced time of installation & civil works

E-Comp



TwinPipes



Curved pipes



Innovative design – Twin Pipe



You avoid 9 joints and 8 welds
Possible up to DN 200

You avoid 3 joints
Possible up to DN 100

Reduces excavation by 20%

***“Make sure nothing goes
to waste ...***

***use nature’s resources
thoughtfully”***

• Thank you !

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Documentation @

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