

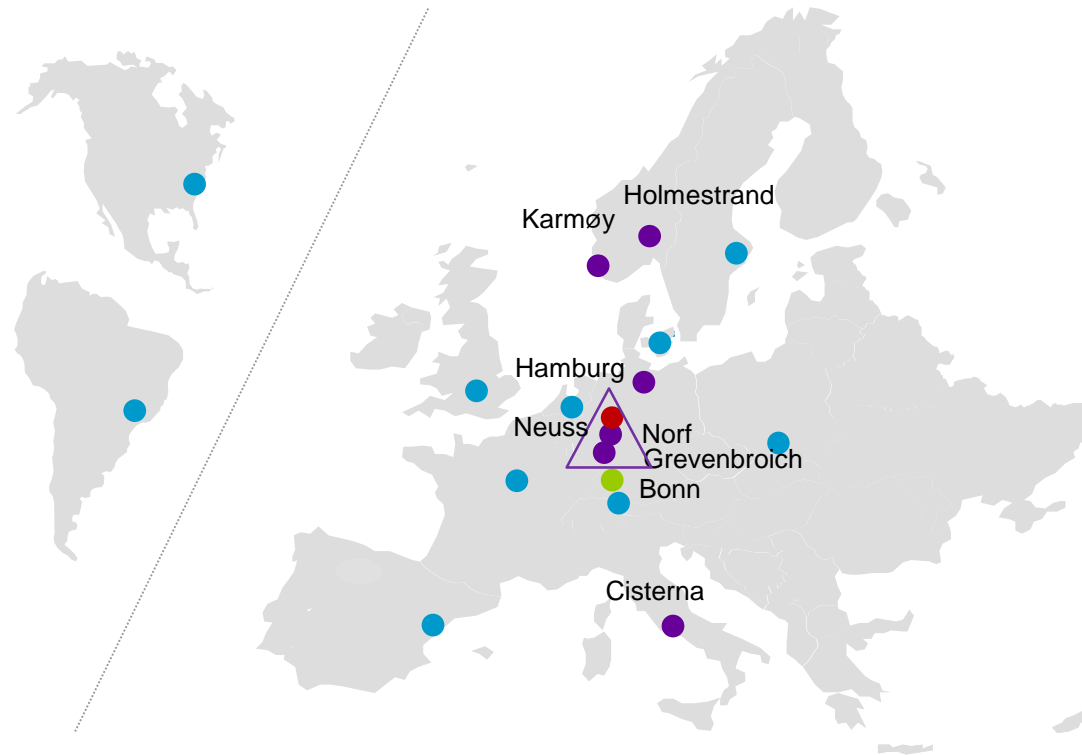
# Rolled Products

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Capital Markets Day 2015



# Hydro Rolled Products

Aiming to be No. 1 in Europe and world benchmark



● Rolling mill ● Sales Office ● Smelter ● R&D centre

- Strong European production base and global sales force
- 1 million tonnes of flat rolled products per year
- Unique integrated aluminium cluster:
  - smelter
  - world's largest rolling mill
  - dedicated conversion mill
- Casthouse network and integrated recycling capacity
- Industry-leading R&D facility

# Improving weak safety performance is our number one priority

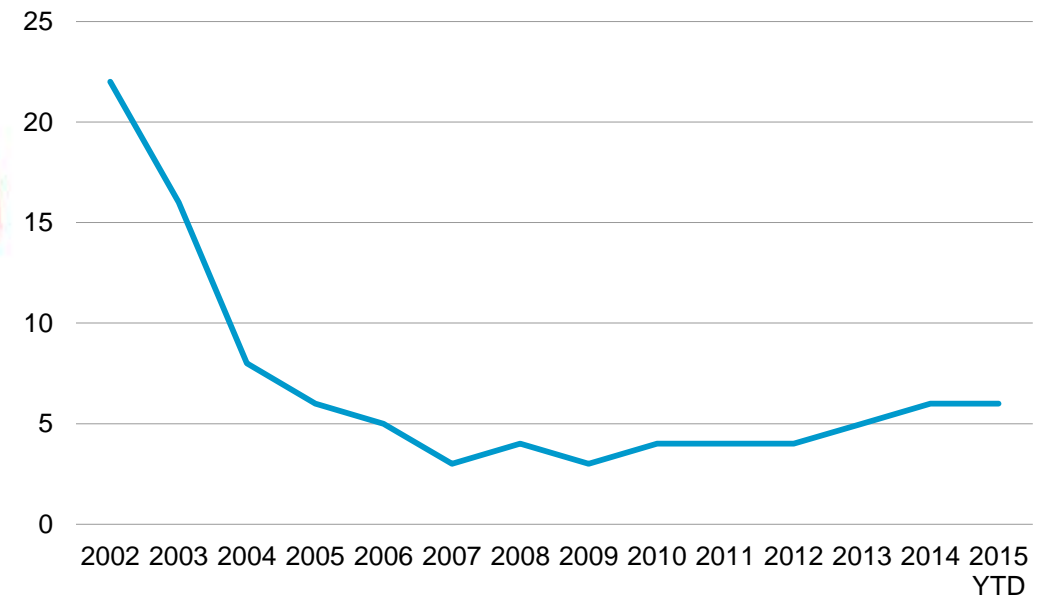
Increasing awareness and fostering safety culture

- Continue with risk management, which has reduced the severity of accidents
- Strengthening continuous improvement and learning through employee involvement
- Increasing accountability and competency through leadership training programs

I take time to think about risks



Total recordable injuries (TRI) per million hours worked



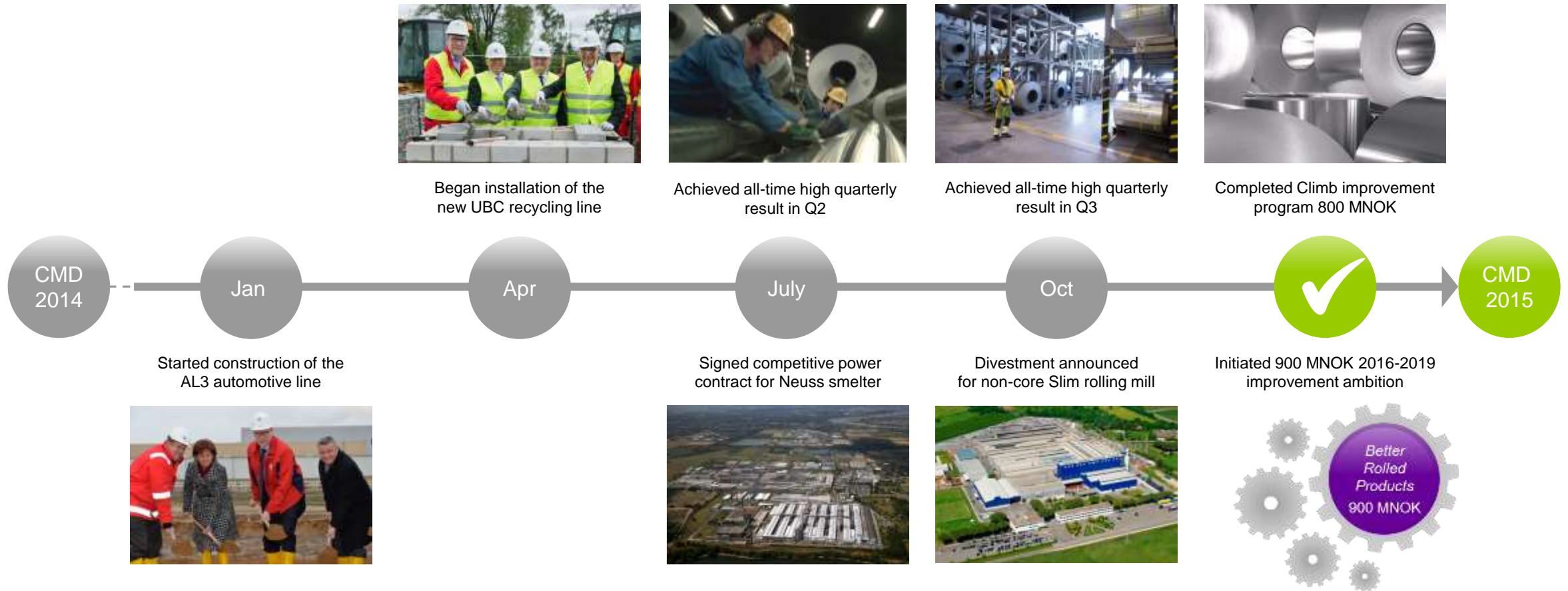
# Rolled Products strategic priorities

Building on solid foundation, pursuing attractive opportunities

## *Better* *Bigger* *Greener*

- Improve safety performance and drive for operational excellence
- Differentiate through innovation, quality, service and lead time
- Enhance market positions and portfolio high-grading
- Strengthen relative industry position
- Fulfill customer and environmental needs
- Key contributor to Hydro's overall carbon-neutrality ambition

# Rolled products: High-grading portfolio and improving cost position



# Strong positions in market segments with high focus on quality and innovation



<b>Ambition</b>	<b>Automotive</b> Gain No.2 position in European BiW	<b>Foil</b> Defend global No. 1 in high-end plain foil	<b>Beverage can</b> Maintain No.3 position in Europe	<b>Lithography</b> Defend global No.1 position	<b>Special products</b> Maintain No.1 position in Europe
<b>Market growth</b>	World ~11% Europe ~10%	World ~2-3% Europe ~1%	World ~4-5% Europe ~2-3%	World ~1% Europe ~2%	Europe ~2-3%

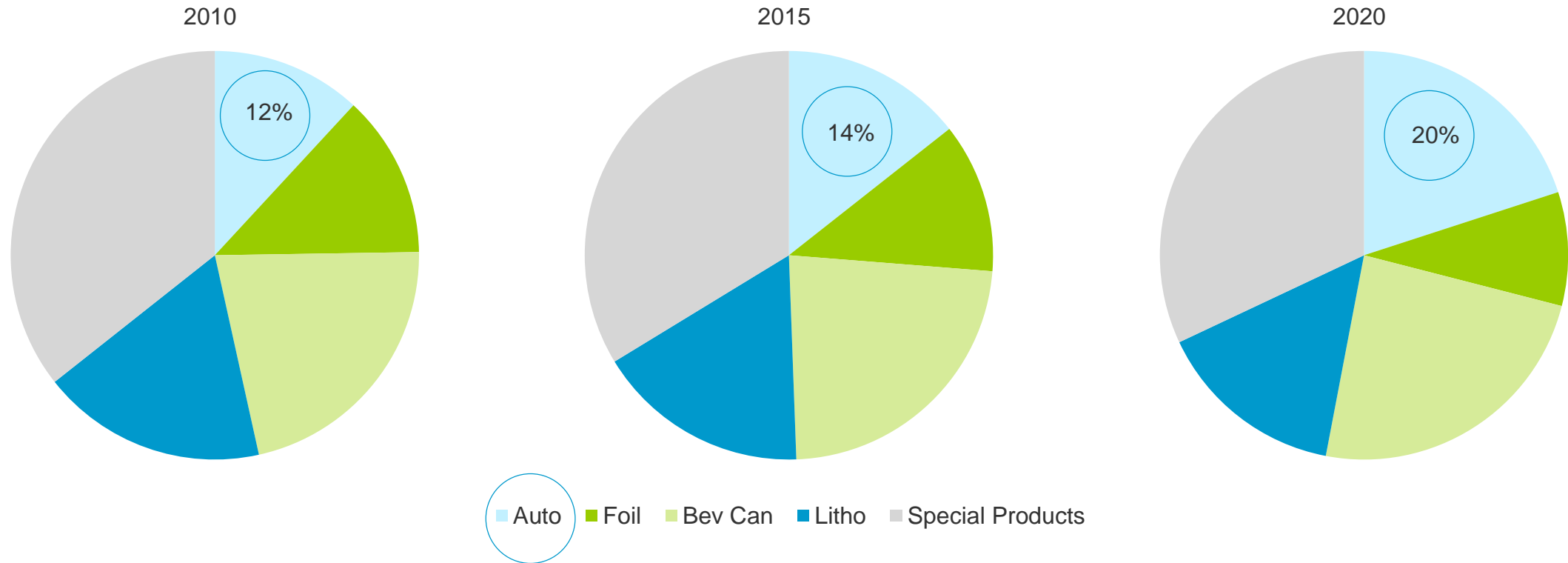


Market growth as compound annual growth rate 2015 – 2020 in %

# Optimizing product portfolio by expanding in higher-margin segments

Pursuing attractive automotive growth opportunity

Sales by segment



# «Climb» improvement program delivered one year ahead of time\*

Target

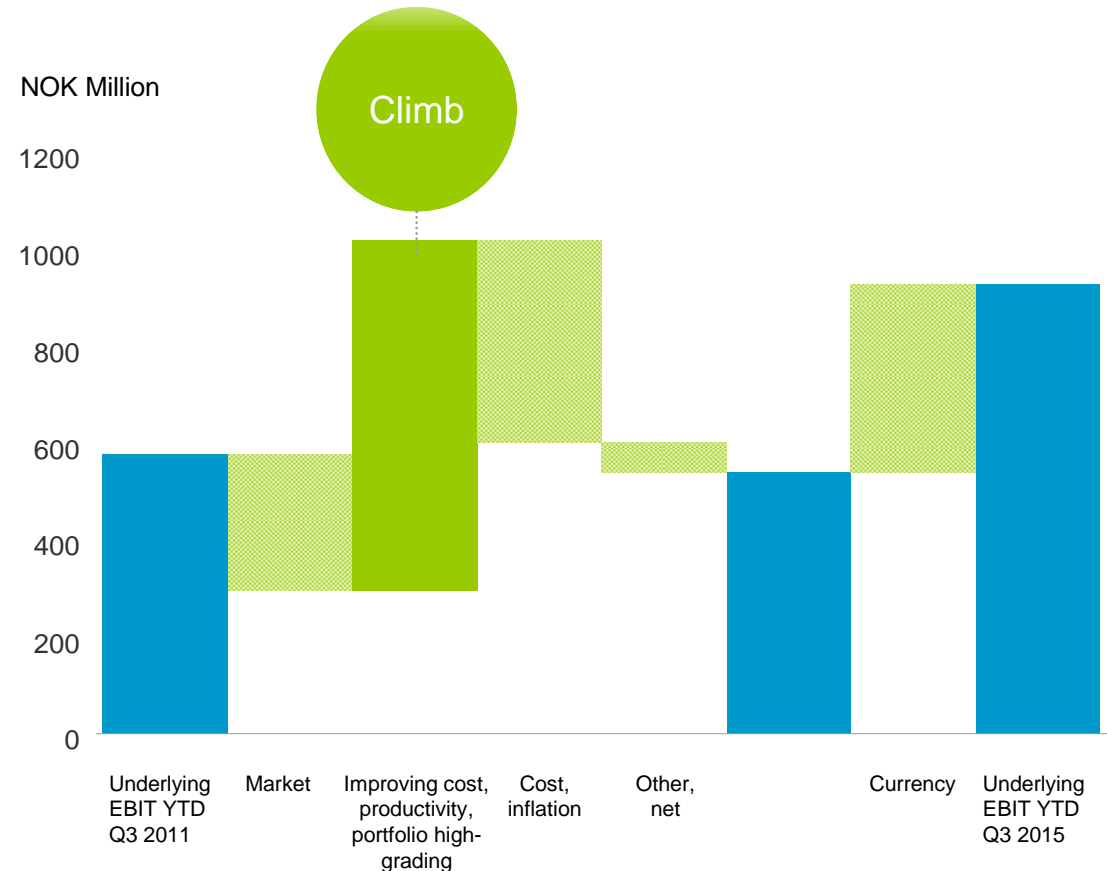
800 MNOK

Time period

2012-2016

Contributions driven by

- High-grading product portfolio
- Margin and portfolio mix
- Productivity improvement
- Reducing net cost level



\* Based on status start of december 2011 as baseline. Realized in nominal terms



# New improvement ambition launched

Significant contribution from recycling, operational improvements and portfolio high-grading

Target

**900 MNOK**

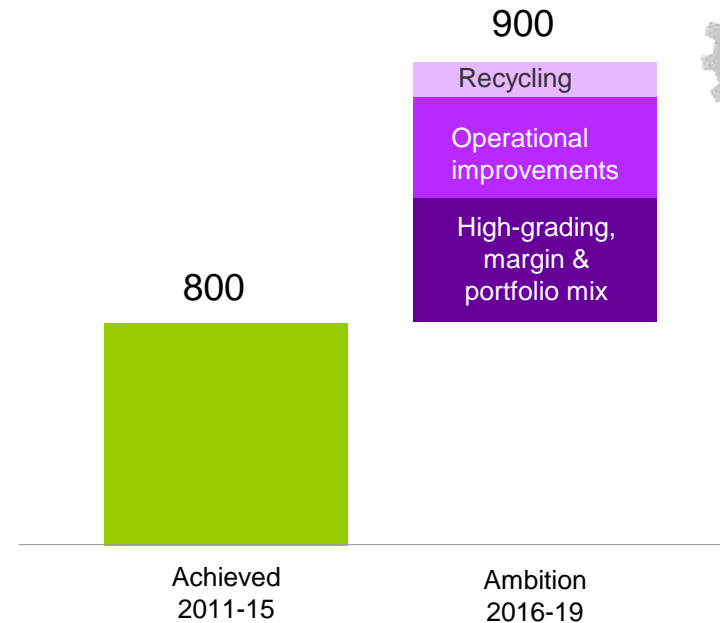
Time period

**2016-2019**

Improvement driven by

- Recycling
- Operational performance
- Supply chain management
- Automotive growth
- Product high-grading
- Margin and portfolio mix
- Culture change

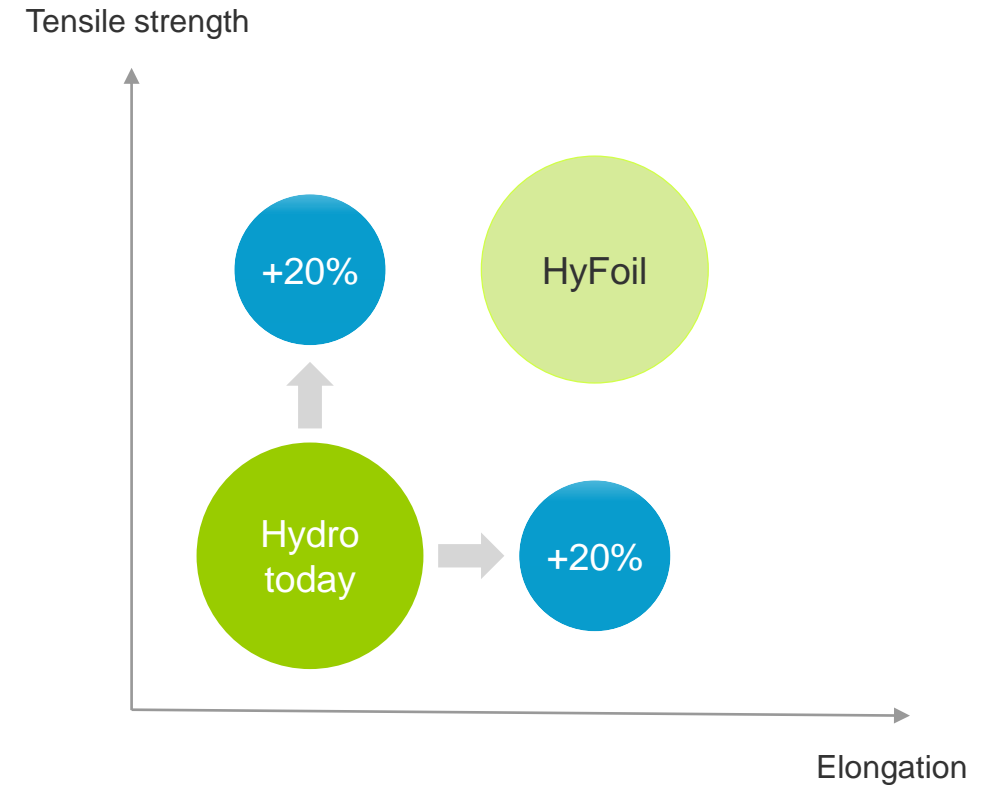
NOK Million



# Step change in efficiency and quality of foil products

High-grading our leading high-end foil by further enhancing foil strength and elongation

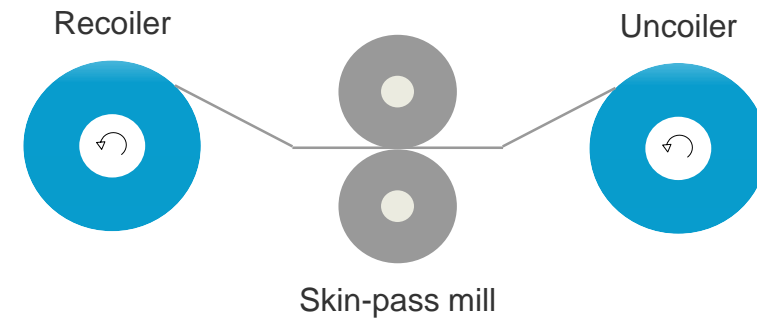
- Next generation converting foil: sophisticated alloy combined with shorter production routing
- Significant customer advantages
  - Faster speed on their converting lines
  - Thinner gauges
  - Better technical properties
- Proof of concept ongoing



# Step change in automotive surface quality

Automotive skin pass mill offers increased design flexibility for OEMs<sup>1</sup>

- EDT<sup>2</sup> surfaces are required by OEMs. Today rolled with standard cold mills
- Dedicated process at new AL3 line will generate significantly improved EDT surface
- A step change in formability of BIW parts
  - More complex forms possible
  - Full freedom of design for automotive customers



1) Original equipment manufacturer  
2) Electric discharge texture

# Automotive line 3 moves Hydro towards No. 2 position in European BIW

Realizing an attractive growth opportunity



- Lifting nominal capacity to 200,000 mt/year
- Includes dedicated skin pass mill for EDT surfaces
- On time and on budget, start of production Q4 2016
- Sales contracting ahead of plan

# Used beverage can recycling facility ready for start-up in end-2015

Lowering the metal cost and contributing to Hydro's carbon neutrality target



- Strengthening unique aluminium cluster
- >40 kt/year of liquid aluminium from recycled beverage cans
- State-of-the-art sorting technology for full control of alloy composition
- End-of-life-cycle recycling underlining responsible use of resources

# Fulfilling customer and environmental needs

User phase benefits of aluminium products - the biggest contributor to Hydro's carbon-neutral ambition

## Optimizing plant efficiency

Emission reduction through state-of-the-art rolling technology

## Extending R&D lead

Developing products with environmental benefits in the user phase

## Recycling

Strengthening recycling capabilities to secure sustainable metal supply



### Packaging

Aluminium packaging reduces food waste and keeps food fresh without cooling



### Cars

Aluminium replaces heavier material, saving 3 – 4 times more CO<sub>2</sub> emissions than aluminium production needs



### Buildings

Heat insulation with aluminium roller shutters saves more energy than needed to produce aluminium



### Renewable energy

Aluminium is a major part of all renewable energy solutions, such as photovoltaic modules or wind turbines

# Rolled Products mid-term goals

Creating shareholder value with technology, product innovation and customer relations

Ambitions	Target	Timeframe
• Improve safety performance – injury free environment	TRI <2	2020
• Deliver on new improvement ambition	900 MNOK	2019
• Differentiate through product innovation, quality and service	Min.1 step change/year	Annually
• Build up automotive BIW capacity	200 kmt*	2017
• Fully ramp up new recycling capacity with UBC line	>40 kmt	2017
• Lift post-consumer scrap recycling	>100 kmt	2020

*Better Bigger Greener*

\* Refers to nominal capacity