



# Ethanol summit

Cellulosic Ethanol:  
Advances And Perspectives

**Thomas Videbaek** –  
Executive VP for Business Development of Novozymes

# WE CHANGE THE WORLD TOGETHER WITH OUR CUSTOMERS ...WITHIN A WIDE RANGE OF INDUSTRIES



- Market Leader with 47% global share of Industrial enzymes
- Net Revenues of USD 2.1 bln in FY2012
- Approx. 14% of sales invested in R&D
- > 7,000 patents granted or pending

# PARTNERSHIP IS IN NOVOZYMES' DNA



**State-of-art  
enzyme technology**  
continuing to unlock new  
opportunities to reduce total  
cost



**Strategic  
partnerships**  
exploring process  
interdependencies to  
reduce total cost



**The right  
destination:**  
commercialization of  
cellulosic ethanol at  
lowest total cost

# NOVOZYMES IN BRAZIL



**Sorghum**



**Corn**



**Sugarcane**



**Energy cane**



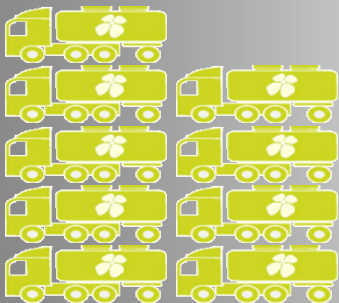
**Eucalyptus**

# USING CELLIC® CTEC3 YOU NEED **5 TIMES LESS ENZYME** THAN STANDARD BIOMASS DEGRADING ENZYMES IN THE MARKET



Enzyme efficiency translated into number of truck load deliveries of enzyme to a 35 MGY cellulosic ethanol plant per week:

## Cellic® CTec



## Cellic® CTec2



## Cellic® CTec3

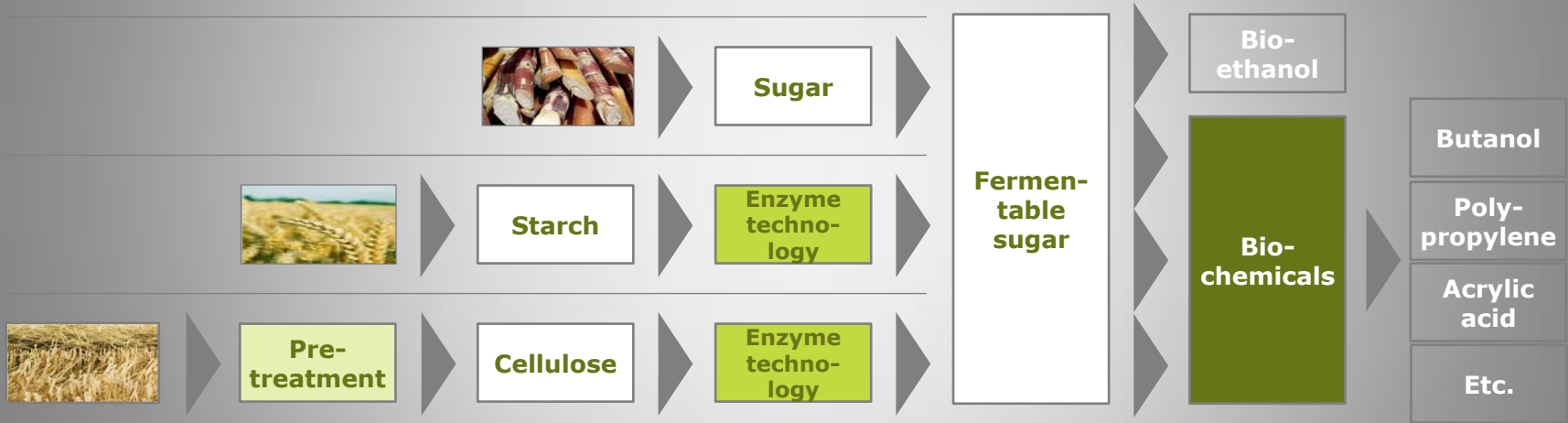


## Standard biomass degrading enzymes



# USING BIOTECHNOLOGY TO PRODUCE BIOCHEMICALS FROM SUGAR-BASED PLATFORMS

*Sugar is the new oil*



*Biochemical is the future*

