

# Michelin and Tire Innovation





# Challenge for the future: sustainable mobility



Vehicles on the planet

1900 : 8000

1950 : 50 millions

2007 : 850 millions

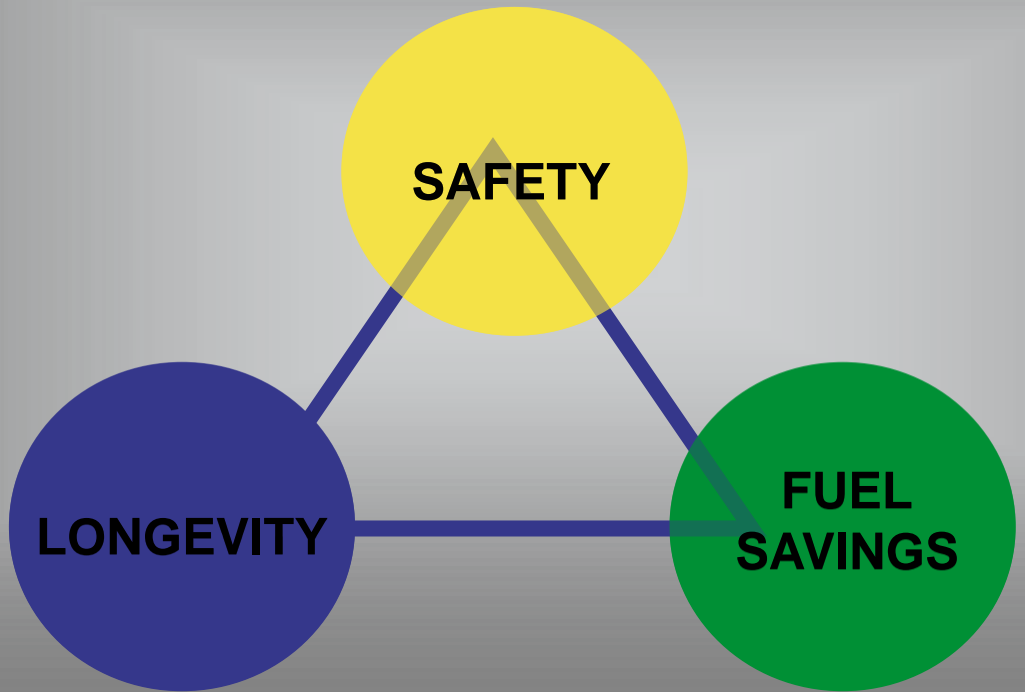
**2030: 1.5 billion**

sustainable mobility means :

- Improve **Safety**
- Reduce **Impact on Environment**
- Manage **cost of usage**

# WHAT ARE THE REAL EXPECTATIONS OF CONSUMERS?

*« I want to ensure my family's and my safety »*



*" I want to make more kilometers with my tires to save money "*

*« I want to reduce my fuel costs »*



# THEY DON'T WANT TO HAVE TO CHOOSE BETWEEN PERFORMANCES



## *The good balance of performances*

between the 3 criteria maximizes what consumers envisage as the « best choice for tires »

*Acceptable performance*



*Excellent performance*



### Tire A

SAFETY

Dry : ★★★

Rain : ★

LONGEVITY : ★★★★★

FUEL SAVING: ★

### Tire B

SAFETY

Dry: ★★★

Rain: ★★★

LONGEVITY: ★★★

FUEL SAVING: ★★★

### Tire C

SAFETY

Dry : ★

Rain : ★★★★★

LONGEVITY : ★

FUEL SAVING: ★★★★★

CHOSEN BY: 27%

49%

24%







The challenge: maintain the balance between the key performances for consumers

Better grip, Higher tire robustness, ...



Service life

*Impossible equation to resolve ?*

Lower consumption, reduces CO2 emission

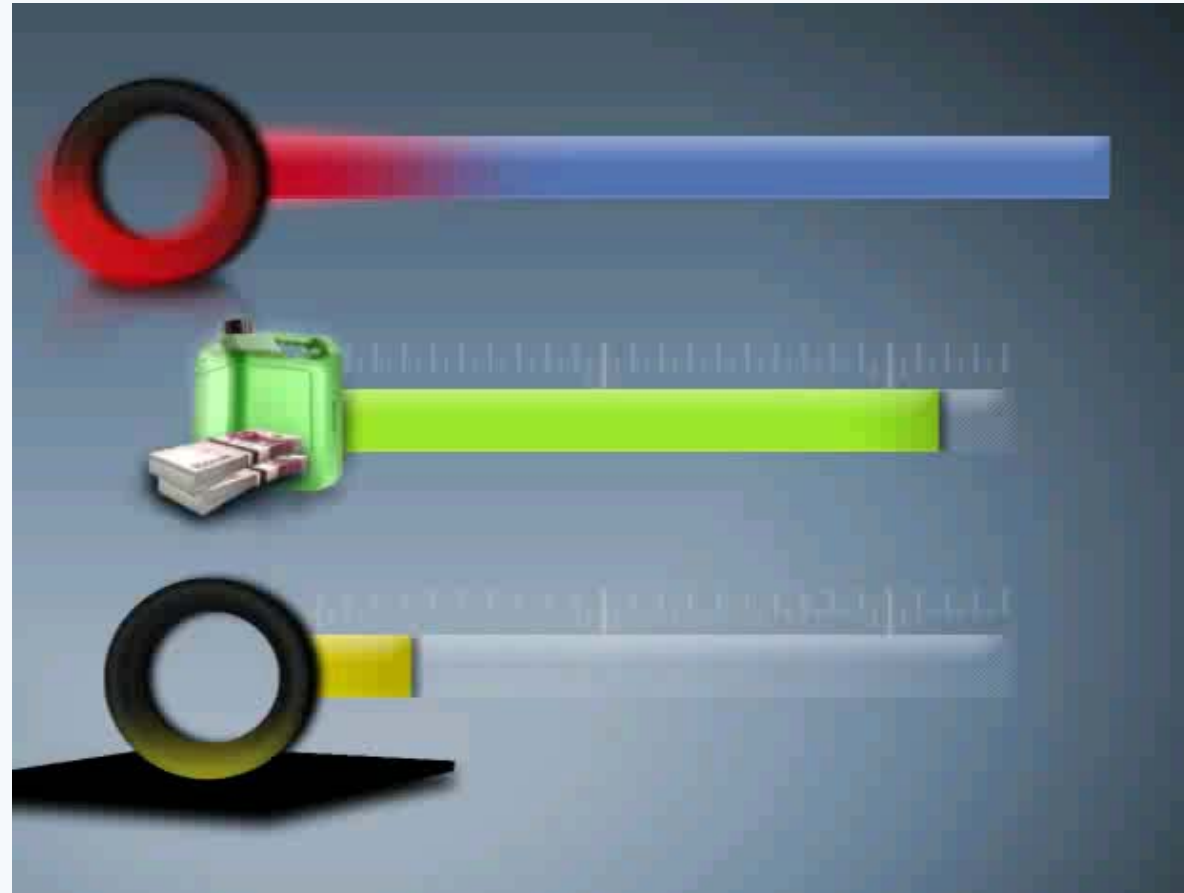
# Fuel Economy or Grip ?

THE MORE THE TIRE **WARMES UP**, THE MORE IT **ADHERES**  
BUT THE MORE THE VEHICLE **CONSUMES!**

**COMPOUND  
TEMPERATURE**

**FUEL SAVINGS**

**SAFETY / GRIP**





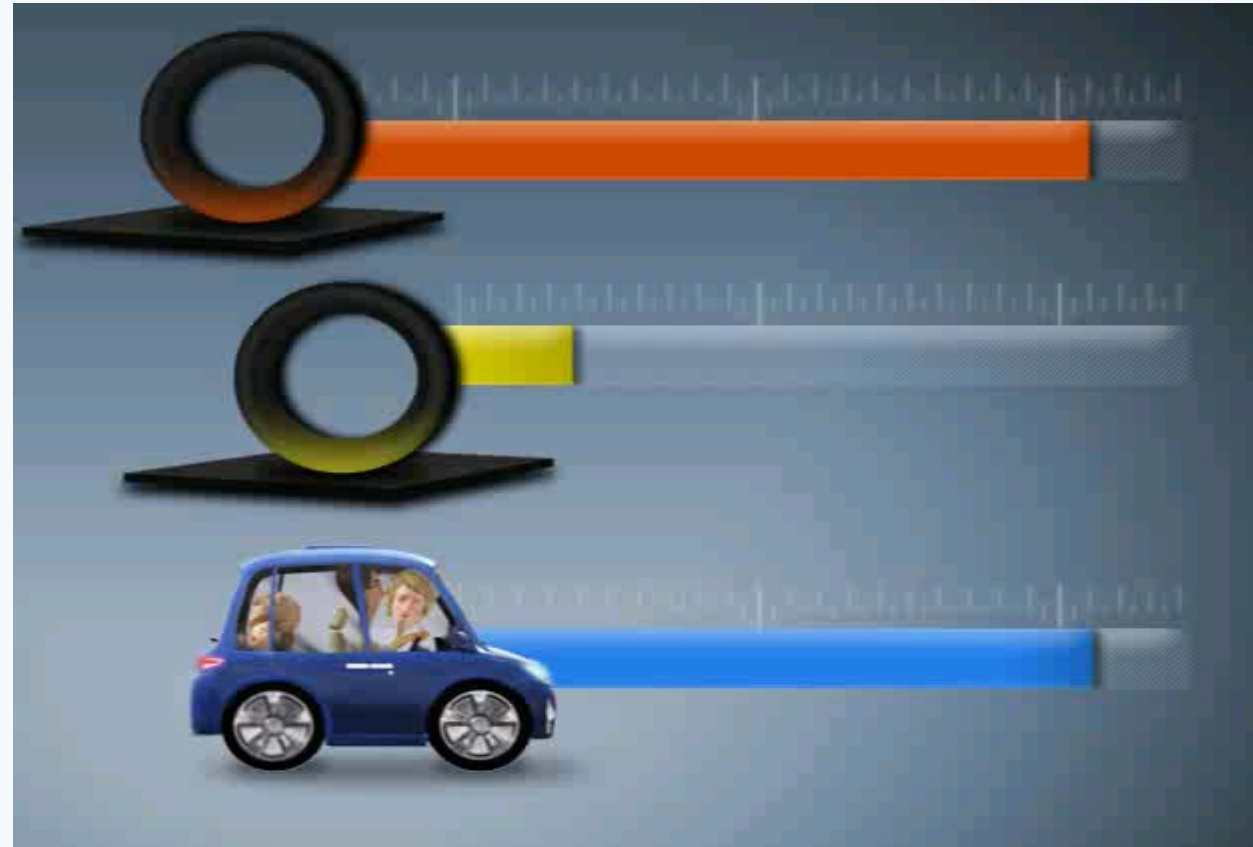
# Grip or Longevity ?

THE **SOFTER** THE TIRE COMPOUND IS, THE MORE IT **ADHERES** BUT THE MORE IT **WEARS OUT!**

*COMPOUND RIGIDITY*

*SAFETY / GRIP*

*LONGEVITY*



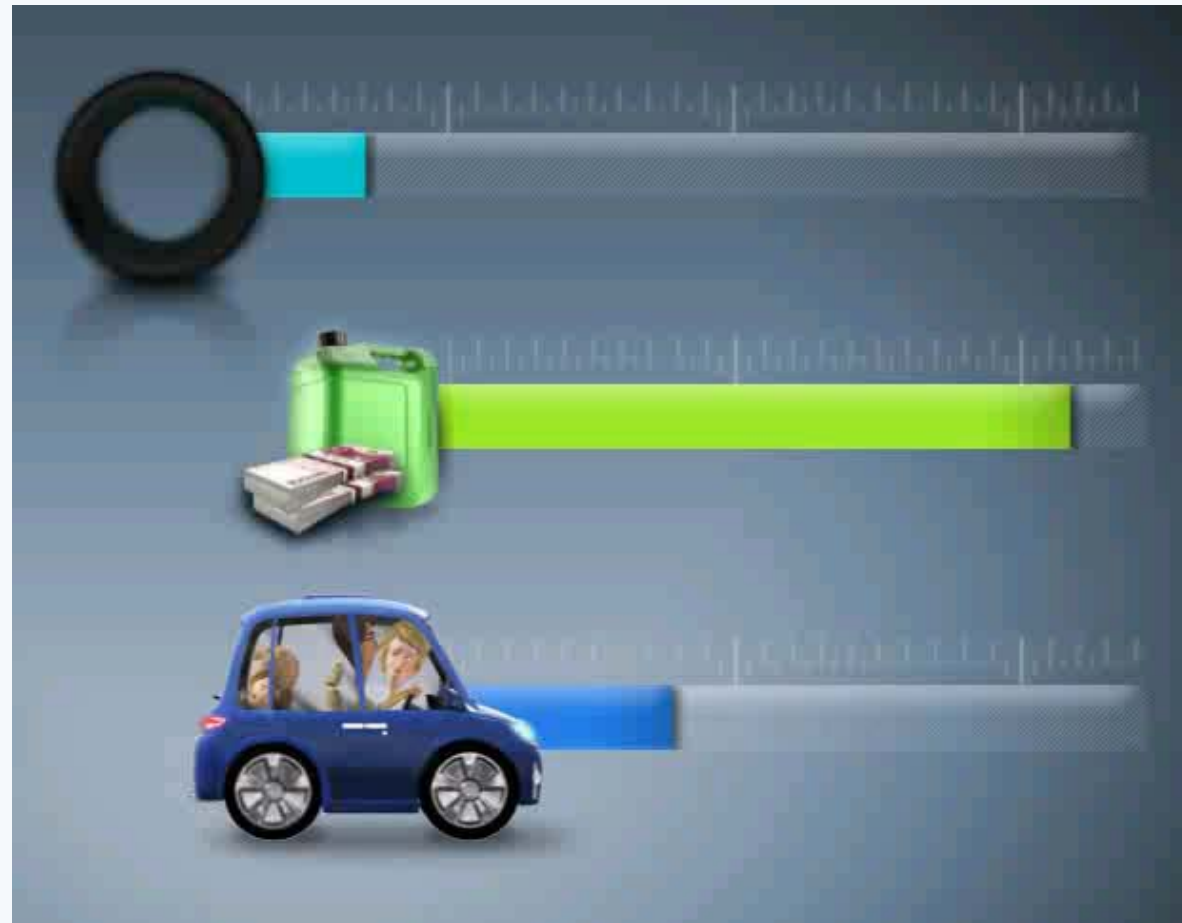
# Fuel Economy or Longevity ?

THE **HEAVIER** THE TIRE IS, THE MORE IT **LASTS** BUT THE MORE THE VEHICLE **CONSUMES!**

**TYRE MASS**

**FUEL SAVINGS**

**LONGEVITY**





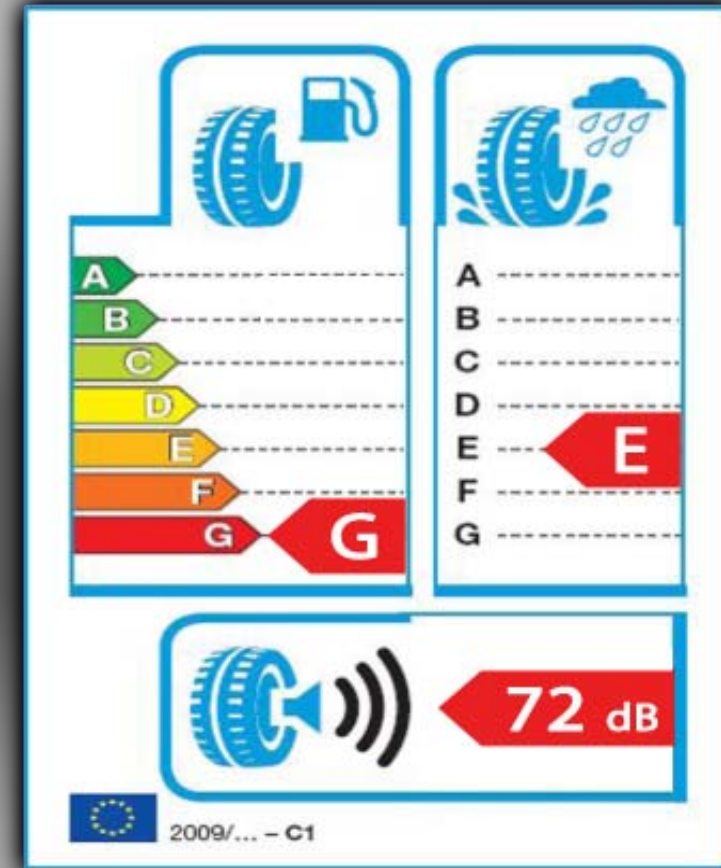
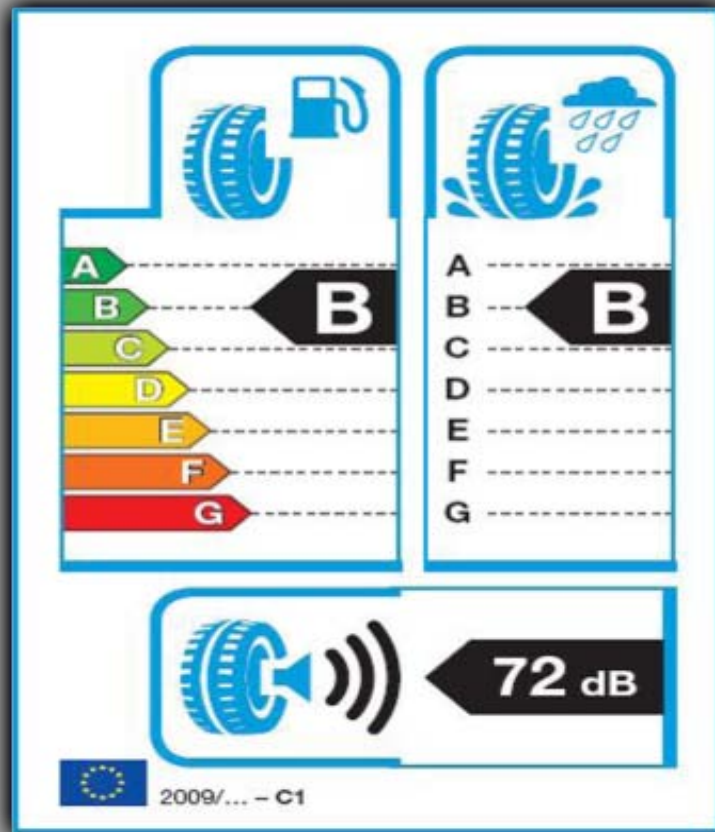
# The Power of Innovation !

With Innovation and technology, no need to choose,  
Michelin optimizes the 3 performances **SIMULTANEOUSLY**



# BY END OF 2012: TYRE LABELS

AN EVALUATION ACCORDING  
TO 3 SPECIFIC PERFORMANCES



... WITH MINIMUM  
THRESHOLDS

# How about Tomorrow

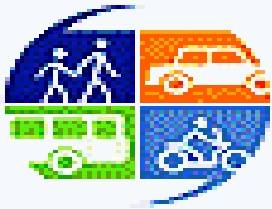


# Michelin Commitment for a Better Mobility



World Business Council for  
Sustainable Development

Sustainable Mobility Project (WBCSD)  
World Business Council for Sustainable Development



GLOBAL  
ROAD SAFETY  
PARTNERSHIP

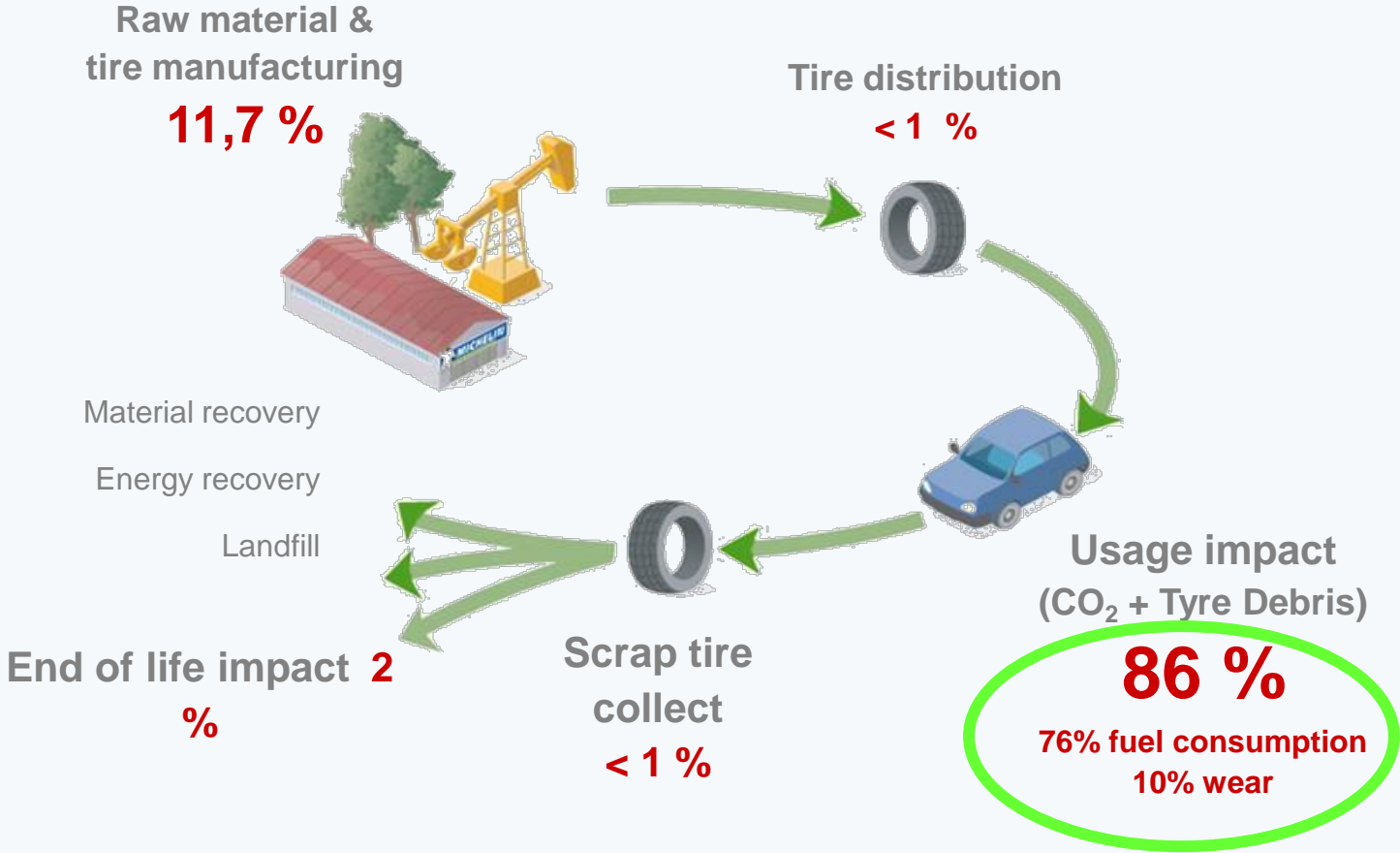
Global Road Safety Partnership



Michelin Challenge Bibendum



# Challenge for the future: sustainable mobility



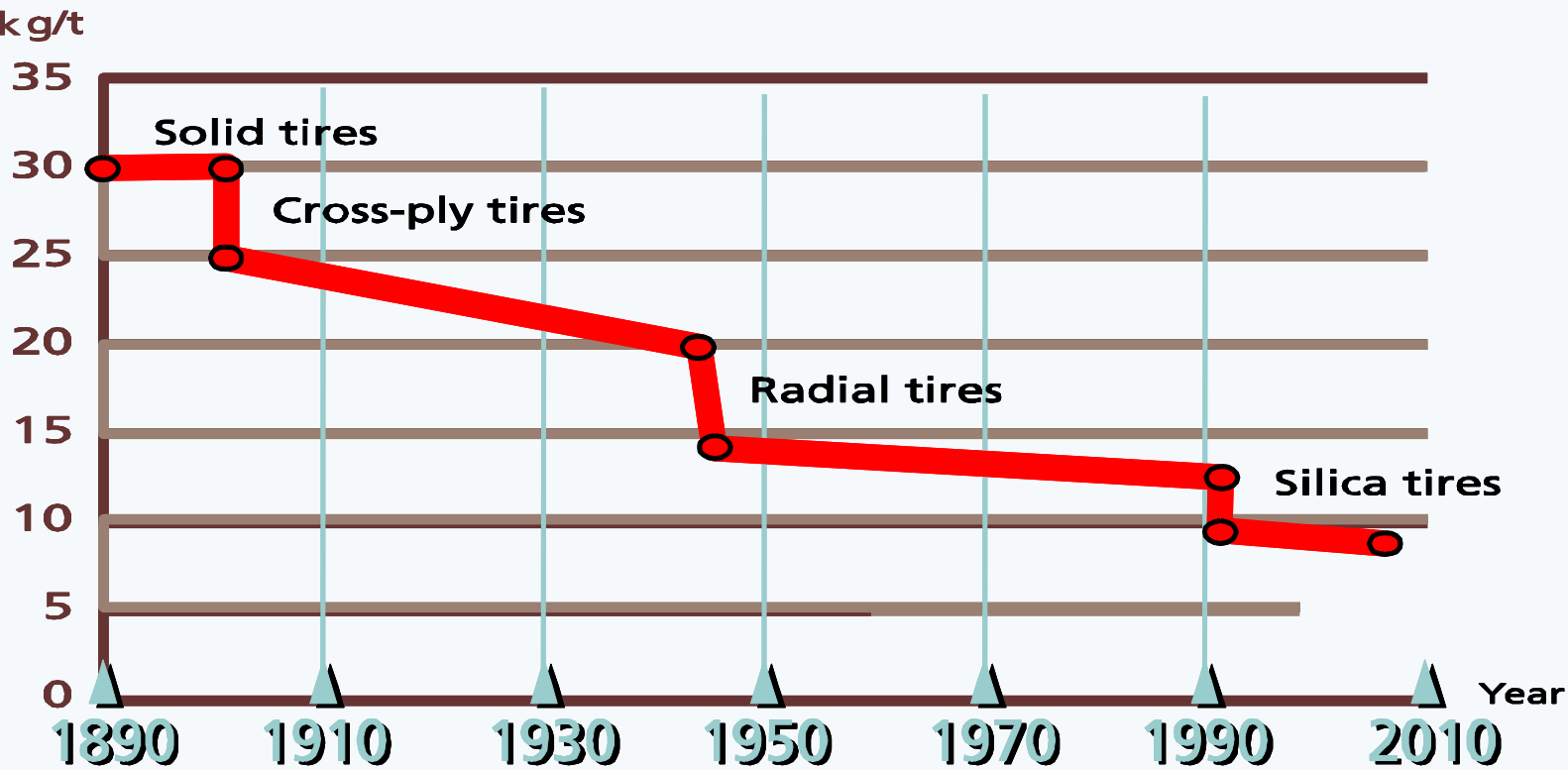
Tire represents  
**20% of fuel**  
used by a ICE car and  
can reach **30 %**  
for an urban electric  
vehicle or a heavy truck

Method: Eco-indicator 99 (H) BLIC damage / Europe EI 99 (A) / weighting,  
external noise not taken into account

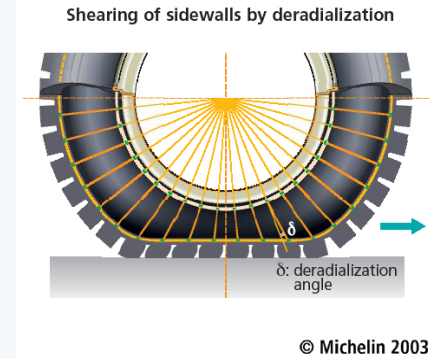
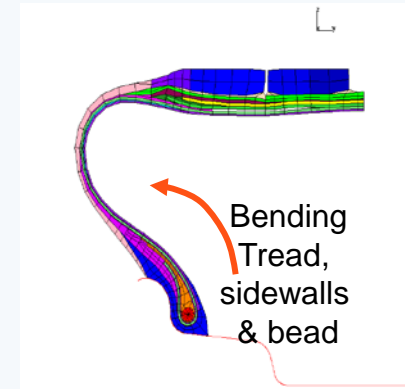




# Not a new challenge for Michelin !



Source : Michelin Performance and Responsibility 2005-2006 Report, p.65



There is still room  
for innovation with **material**  
and construction  
to improve  
**Rolling Resistance**

# Future Trends: Innovation in new sizes ?

Today



Tires for

**Urban cars:**

Go **smaller** for

**less mass and more room**



Tires for

**Limousine and Sport cars:**

Go **taller** and **narrower**

for better **aerodynamics**  
and less **Rolling Resistance**



# Future Trends: Beyond tires ...

Diversity of vehicle technologies: Hybrid, Electric, ...

What will the future tire ?  
With which integration inside vehicle?



*The story is not yet written .....*

***Thank You for your attention***

