Sustainability Strategies

When does it pay to be green?

Renato J. Orsato

Professor - Fundação Getúlio Vargas (FGV)

Academic Director - Centre for Sustainability Studies at (GVces)

renato.orsato@fgv.br

Laramie, Wyoming, March 7, 2012.

Positive proof of global warming.
18th Century
1900
1950
1970
1980
1990

Confused?

Alternative Energy
Alternative Powertrains
Bio-mimicry
Bio-fuels
Bio-polymers
Base of the Pyramid
CERES
Clean Development Mechanism
Cellulosic ethanol
Climate Clubs
Climate Labels
Down Jones Sustainability Index
Design for Disassembling
Design for the Environment
Environmental Management Systems
Eco-activism
Eco-industrial Parks
Eco-labels
Eco-branding

Emission Trading Schemes
End of Life Management
Food Miles
Forest Stewardship Council
Green Clubs
Global Reporting Initiative
Global Compact
Industrial Ecology
Industrial Symbiosis
ISO 14001 certification
Life-cycle Assessment
Product Declarations
Product Stewardship
Process Certification Clubs
Product Service Systems
Responsible Care
Rainforest Action Network
Reputational Value
Voluntary Environmental Initiatives

How can managers…

- Prioritize eco-investments?
- Align eco-investments with strategy?
- Create competitive advantages?
- Create new market spaces?

Practice
- Reference-company programme at Lund University, Sweden. Six-months of work/ company in a total of 35 companies (2000-2004);
- Global research (2004-2007).

Theory
Peer-reviewed articles in California Management Review, Journal of Industrial Ecology, among others.

Method
Multi-case study and action-research.

Sponsors
Marie Curie Programme (2004-2007)
INSEAD Social Innovation Centre (2007-2009).

A quick test…

- Based on your personal experience:

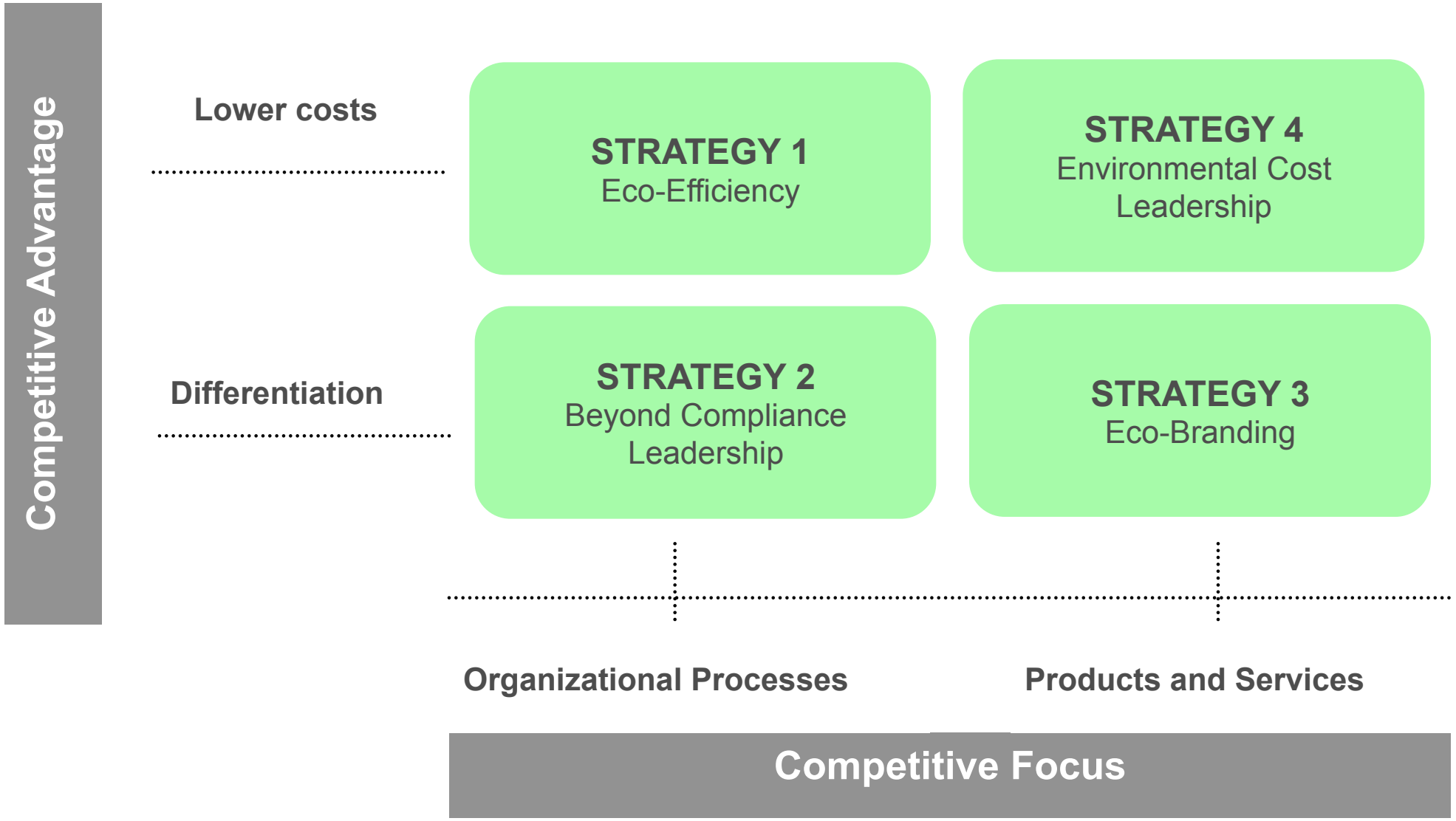
- When choosing an hotel to stay for *working trip*, does your company check whether the hotel has good environmental credentials?
  - ISO 14001 certification
  - Subscribes to Global Compact

- When choosing an hotel for *holidays*, do you check for some of the above?

Why then …

- Eco-excellence of *organizational process* should generate competitive advantage?
- Can a ISO 14001 certification generate *competitive advantage*?
- Why?
- When?

Competitive Environmental Strategies



Eco-investments

Alternative Energy
Alternative Powertrains
Bio-mimicry
Bio-fuels
Bio-polymers
Base of the Pyramid
CERES
Clean Development Mechanism
Cellulosic ethanol
Climate Clubs
Climate Labels
Down Jones Sustainability Index
Design for Disassembling
Design for the Environment
Environmental Management Systems
Eco-activism
Eco-industrial Parks
Eco-labels
Eco-branding

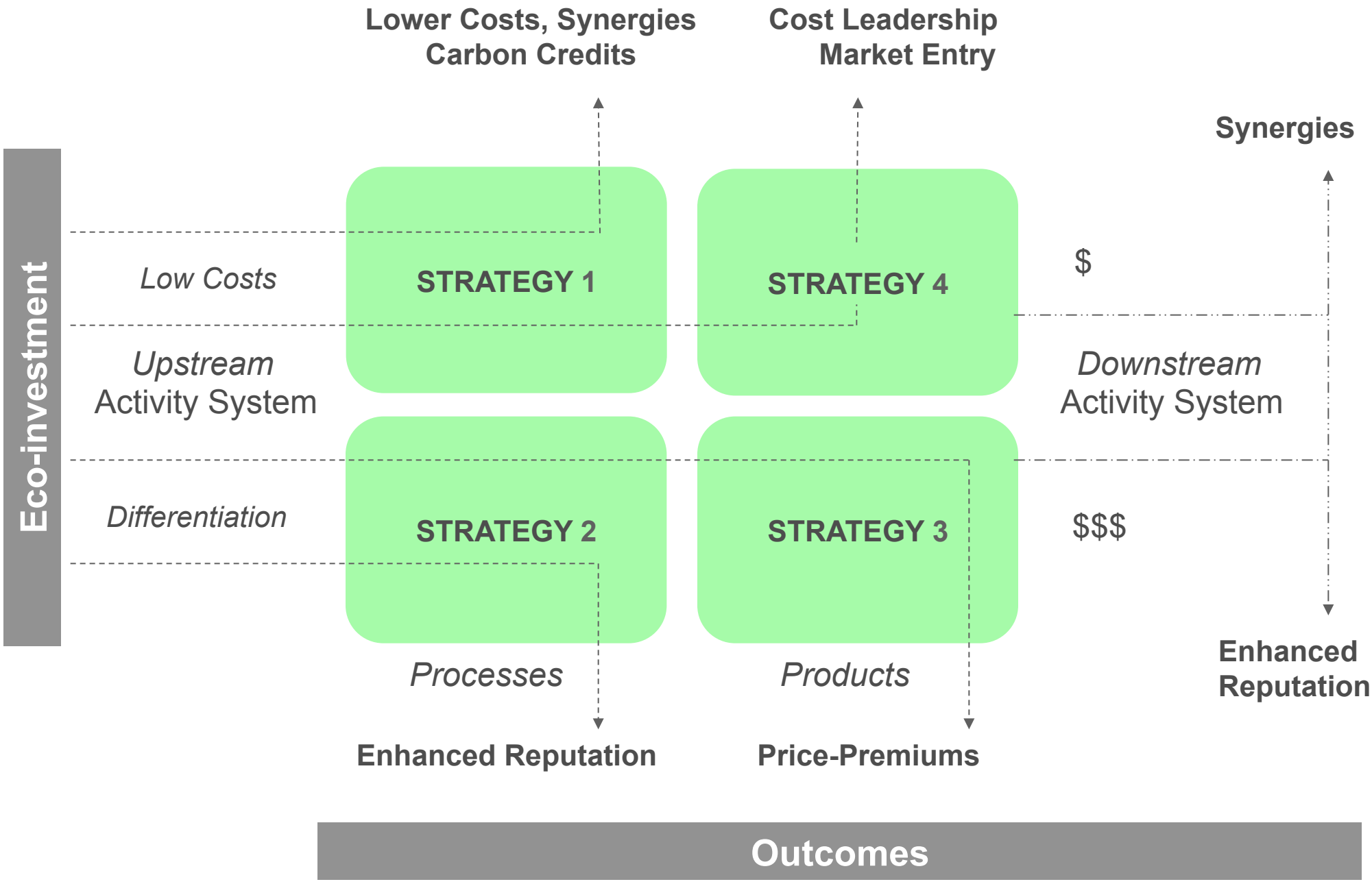
Emission Trading Schemes
End of Life Management
Food Miles
Forest Stewardship Council
Green Clubs
Global Reporting Initiative
Global Compact
Industrial Ecology
Industrial Symbiosis
ISO 14001 certification
Life-cycle Assessment
Product Declarations
Product Stewardship
Process Certification Clubs
Product Service Systems
Responsible Care
Rainforest Action Network
Reputational Value
Voluntary Environmental Initiatives

What Are Sustainability Strategies?

- *Sustainability Strategies* are ***choices*** available to managers to align environmental and social investments with the generic strategy of the company.

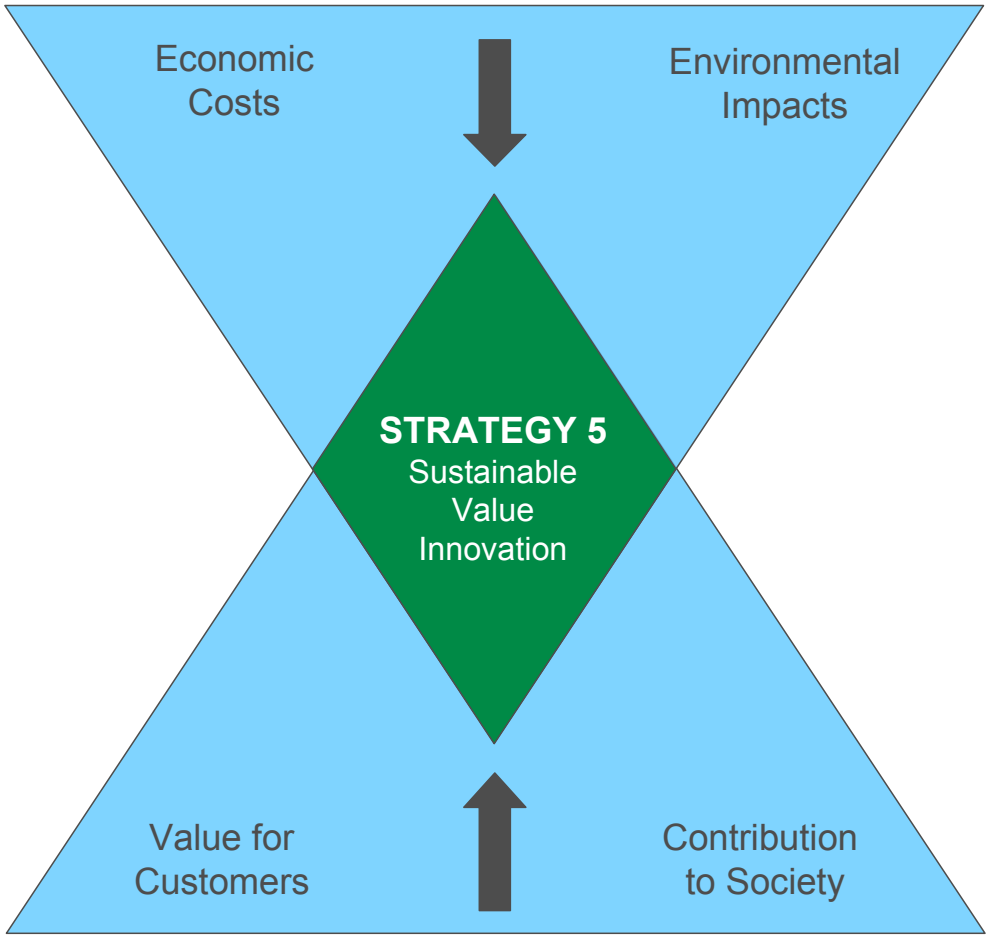
When does it Pay to be Green?

- **When**: a clear *time frame*, and the *context* in which the company operates
- **Pays:** *quantitative* and *qualitative* data, as well as the *tangible* and *intangible* value created by the eco-investment
- **Green**: a *clear definition* of the type eco-investment


Lower Costs, Synergies
Carbon Credits
Cost Leadership
Market Entry
Synergies
Eco-investment
Low Costs
STRATEGY 1
STRATEGY 4
$
Upstream
Activity System
Downstream
Activity System
Differentiation
STRATEGY 2
STRATEGY 3
$$$
Processes
Products
Enhanced
Reputation
Enhanced Reputation
Price-Premiums
Outcomes

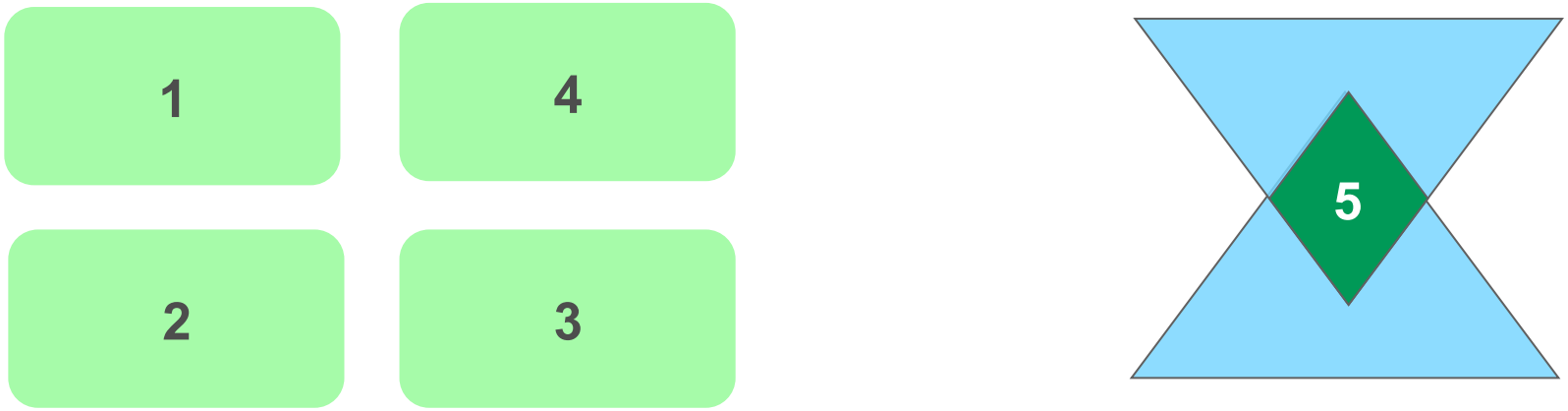
Sustainable Value Innovation
(new market spaces)

Sustainable Value Innovation



Competitive Environmental Strategies

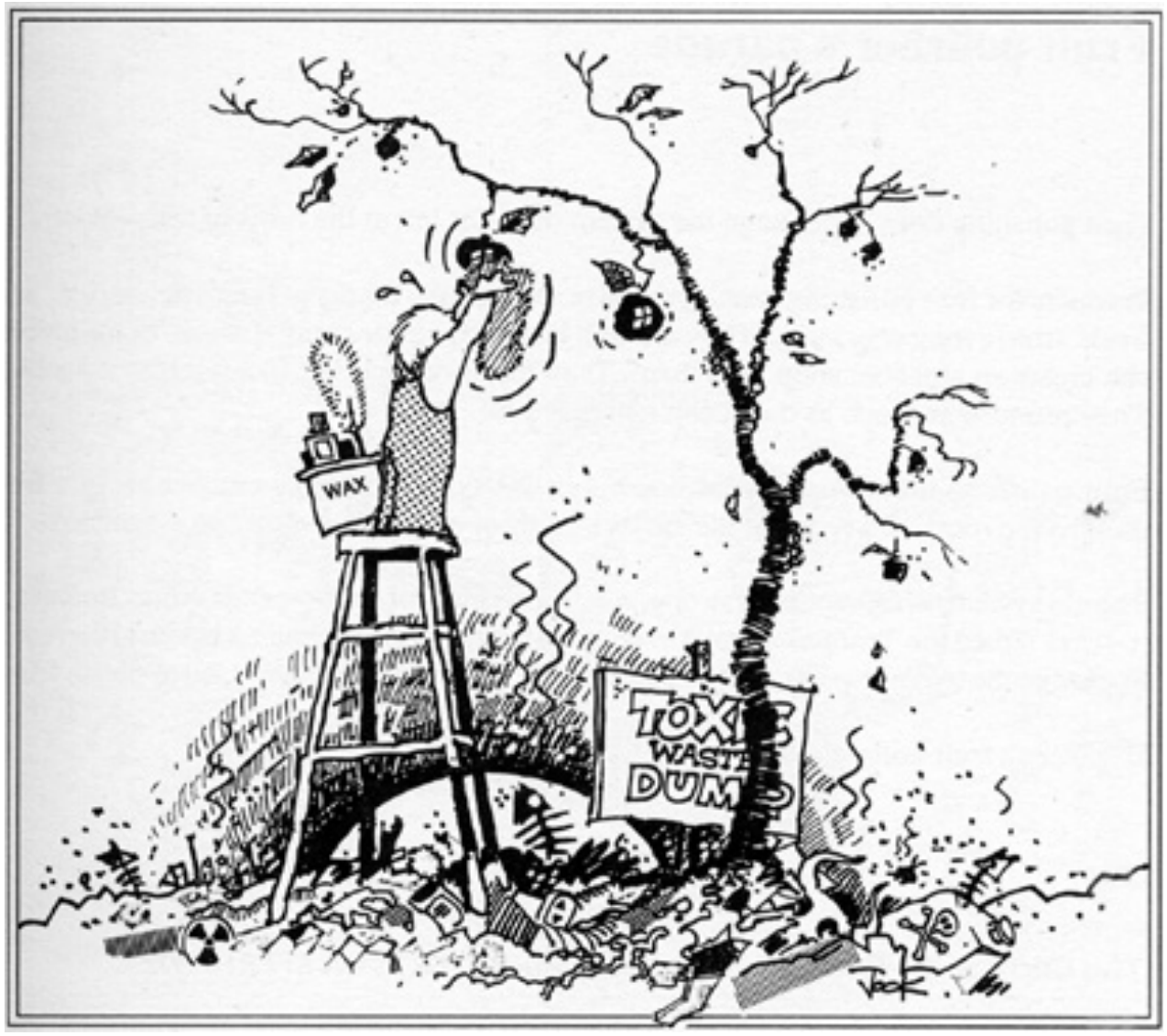
Sustainable Value Innovation Strategy



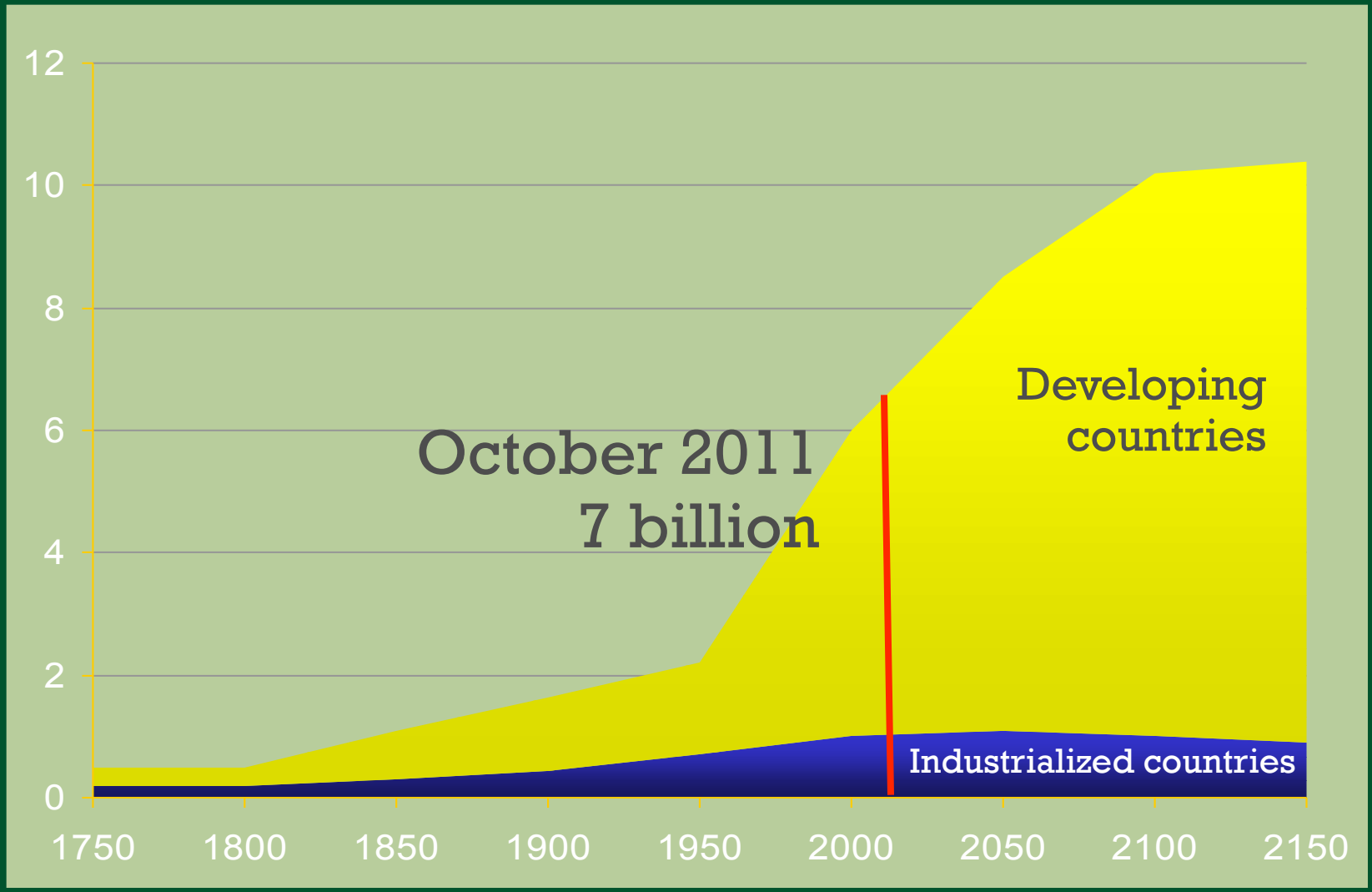
Existing Markets

New Market Spaces

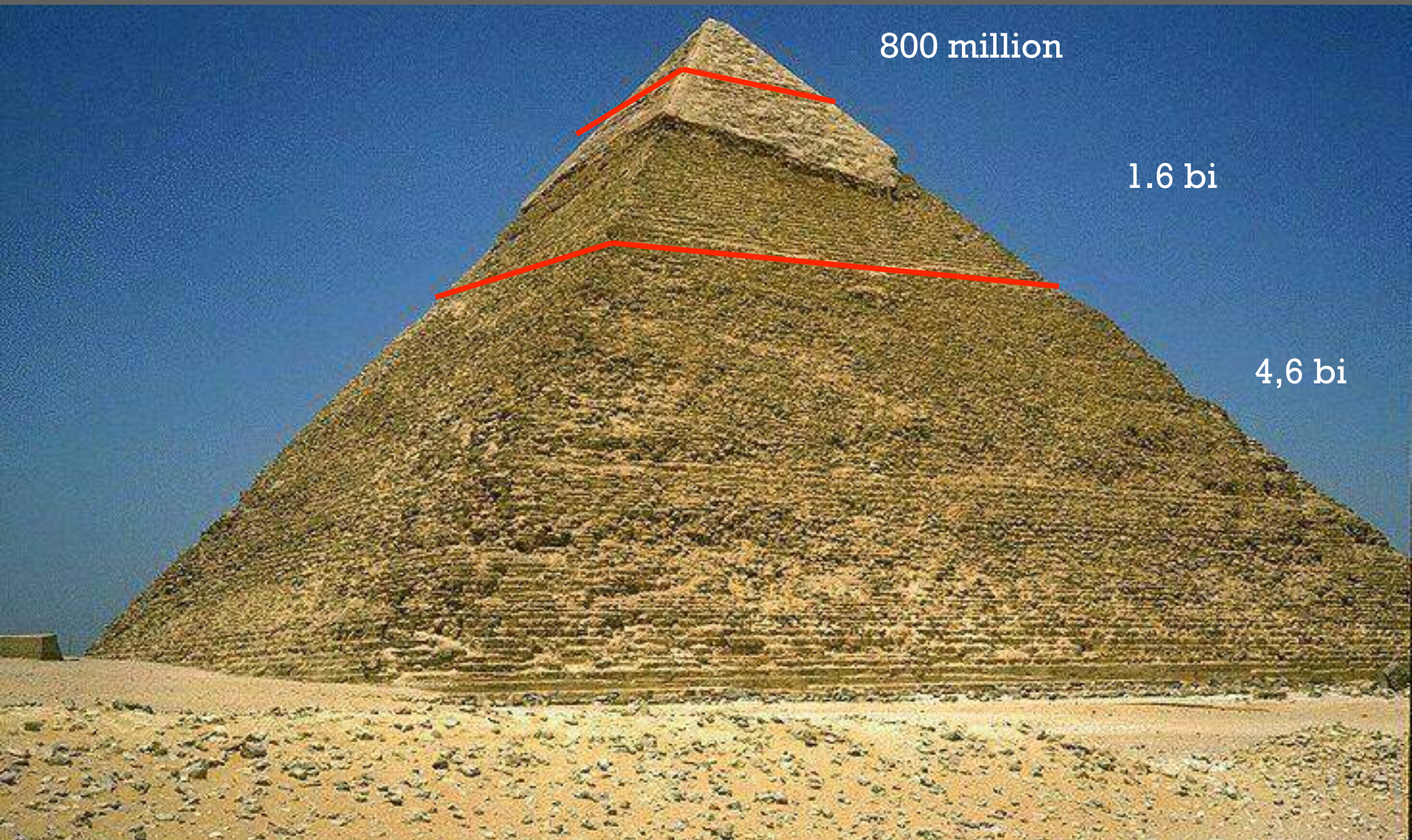
Sustainability Strategies


WAX
TOXIC
WASTE
DUMP

Global Population

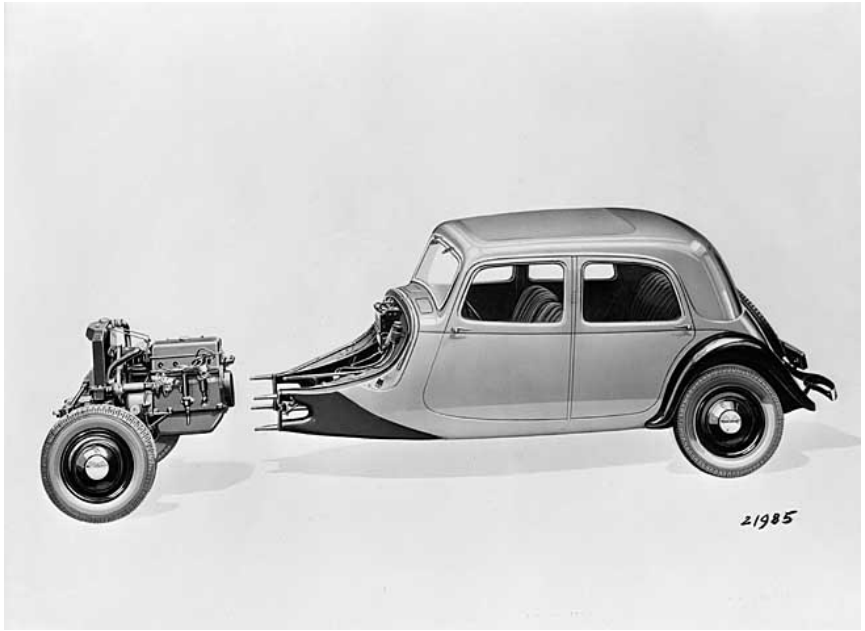


4,6 billion people live with less than $3 a day



Global Trends

- Peak-oil: demand exceeds production
- Decarbonization of the economy
- Poverty aleviation
- Corporate Social responsibility
- Climate chance mitigation and adaptation



TOOLS OF PRODUCTION One of the principal reasons for this country's unique ability to produce, lies in the mobility available to men and materials through transportation.

Automobiles, trucks, buses, highway trailers and railroad trains are just as essential tools of production as lathes and presses.

They take workmen where jobs are. They deliver materials that keep machines humming.

The transportation feats of the railroads are justly famous; feats in which The Budd Company has had an important part.

Equally significant are the accomplishments of the automobile industry, which has made universal ownership of cars possible in this country alone.

The all-steel automobile body, originated by The Budd Company, has been a major contribution to this development. So are Budd steel wheels for highway vehicles of all kinds. And the tools, processes and methods which bring them into being. The Budd Company, Philadelphia, Detroit, Gary.

Budd

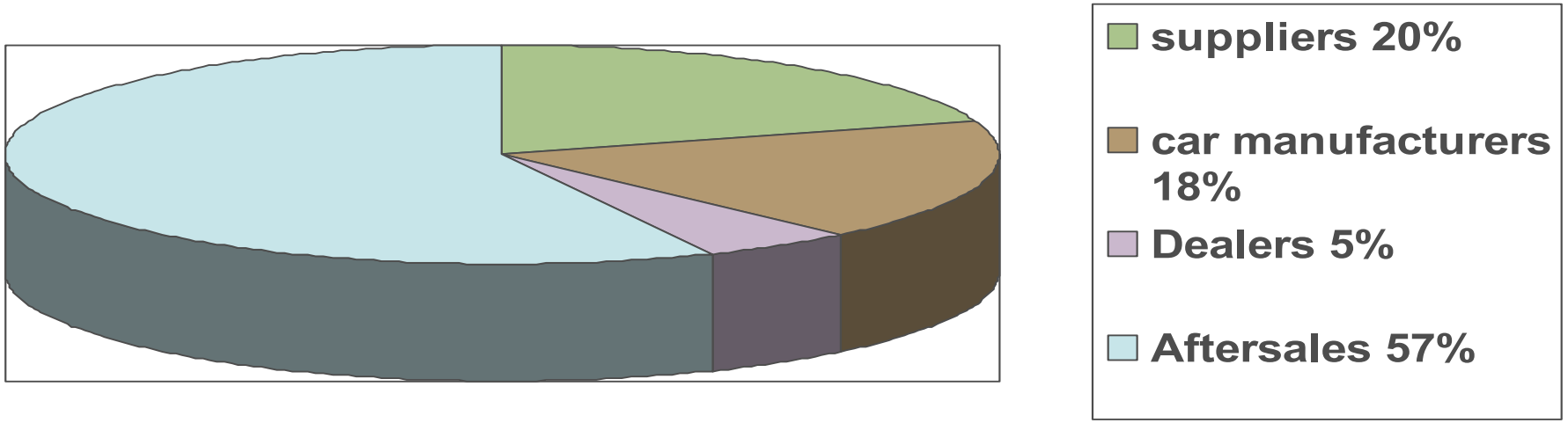
PIONEERS IN BETTER TRANSPORTATION

The Global Car Industry

- Global production around 70 million cars and small trucks in 2007
  - 50% of the world's oil consumption
  - 50% of the output of rubber
  - 25% of glass
  - 15% of steel
  - 10% of the GDP in rich countries

- By 2020 auto industrialists expect that six world companies will be producing 100 million cars per year.

Manufacturers manage to capture only a small share of the automotive value chain



Today

- The auto industry is under increasing pressure:

  - **Economic**
    - the industry is immersed in a *read ocean* of competition, stagnant markets, and increasingly lower margins
  - **Environmental**
    - as global warming gets into the policy agenda, the industry needs to find solutions for CO2 reduction
  - **Social**
    - cars have historically privileged classes A and B. Crescent pressure to find sustainable mobility solutions for classes C and D.

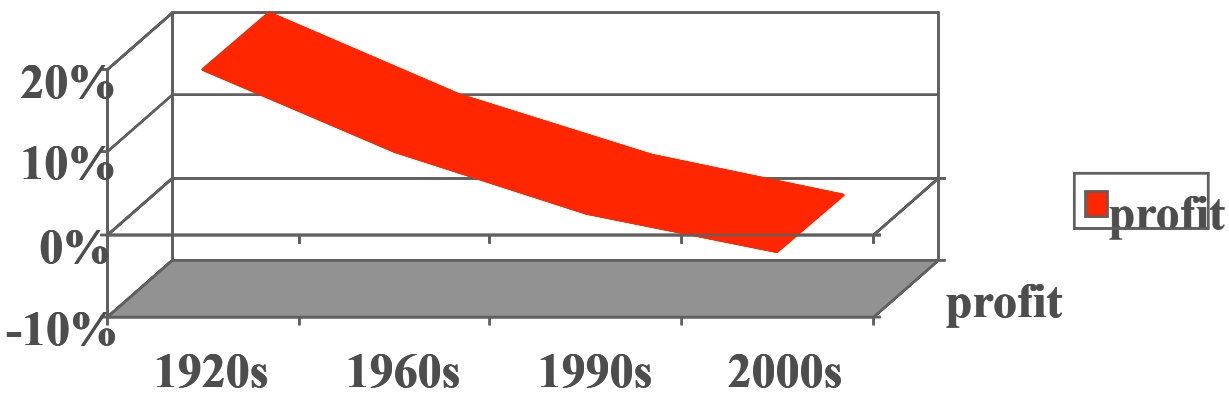
Tomorrow

- The pressure will only get worse!

  - **Economic**
    - Competition from China and India will only make *red oceans* even 'bloodier'

  - **Environmental**
    - EU regulation: Max 130g/Km of CO_2
    - 100 million cars/year in a carbon constrained world?
    - Urban congestion

  - **Social**
    - 7.5 Billion people by 2020
    - Bio-fuels: Less than 3% of the land available to grow commodity crops



How can the industry increase its profitability with:

- Increased value for customers and its contribution to society
- Reduced environmental impact?

How can automakers generate:

- Blue Ocean Strategies?
- Sustainable *Value Innovation*?

Solution 1

Smaller cars

Solution 2

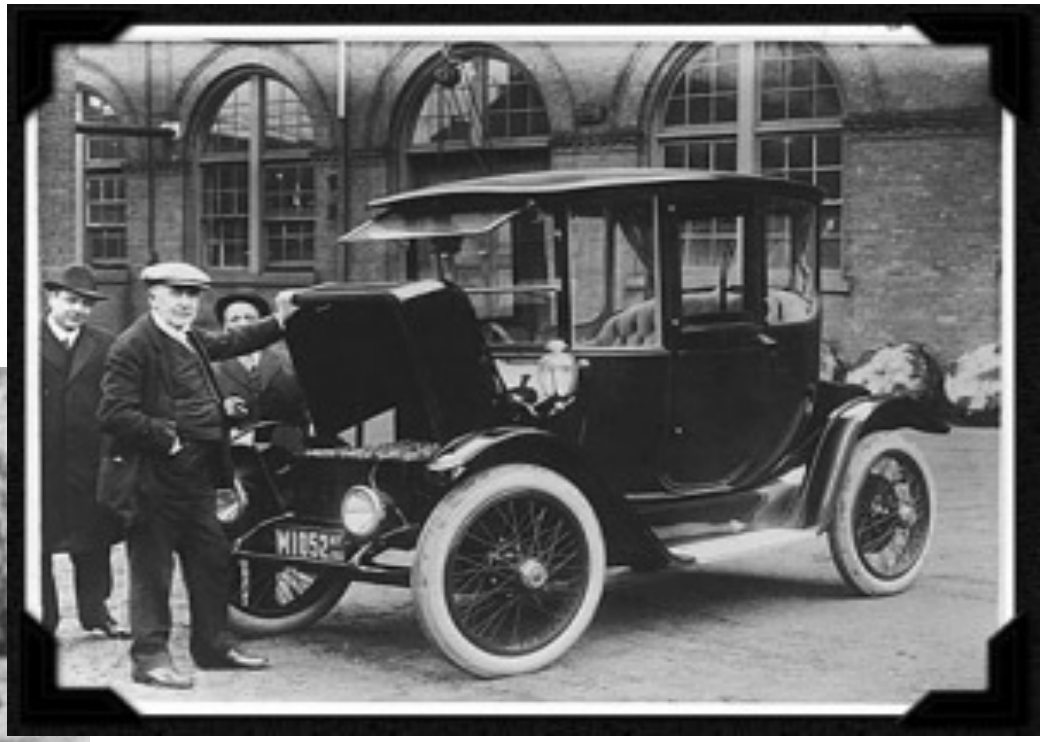
Bio-fuels

Solution 3

Hybrid Vehicles

Solution 4

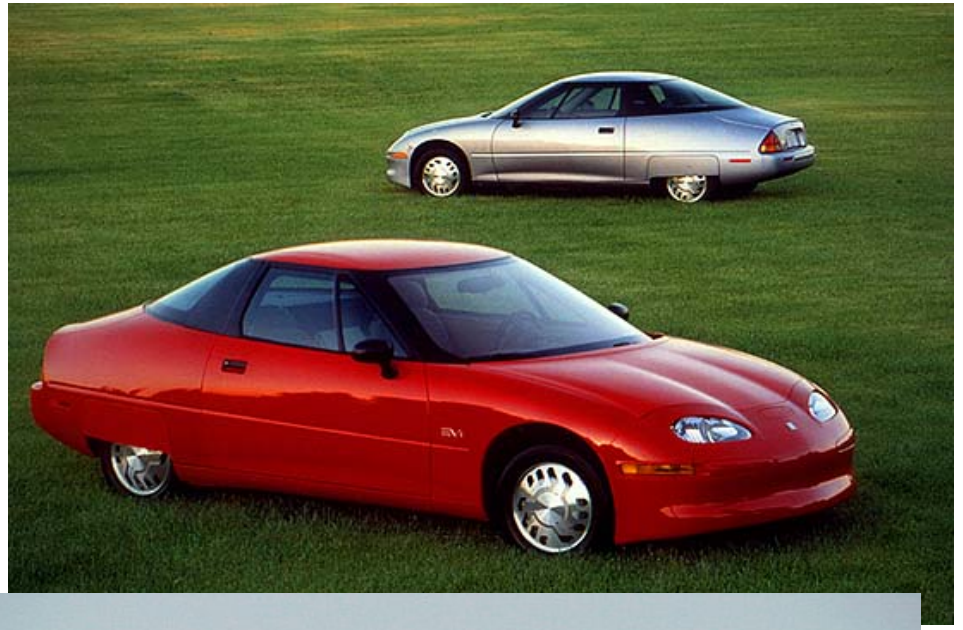
Electric vehicles

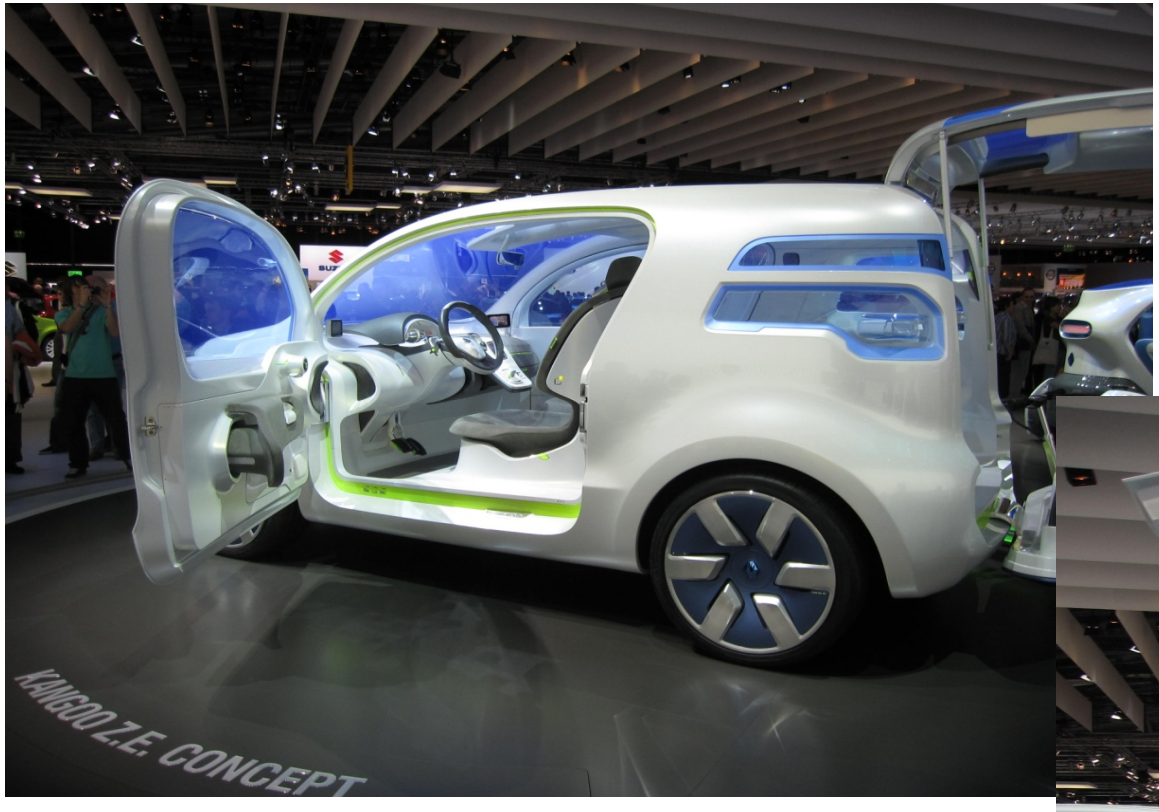


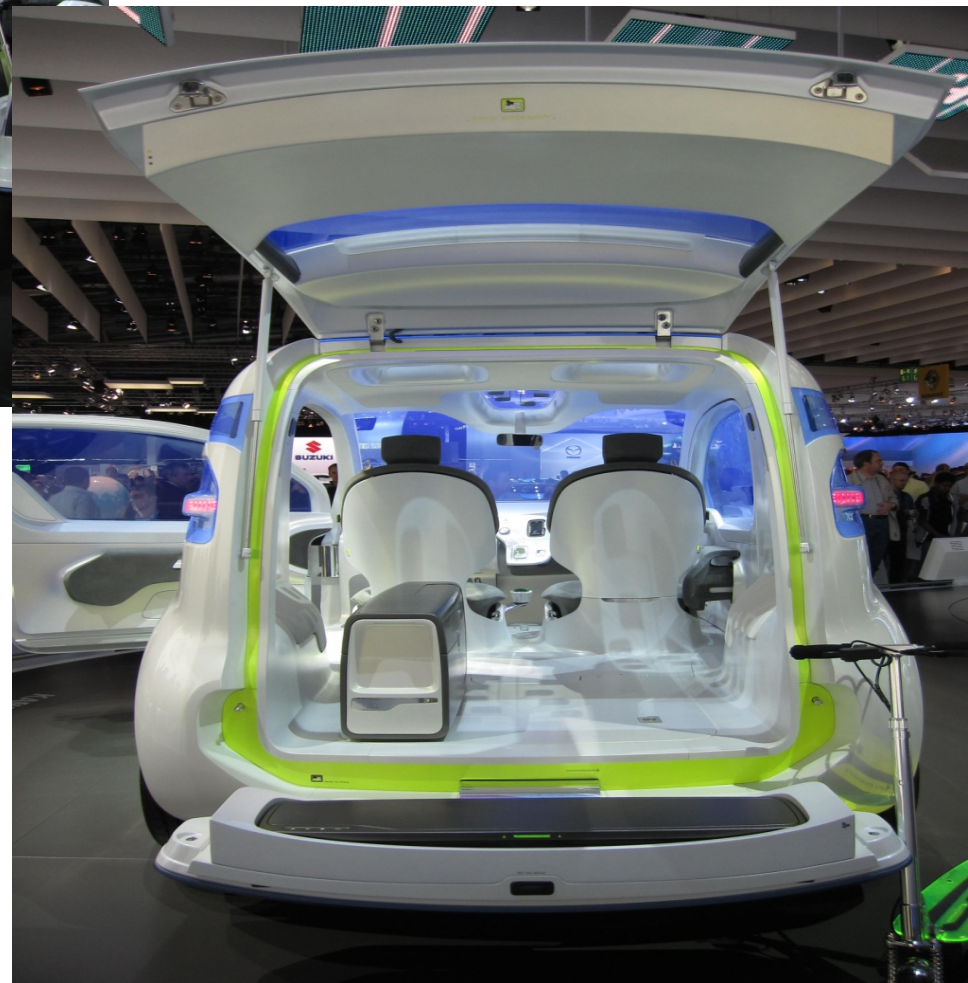
COURTESY: GENERAL MOTORS

EVs

- What's the problem with them?
- Do they have a chance now?







Frankfurt Auto Show 2009

SUZUKI
SUZUKI
MICHELIN
ZOE Z.E. CONCEPT

RENAULT
MICHELIN
Z.E. CONCEP

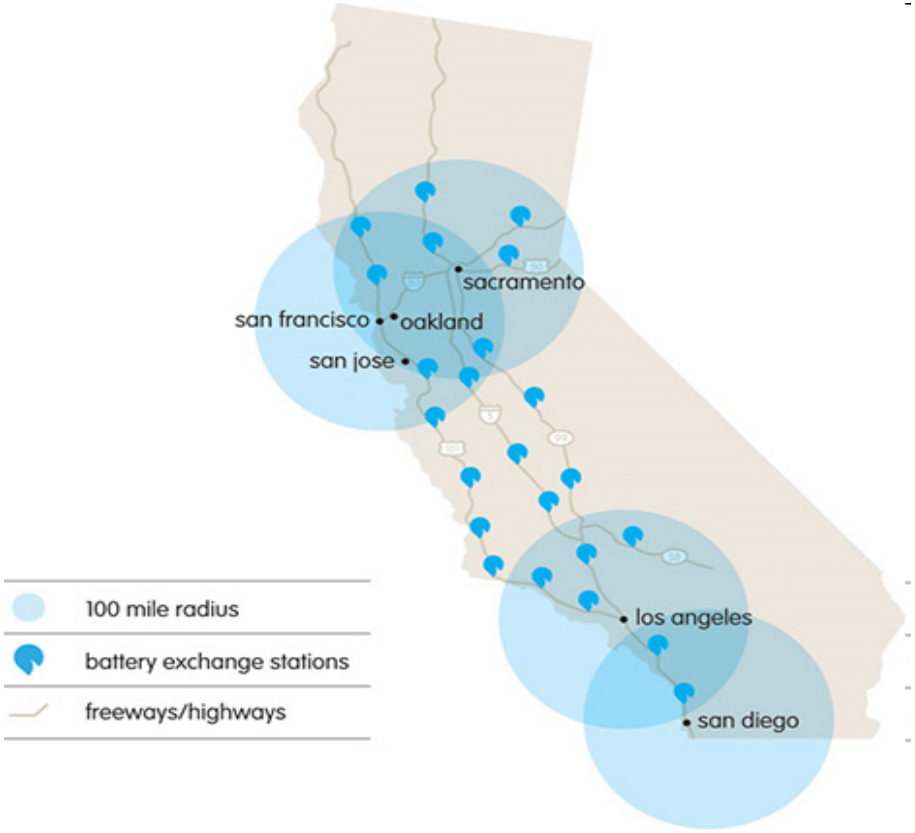
DACIA
RENAULT
better place
DACIA
RENAULT
WELT PREMIERE

ישראל

Better Place

90% of the journeys < 70Km

10% journeys > 70Km



Renault-Nissan

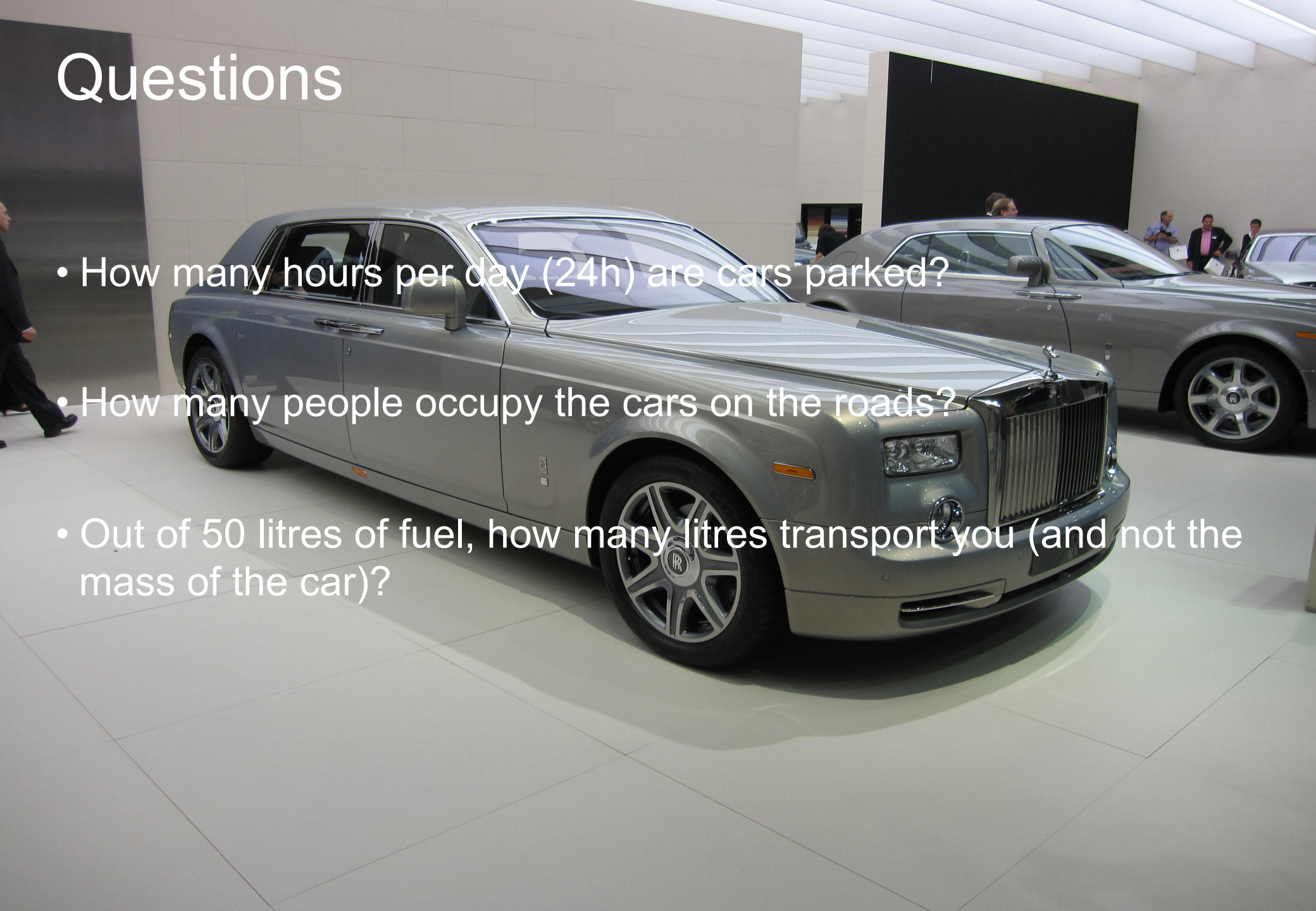
Insert Video – Swap Station

Better Place

A Internet da Energia

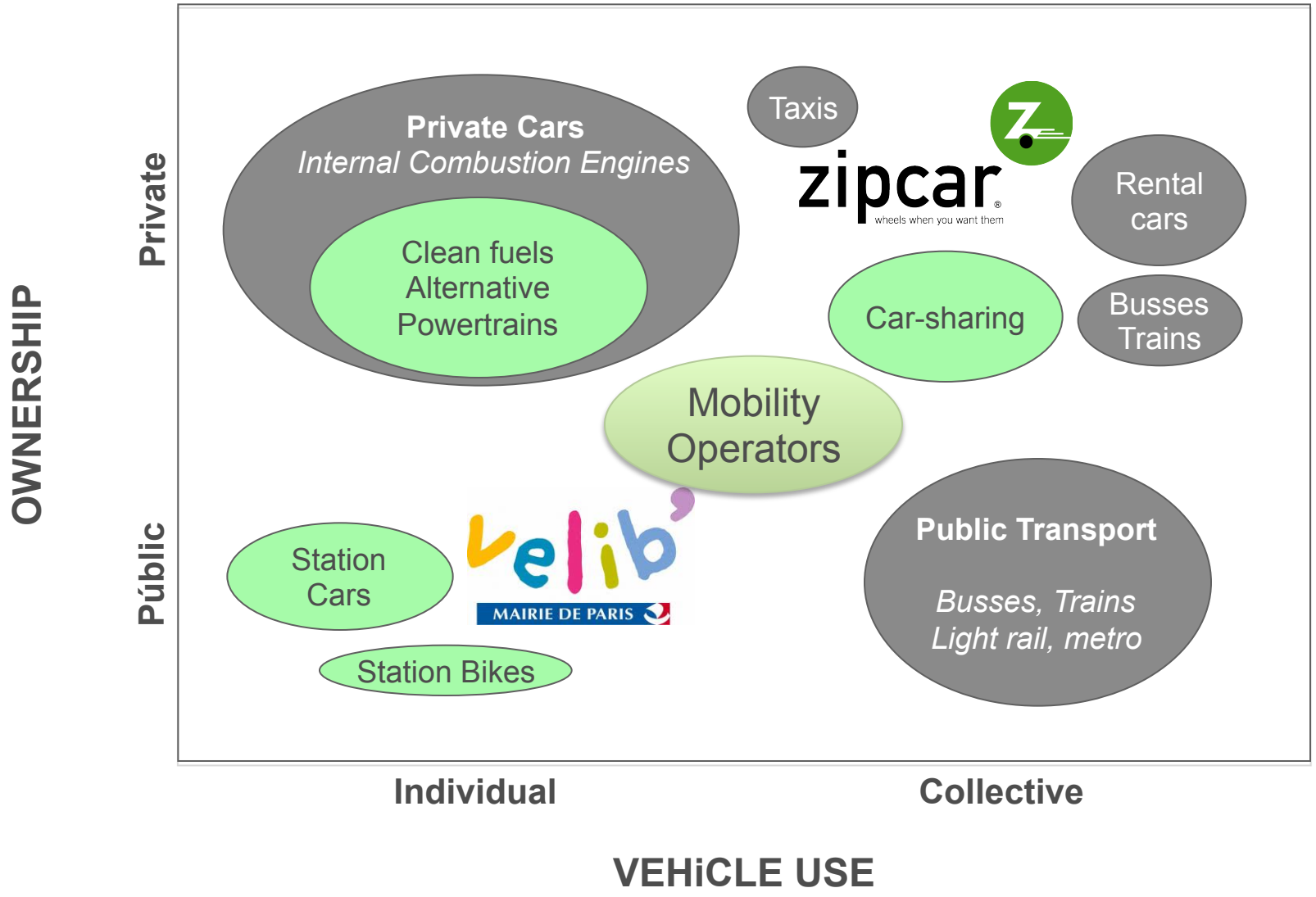
Problem Solved with EVs?

Questions



- How many hours per day (24h) are cars parked?
- How many people occupy the cars on the roads?
- Out of 50 litres of fuel, how many litres transport you (and not the mass of the car)?

Market Spaces in Terrestrial Mobility



velib'

MAIRIE DE PARIS

Who’s behind Velib

- 1800 stations – one every 300 meters
- 21,000 bikes
- “Urban Furniture”
- It’s a contract between the prefecture of Paris and JC Decaux, an advertising company
- Solutions for the city for publicity space
- Main Innovation?

zipcar.com

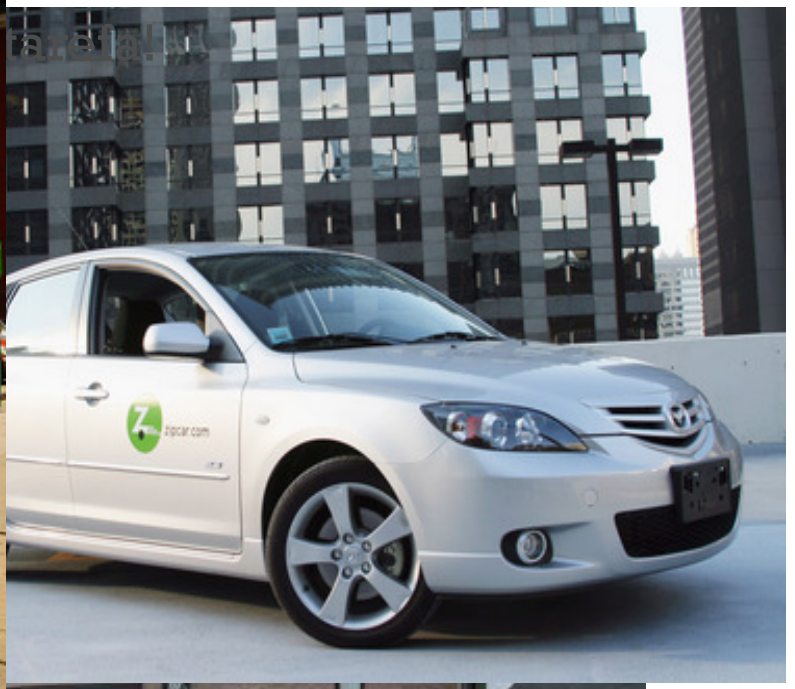
350 hours a year
having sex
420 looking for parking
Drive Zipcars
from $9.50/hour
$50 FREE DRIVING
click here

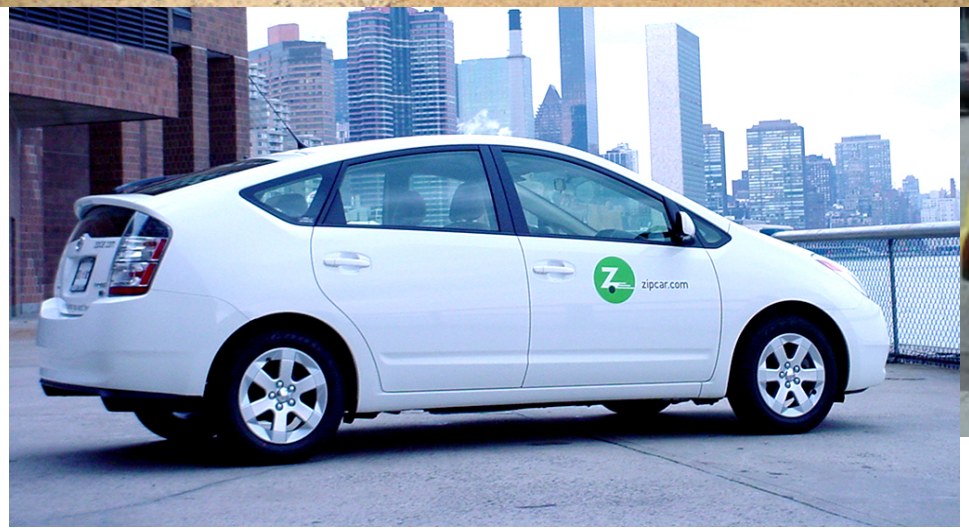
zipcar.com

11:35 AM
Beale St/Howard St
Phoenix
Reserve Phoenix
Name
Phoenix
Model
Toyota Prius
Hourly Cost
$9.25

11:35 AM
San Francisco
Beale St/Howard St
7 vehicles available
Google

cars
ve here
zipcars
zipcars


zipcar.com


zipcar.com

zipcar.com

- Founded in 2000
- Growth: 30%/year
- 500,000 members
- Revenues in 2010: €200.000.000
- IPO in April 2011 raised the value of the company to $1.5 billion

zipcar®

wheels when you want them

Vehicles adapted to the ‘job’

AM 864SG

SP SKM 1

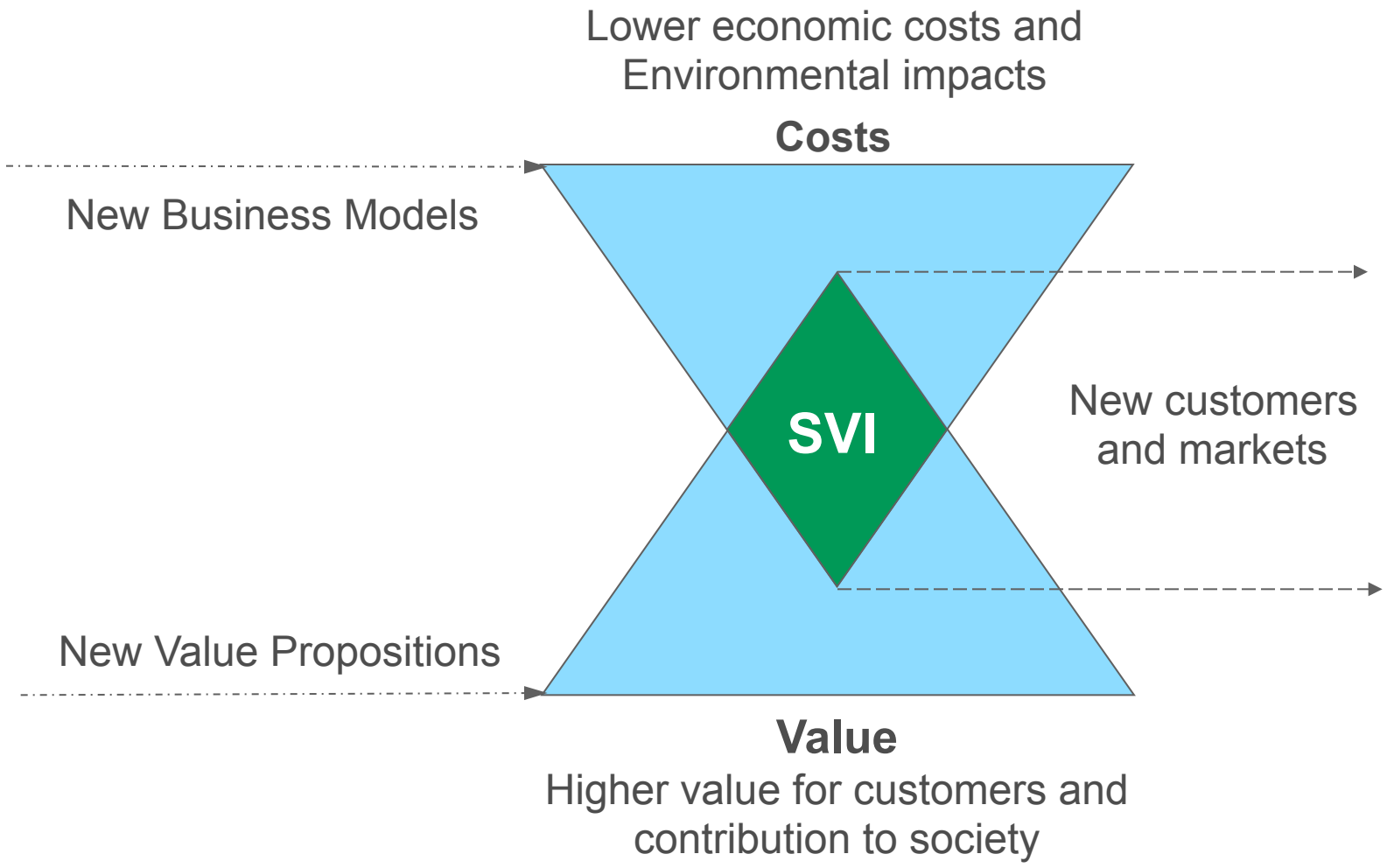
Why Car sharing is an SVI

- **Economic benefits**
  - CSO Supplier: Revenues alongside the use of vehicles
  - Customers: ex-car owners save €600/month

- **Environmental benefits**
  - Strategies for CO2-constrained world: Co2 emissions cut in 50%/user
  - Vehicles adapted to the job result in higher levels of efficiency

- **Social Benefits**
  - Access: Access to motorization to classes C and D (*)
  - Technology recombination in mobility will result in more liveable cities

Sustainable Value Innovation



Thank You!

renato.orsato@fgv.br

www.sustainability-strategies.eu