



Energy research Centre of the Netherlands

# Technology transfer at ECN and (anti)dilution in spin-off contracts

How to secure initial R&D investments in spin-off companies



## Energy research Centre of the Netherlands



- Largest Dutch R&D institute in the field of energy, independent and committed (ECN in IPCC)
- “Missing link” between fundamental academic research and market application

**Mission: ECN develops and brings to market high-level knowledge and technology for a sustainable energy system**

## Companies on the Petten research location

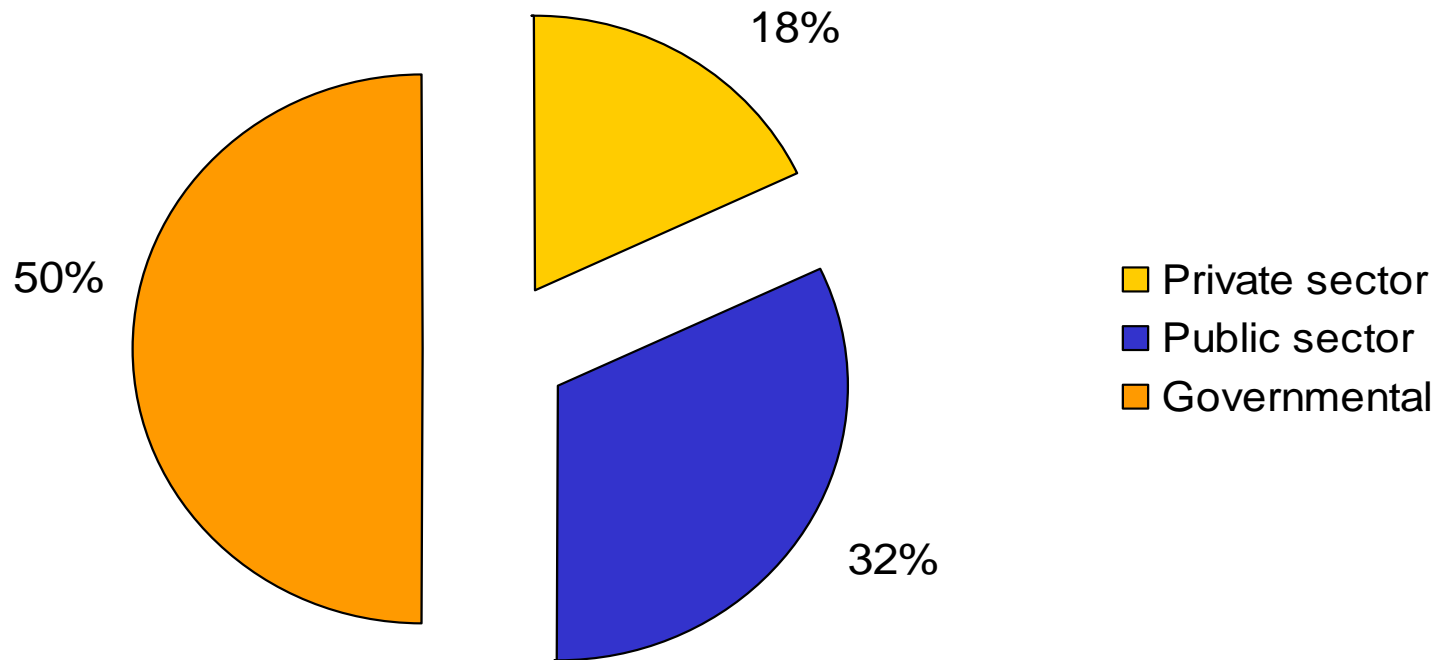




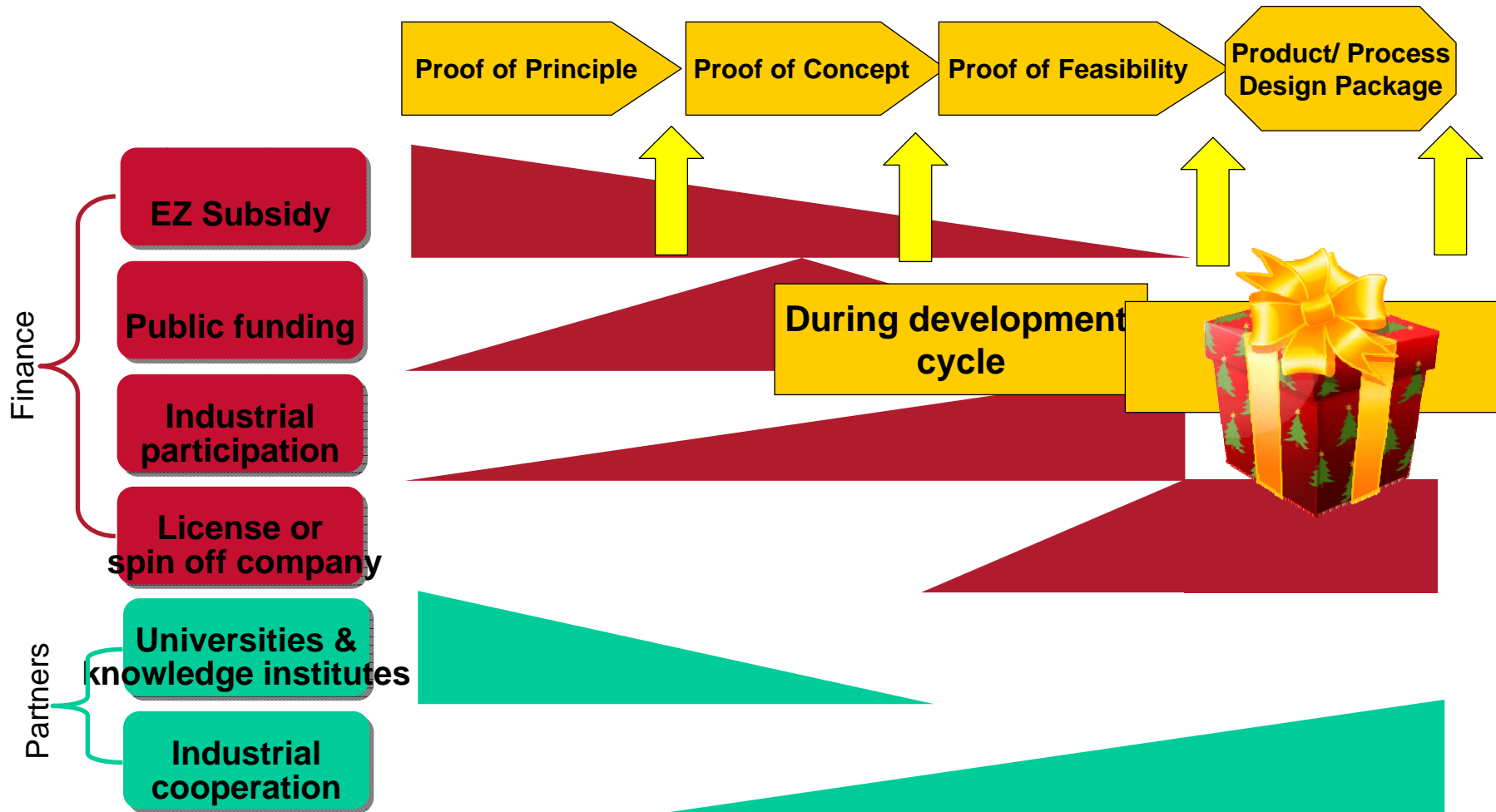
## Facts and figures

- 680 highly qualified staff members
- Annual turnover EUR 80 million
- 10-15 patents yearly, annual licensing revenues EUR 1.600.000
- Private sector investments ECN-technology approx. EUR 65 million
- 10 spin off companies
- More than 350 scientific publications yearly

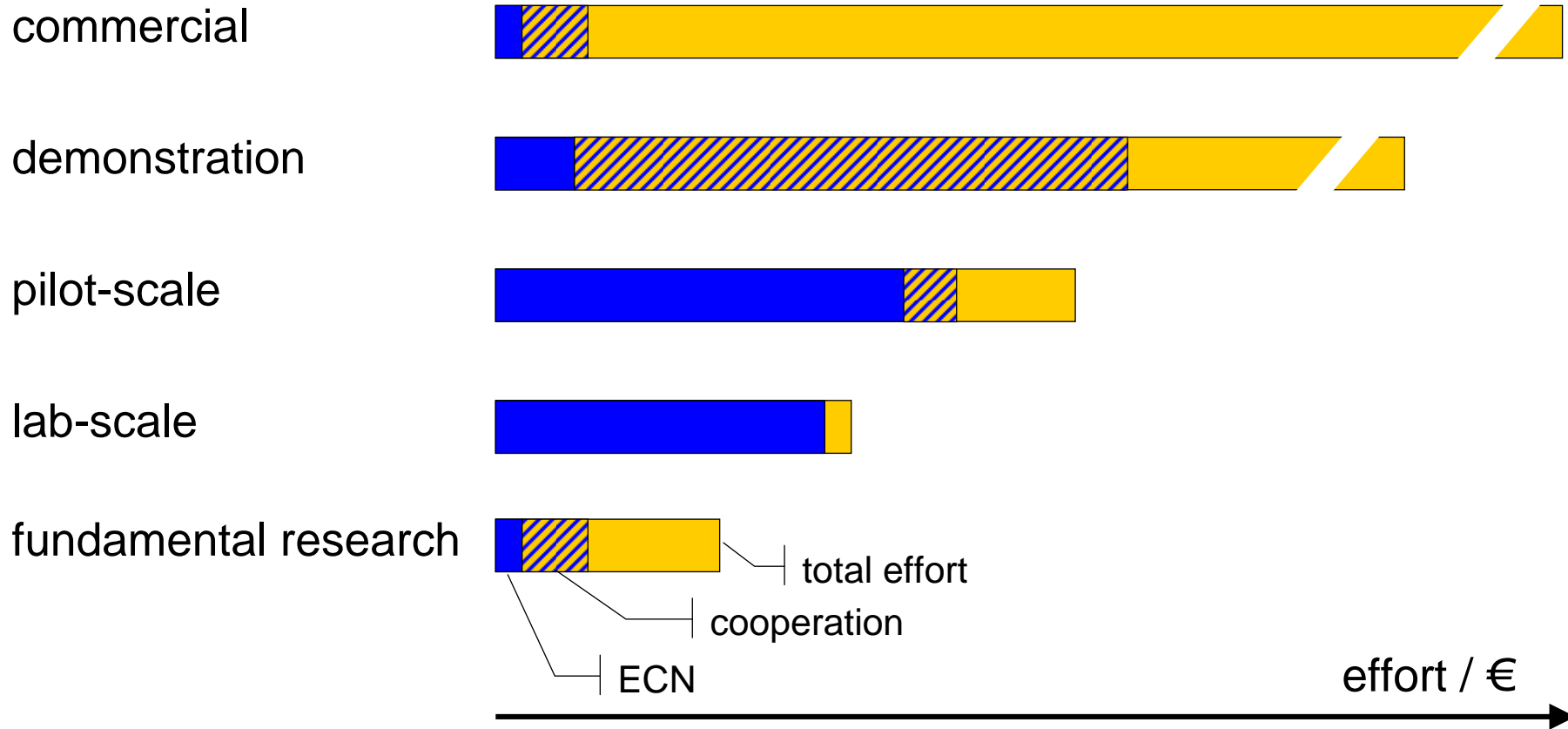
## Customers



# R&D Partners & Finance



# ECN's role in technology development



# TRIAS ENERGETICA

Clean and efficient (fossil) fuels



H<sub>2</sub>&FC's  
CO<sub>2</sub>-capture

Demand reduction

Supply issues

Energy savings



Smart grids

Industry

Buildings



System innovations

Solar



Wind



Biomass



Renewables



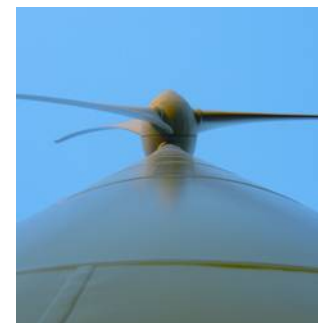
## R&D units



Solar Energy



Biomass, Coal &  
Environmental  
Research



Wind Energy



Efficiency &  
Infrastructure



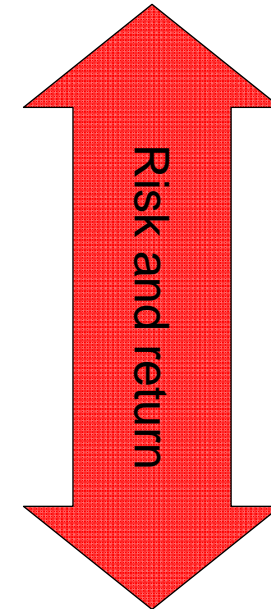
Policy  
Studies



H<sub>2</sub> & Clean  
Fossil Fuels

## Technology transfer at ECN

1. Contract research with industry
  - Finite, short(er) term collaboration
2. Licensing of (patented) technology to industry
  - Exclusive or non-exclusive
3. Establishment of (independent) company or organization
  - Spin out of ECN technology
4. Advisory and consultancy services
  - Technology advice and co-development
  - Use of facilities



## **Spin off companies**

### **Participants/shareholders**

- **Public & private R&D institutes**
- **Industrial/commercial partners**
- **Governmental participation**

## **Shareholder agreement and initial shareholder percentages**

### **Contributions:**

- **In kind or capital on shares**
- **Background knowledge**
- **Patents**
- **Know-how and other R&D efforts**

## **Dilution of shareholder position**

- **Further development**
- **Need for further capital**
- **Industrial partners, capital available**
- **Public research institutes, no capital available**

**Result: dilution of shareholder percentages of the non contributing partners.**

- **Less control in the company**
- **Right to profits is diminishing**



## **How does dilution work?**

- **Call for capital by the company**
- **Financing by subscribing for additional shares**
- **Price shares shall determine extent of dilution of the non-contributing shareholders**
- **High value shares- relatively less dilution/ low value shares- relatively high dilution**
- **Valuation of the company is qualifying for price of new shares.**
- **Choose a valuation moment that is favorable**

## Example

Industrial partner A	35,0%	
Industrial partner B	35,0%	
ECN	30,0%	
	100,0%	
Additional financing by Industrial partners		
Industrial Partner A		500 EUR
Industrial Partner B		500 EUR
Total (Euro) .		1,000 EUR = A

Assumed valuation of the company 15.000 EUR = B

Total (%) 6,7%  $C=A/B$

New shares	
New shareholders	6,7 % $C=A/B$
Industrial partner A	32,7% D (=current share*100%-C)
Industrial partner B	32,7% E (=current share*100%-C)
ECN	28,0% F (=current share*100%-C)
Total	100%

After re-allocation	
Industrial Partner A	36,0% $D+1/2C$
Industrial Partner B	36,0% $E+1/2C$
ECN	28,0% F
Totaal	100,0%

## **Other solutions**

- **Anti dilution by pre money valuation**
- **Convertible loan with discount structure**
- **Post dilutive stakes**

## **Disclaimer**

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