

Ard den Outer

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Pilot Indoor Pools



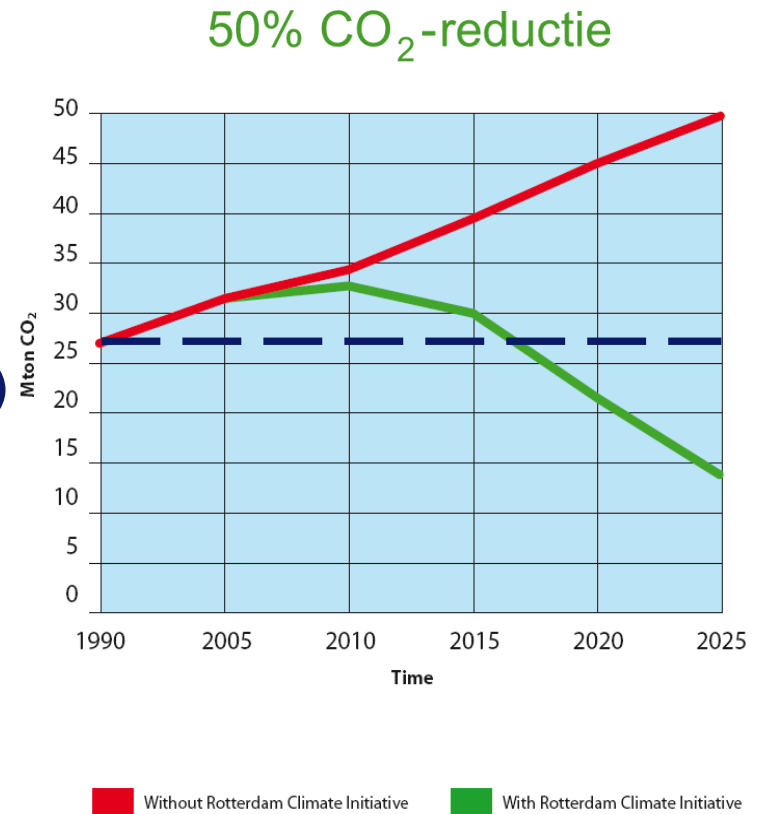
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# Why this new concept ?

- **Reduction CO<sub>2</sub>-output:**
  - RCI – 50% reduction
  - Legislation – ROI < 5 years
  - Ambition - ROI < 15 years
- **Increase of comfort (less chlorine)**
- **Optimisation maintenance**
- **Less civil servants, maintenance in long-term contracts**
- **(great advantage to combine maintenance and ESCo)**



## (M)ESCo-concept (1/2)

- **Building retrofitting as a basis:**

- >1500 government owned buildings
- about 75% of LCC is energy and maintenance

- **Performance contracting:**

- performance risk at contractor side
- both energy & maintenance performance contract !
- E = guaranteed reduction in % of initial energy-use
- M = guaranteed maintenance condition level 3 (NEN2767)

- **Finance**

- E = Measures financed by contractor (ROI = 10 y)
  - only actual energy saved is paid as compensation !
  - fixed price per E-unit (risk for client)
- M = Financed by client (Rdam); regular maintenance budget



### ▪ **Comfort:**

- no changes in water / building temperature
- reduction in chlorine concentration (water / air); suitable for asthmatic visitors

### ▪ **Flexible:**

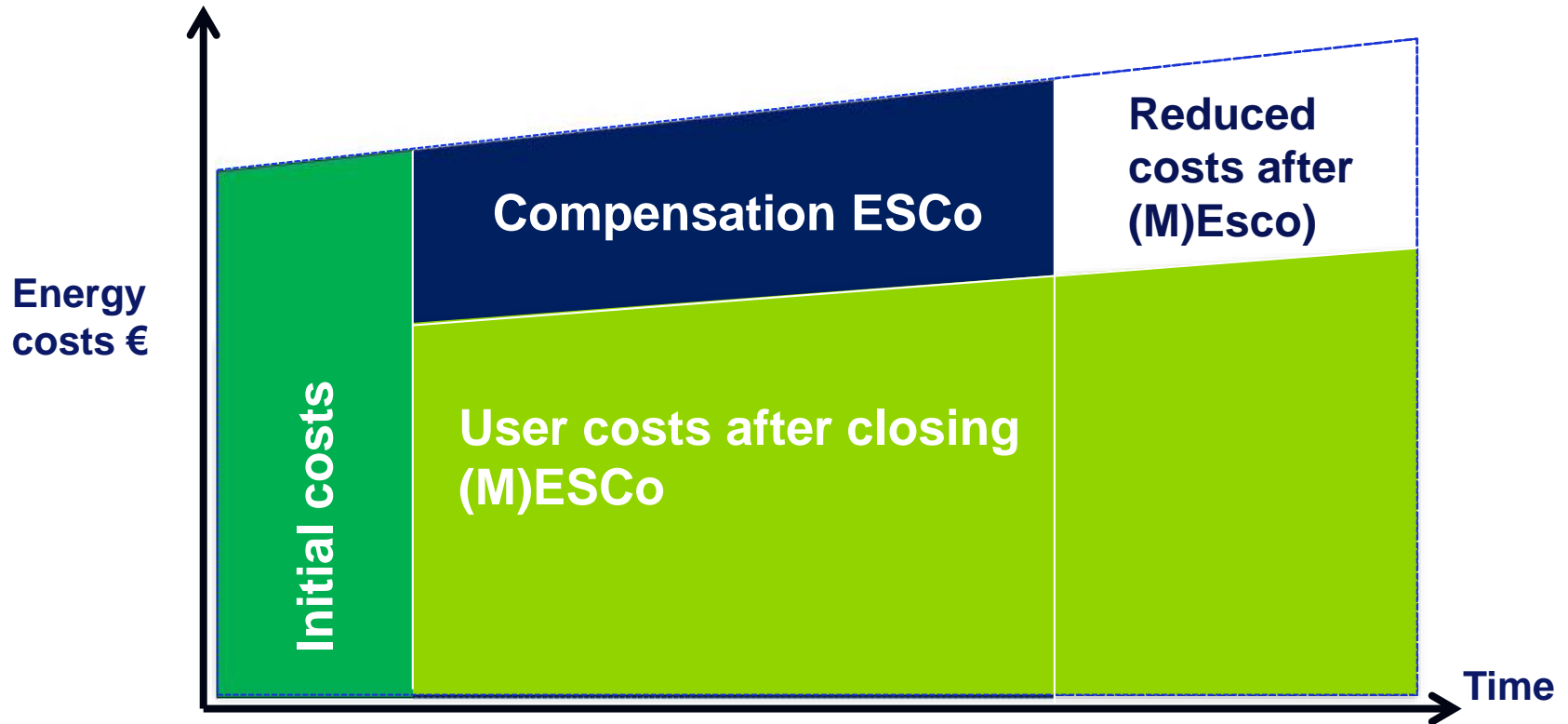
- some pools will close
- possible budget cuts on maintenance level

### ▪ **Improved maintenance:**

- 10 year period planning of maintenance
- Durable replacement of (partial) installation
- Fixed condition level (=3)



# Business Case



# Results

	Indoor Pools	Office building
<b>Scope</b> Energy (10 y) Maintenance (10 y)	<ul style="list-style-type: none"><li>• 9 pools</li><li>• € 7,5 million</li><li>• € 8,8 million</li></ul>	<ul style="list-style-type: none"><li>• 1 building</li><li>• € 7,4 million</li><li>• € 8,6 million</li></ul>
E-reduction (use) M-reduction (cost) <i>* incl. risk, PM, guarantees</i>	<ul style="list-style-type: none"><li>• 34%</li><li>• 18%</li></ul>	<ul style="list-style-type: none"><li>• 32%</li><li>• 17%</li></ul>
<b>Cost preparation</b> Total Subsidized Compensation contractors	<ul style="list-style-type: none"><li>• € 2 million</li><li>• 50%</li><li>• 2x €250.000</li></ul>	<ul style="list-style-type: none"><li>• €200.000</li><li>• 100%</li><li>• 0x €50.000</li></ul> <p><i>* two participants quit before end of procedure</i></p>



- **34% of energy-reduction equals € 3,4 million**  
**in E-compensation over 10 years**
- **M-compensation equals €7,2 million**  
**(= 82% over €8,8mio) over 10 years**
  
- **Loan contractor with the bank was € 2,4 million over 10 years**
- **Loan for new “prospect” was difficult to obtain**
- **Guarantee (by client) of compensation necessary**  
**(based on actual E-reduction)**





- **Sufficient volume**
- **Not just the project, the organisation as well**
- **Activate all costs and write it off during 10 years**
- **Flexibility – also financially**
- **Continuity is essential**  
**(scope, activities, maintenance level etc.)**
- **Improvement in guarantees – “click-system”**



## Lessons learned (maintenance)

- **Combining E & M measures highly recommended**
- **High quality of 0-state assets necessary**
- **Use own reference for long-term maintenance planning (to know what to expect)**
- **Performance contracting for maintenance, also based on availability is perfectly possible**
- **Secure budget for extra's or unexpected costs**



## Some references (not all in English unfortunately)

- This presentation

(available through organisation or mail me)

- ESCo's (NL): <http://www.esconetwerk.nl/frontpage>
- ESCo's (EU): <http://www.european-energy-service-initiative.net/dutch/eu/>
- EUESCO (EU): <http://euesco.org/home/home.html>
- ENERY.GOV (US): <http://energy.gov/eere/femp/energy-service-companies-0>
- NAESCO (US): <http://www.naesco.org/what-is-an-esco>
- VIPA (LT): <http://www.vipa.lt/news/157>
- EnePRO (LT): <http://enepro.lt/en/news/enepro-undertakes-first-esco-street-lighting-modernization-project-lithuania>



- **Repetitive retrofitting**
  - could reduce costs for renovation by 50%
  - include Energy, Cleaning, Maintenance
- **Facilitating 3<sup>rd</sup> parties – Spread the word !**
- **Durable long-term maintenance planning**
- **Crowdfunding for the homeless ;-)**
- **Renewable energy – shift focus from “production” locations, to production / user – area’s**



- Q&A now
- Available during remainder of the seminar
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