




# White Certificate System in Poland Lesson learned

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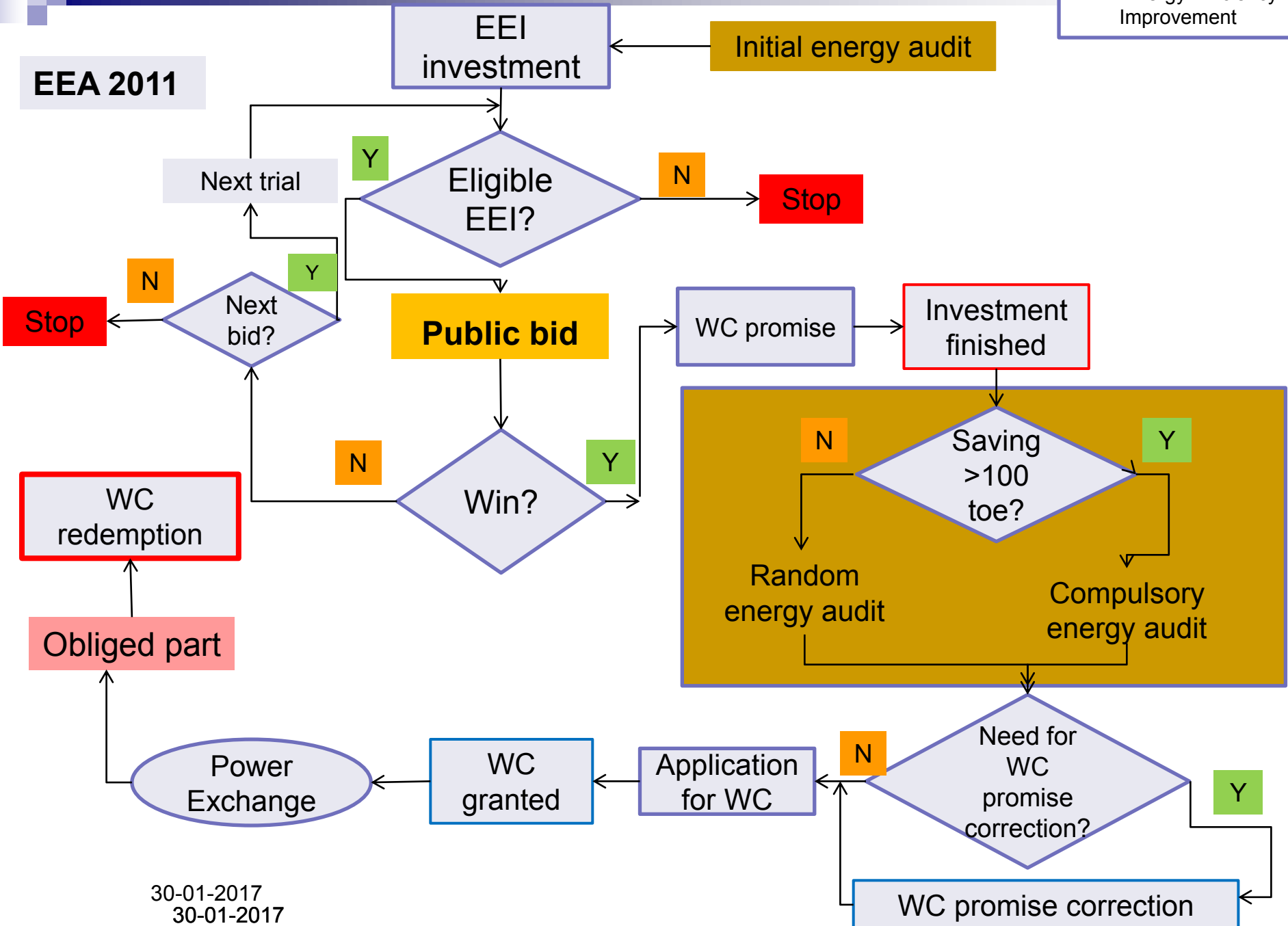
# Presentation Outline

- Energy Efficiency Act (2011) EEA 2011
- White Certificate System (WCS) Overview
- Reasons for redesign EEA 2011  EEA 2016
- New Energy Efficiency Act (2016) EEA 2016
- WCS results EEA 2011
- Lesson learnt

# Focus of ee policy instruments in Poland

Policy instrument type	Technology focus	New vs existing technology	Cost of supported technology	Complexity of supported technology
Energy Efficiency Obligations	specific technologies supported	supports replacement and/or upgrade of existing technology	high	high
Regulations	depending on sector specific technologies supported and general support of energy efficiency improvements	supports new technology and replacement and/or upgrade of existing technology	low-medium	medium
Information, advice, billing feedback, smart metering	depending on sector specific technologies supported and general support of energy efficiency improvements	supports new technology and replacement and/or upgrade of existing technology	low-high	low-high
Loans	general support of energy efficiency improvements	supports replacement and/or upgrade of existing technology	medium	medium
Grants	specific technologies supported	supports replacement and/or upgrade of existing technology	medium-high	medium-high
Energy labelling schemes	specific technologies supported	supports new technology	medium	medium

EEA 2011



# Categories of energy efficiency improvement projects

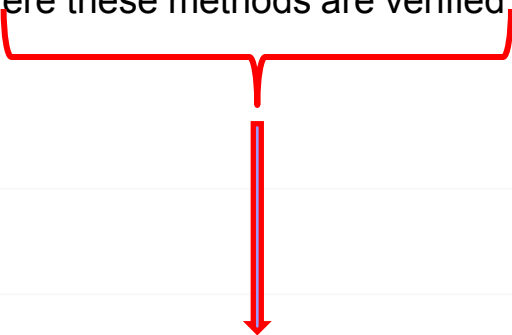
1. increasing energy savings in final consumer sector
  - min 80% of all WC in a tender
2. increasing energy savings in companies' equipment for own use
  - max 10% of all WC in a tender
3. reducing losses of electricity, heat or natural gas in transmission and/or distribution
  - max 10% of all WC in a tender

The obligatory energy saving forced by the WCS should amount to at least 2.645 Mtoe till 2020 (Art. 18 EEA 2016) - objective to save 1.5% final energy annually until 2020, i.e. a total of 10.5%, in accordance with Art. 7(1) of the EED.

# Energy saving calculation

EEA 2011

EEA 2016

- Energy efficiency audits may use different methodologies:
    - A pure calculation approach based on e.g. analytical, numerical engineering methods, mathematical modelling and computer simulations, in cases where these methods are verified and commonly regarded as sufficiently accurate and reliable,
    - Measurement approach supported by analytical calculations,
    - Combination of the two above.
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There are two main methods of calculation of savings :

- Simplified energy efficiency audits for deemed savings projects.
- Energy efficiency balance audit, i.e. making energy balance of the whole machine, equipment, process or building in which the energy improvement measure has been done.

Audits shall contain a description of possible types and variants of energy efficiency improvements accompanied by cost effectiveness analysis and estimation of energy savings possible to achieve.

# SWOT. Strengths

- The competitive system of bids for WCs and their trade ability enabled meeting the quantitative energy saving objectives at minimal societal costs. EEA 2011
- **Simplified system of WC allocations.** EEA 2016
- Energy saving obligation is proportional to the energy income of the obliged parties what makes the system clear and fair - “the more revenues from energy sell the higher the obligation”.
- **Energy saving obligation is proportional to energy sold to end users.** EEA 2016
- Tradability of the WCs makes the system highly market oriented instrument.
- Addresses new energy saving areas not covered yet by other energy saving supportive systems.
- It is tight in this sense that it embraces all possible channels of delivering electricity, natural gas and heat in larger installations (greater than 5 MW) to end users.
- Covers many different groups of users, e.g. end-use of energy except for sectors subjects to the ETS.
- Can be almost cost neutral, except administrative costs, for the national budget since the cost are transferred on end-users by tariffs.

# SWOT. Weaknesses

- Relatively high administrative costs as compared with other supporting schemes reflecting complexity of the system and lack of managerial experience of its administrator.
- High costs of WCS functioning and transaction costs for participants. EEA 2011
- The auctioning system favours only those energy efficiency investors who required for their improvements lowest reward in the form of WCs.
- The auctioning system may also discourage some of the potential investors.
- **Simplified administrative issues.**
- High cost and technically difficult M&V of the obtained energy savings. EEA 2011
- **Simplified rules of M&V.**
- Tendency to implement the project by the obliged parties themselves instead of making use of market energy services providers, partly due to the weakness of the ESCO market in Poland.
- Untested in practice methodology of energy saving measurements and verification.
- Insufficient knowledge of costs of different energy improvements.
- Lack of possibilities to precise control the WCS, e.g. missing ability to choose among different types of energy.
- WCS prefers improvements in electrical energy and short payback time investments, therefore long-term investments are not stimulated, especially in the building sector.
- Lack of incentives to exceed the obligatory savings for the obliged parties.
- Low knowledge on technical aspects of energy efficiency improvement measures and their financing options among obliged parties and potential providers of energy services.



# SWOT. Opportunities

- Possible lowering of the transaction costs due to better co-ordination and co-operation between the WCS and the EU ETS. EEA 2011
- EU ETS covered. EEA 2016
- Steady transformation of the energy volume driven market to energy services market.
- Growing spending on energy efficiency improvements due to politically driven more stringent legislation and public pressure on environmental issues.
- Development of the market of low-emission technologies and novel energy services, especially growing ESCO sector.
- Possibility of technical supporting the WCS by environmental funds, e.g. by providing funding for low cost energy audits.
- Large financial resources allocated for energy efficiency investments in the current EU programming period 2014-2020.
- Restitution of the energy auditor profession or introduction of any qualification system setting minimum level of quality of the audits.
- Take experience from the learning curve to improve the system operation.
- Encourage the public sector to get more actively involved and take advantage of the WCS.
- Use the WCS to reach the objectives of the EPBD and EED in a low-cost synergy way, e.g. by increasing the number of energy audits.
- Create a level playing field for all types of energy and energy subsectors, e.g. create equal opportunities for the industry and building sector within the WCS.

# SWOT. Threats

EEA 2011

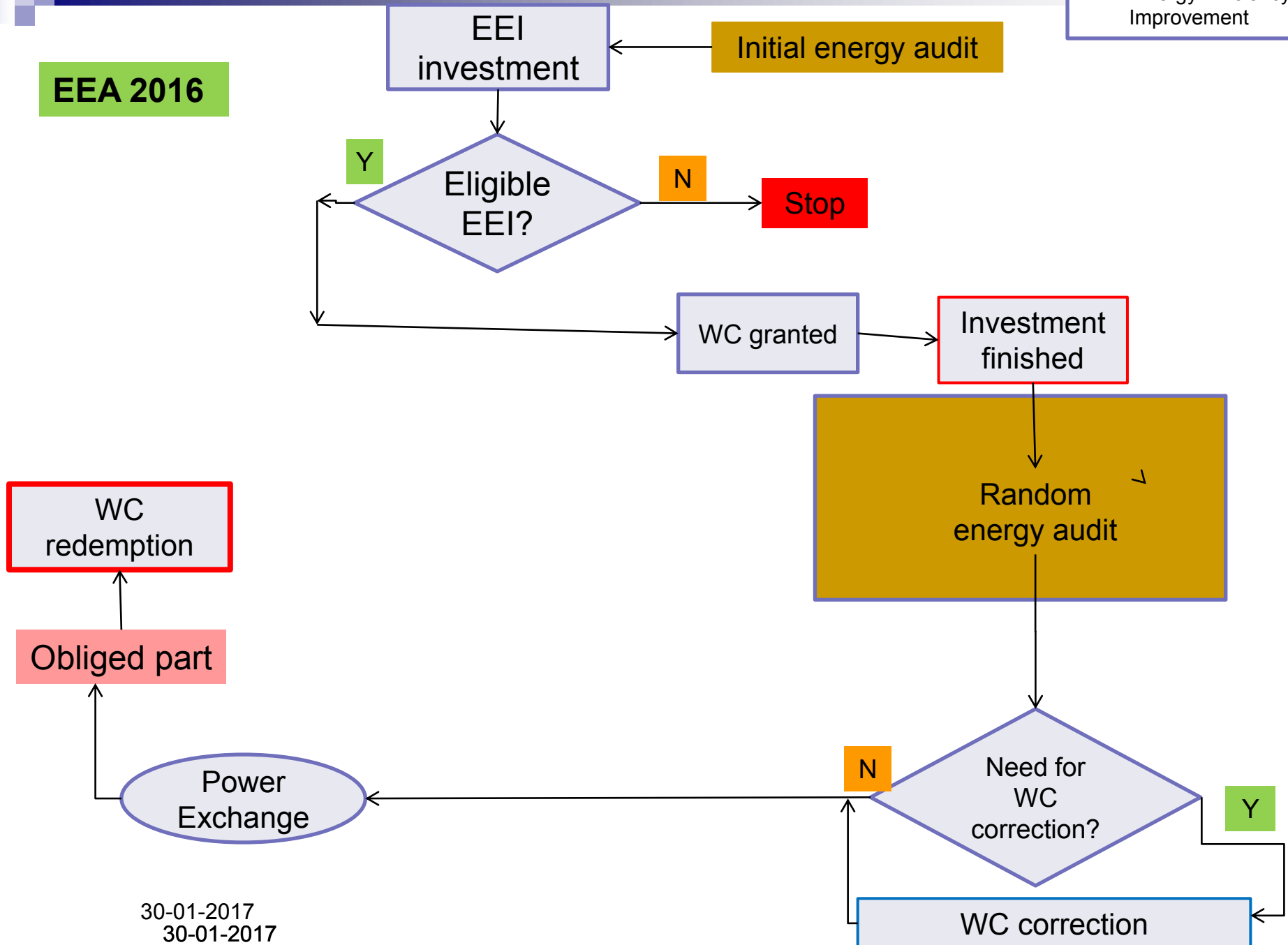
- Growing administrative stiffness of the WCS disabling the market advantages of WC.
- Setting unambitious national energy efficiency target will not induce additional energy efficiency improvement measures beyond the „business as usual” scenario.
- Growing complexity and lack of transparency of the WCS. EEA 2011
- Softening of the M&V rules may lead to inefficiency, unstable market and growing costs. EEA 2016
- Conservation of the current ineffective and too restrictive system of monetary penalties.
- Lack of or failed attempts to open the WCS to small parties.
- Experience based problems with proving the energy saving obtained may discourage potential investors due to high business risk caused by high penalties.
- Small, weak, underdeveloped and therefore uncompetitive WC market.
- Lack of co-operation between main stakeholders.
- Competition from other energy efficiency supporting programs that may turn out to be more attractive for investors that may finally lead to permanent underdevelopment of the WCS.

# Main reasons for redesign

## **Necessity to implement EED into Polish law**

- formal procedure of application for WC is very complicated and confusing; high business risk
- no possibility to correct formal mistakes in the process of application
- short time after the announcement of the tender to the day of submitting complete applications (30 days)
- long procedure of evaluating and granting certificates
- exclusion from the tender projects implemented in installations covered by the ETS
- WCS insufficiently contributed to development of energy services market, e.g. ESCO, energy audits

EEA 2016



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# Old and new WCS

## Old WCS

- WC allocated by public bid
- Primary energy
- EU ETS not covered
- Obligation: energy equivalent to 1.5% annual revenues
- Not bankable
- M&V stringent
- Unlimited possibility to fulfilling obligation by paying substitution fee
- Constant substitution fee
- High administrative costs

## New WCS

- WC granted to all investors (not to obliged parties)
- Final energy
- Obligation: 1.5% of final energy traded
- EU ETS covered
- Bankable
- M&V less demanded
- Limited and diminishing share of substitution fee eligible
- Revalorised substitution fee
- (Hope for) Lower administrative costs

### Common

- Tradeability
- Same obliged parties
- Same set of eligible projects
- 10 toe/y threshold
- Some exemptions for energy intensive industry
- Substitution fees and penalties only to support ee improvements

Category of savings	White Certificate issued [toe/a]			
	2013	2014	2015	2016
End-users	13 183	31 692	120 461	428 623
Energy companies' equipment for own use	3 780	11 365	16 577	24 263
Electricity, heat or natural gas in transmission and/or distribution	3 735	14 365	16 577	24 263
<b>Together</b>	<b>20 699</b>	<b>57 180</b>	<b>149 886</b>	<b>495 023</b>
Ratio of number of WC issued to WC available [%]	3.76	4.18	6.88	25.1



Category of savings	Number of White Certificate issued as compared to 2013			
	(2013=1)			
	2013	2014	2015	2016
End-users	1	2.4	9.1	32.5
Energy companies' equipment for own use		3.0	4.4	6.4
Electricity, heat or natural gas in transmission and/or distribution		3.8	3.4	11.3
<b>Together</b>		<b>2.8</b>	<b>7.2</b>	<b>23.9</b>



# Conclusions

- WCS was introduced with little knowledge on its operation (2011)
- WCS turned out to be complicated, unclear and costly (2012-2016)
- Deep changes introduced (2016)
  - WC granting simplified
  - Easier M&V methods
- Current operation improved?

EEA 2016

WC market value in 2016-2020 app. €1 billion  
Impact on electricity price increase:

- 2016 – 0.80%
- 2020 – 1.30%