# Evolutions in Flanders/Belgium about onshore wind energy

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## OEM

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SIEMENS Gamesa RENEWABLE ENERGY
Vestas

## Supply chain

ARCADIS Infrastructuur, milieu, gebouwen
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G4S
mpi OFFSHORE
SWECO
Topwind
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# Current situation

From a slow start:

| | number of WT | installed capacity (MW) |
|---|---|---|
| **2000** | 34 | 15 |
| **2001** | 46 | 24 |
| **2002** | 57 | 35 |
| **2003** | 62 | 44 |
| **2004** | 77 | 73 |
| **2005** | 100 | 118 |
| **2006** | 112 | 139 |
| **2007** | 122 | 159 |
| **2008** | 111 | 176 |
| **2009** | 145 | 234 |

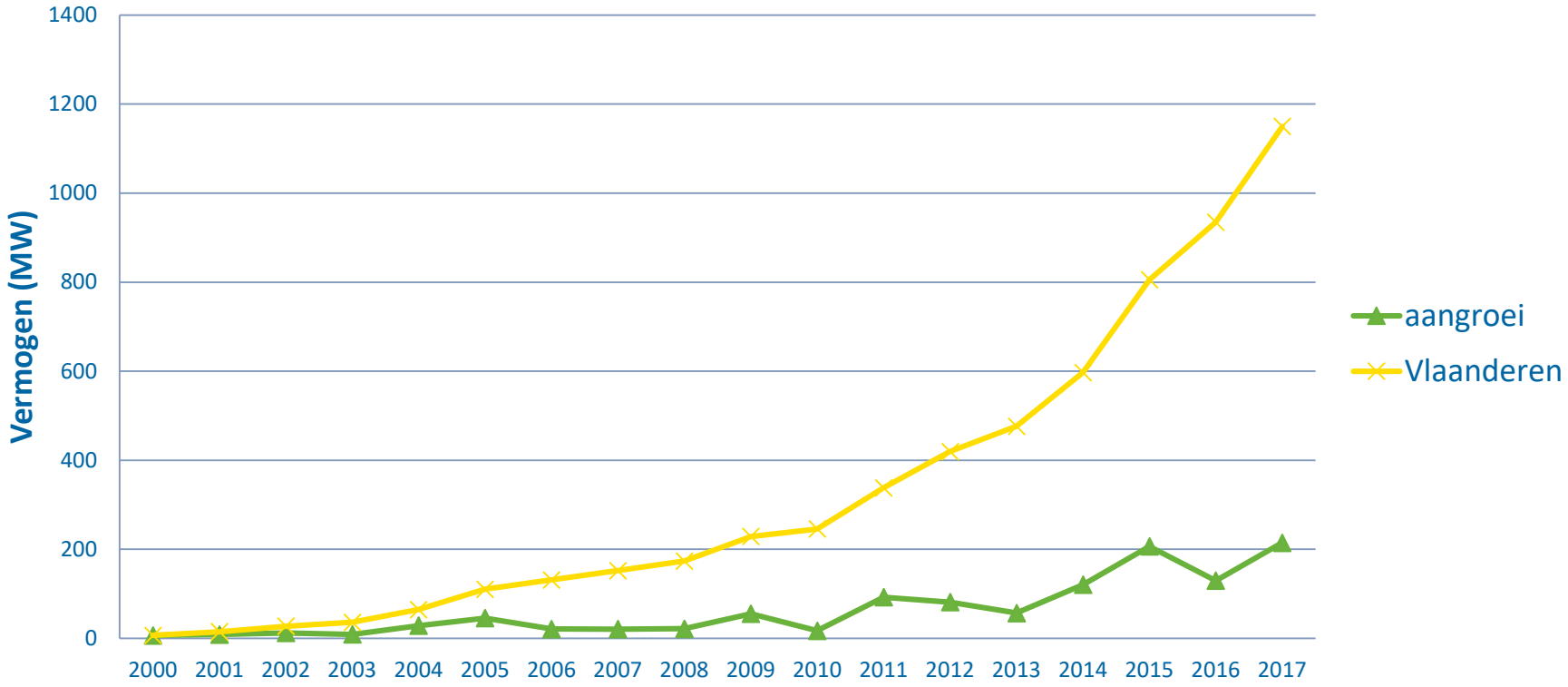
# Current situation

## Towards a faster growth:

| | Annual growth (MW) | total of WT | Installed capacity (MW) |
|---|---|---|---|
| **2010** | + 19,9 MW | 150 | 249 |
| **2011** | + 92,3 MW | 191 | 341,7 |
| **2012** | + 78 MW | 228 | 420 |
| **2013** | + 57 MW | 252 | 477 |
| **2014** | + 127,1 MW | 307 | 603 |
| **2015** | + 209,4 MW | 380 | 794,6 |
| **2016** | + 133 MW | 432 | 922 |
| **2017** | + 226 MW | 510 | 1148 |

# Current situation

## Installed capacity onshore wind in Flanders (MW)



# Other evolutions in Belgium

## Wind energy overview

| | Flanders | Wallonia | Offshore wind energy | Total wind energy |
|---|---|---|---|---|
| **2017** | 1148 MW | 836 MW | 877 MW | 2861 MW |

## PV in Flanders: important growth on individual houses

| PV capacity Flanders | ≤ 10 kW | 10 – 250 kW | >250 kW | Total |
|---|---|---|---|---|
| **2016** | 1277 MW | 463 MW | 611 MW | 2351 MW |
| **2017** | 1453 MW | 475 MW | 611 MW | 2539 MW |
| **Growth** | 176 MW | 12 MW | 0 MW | 188 MW |

# Other evolutions in Belgium

## Flanders engages for greening heat:

- Heat consumption is 55% of total energy demand
- Development of district heating
- Promotion of heat pumps
- Further electrification of heat (including storage)

# Wind energy policies

**Flanders opted for a framework policy**

(and not for a planned policy):

- General framework Spatial Planning = VCRO and Government Letters (2000, 2006, 2009, 2014) → construction permit

  and for environment = DABM en VLAREM → environment permit

Since 2017 these two separate permits became a single permitting system (Omgevingsvergunning)

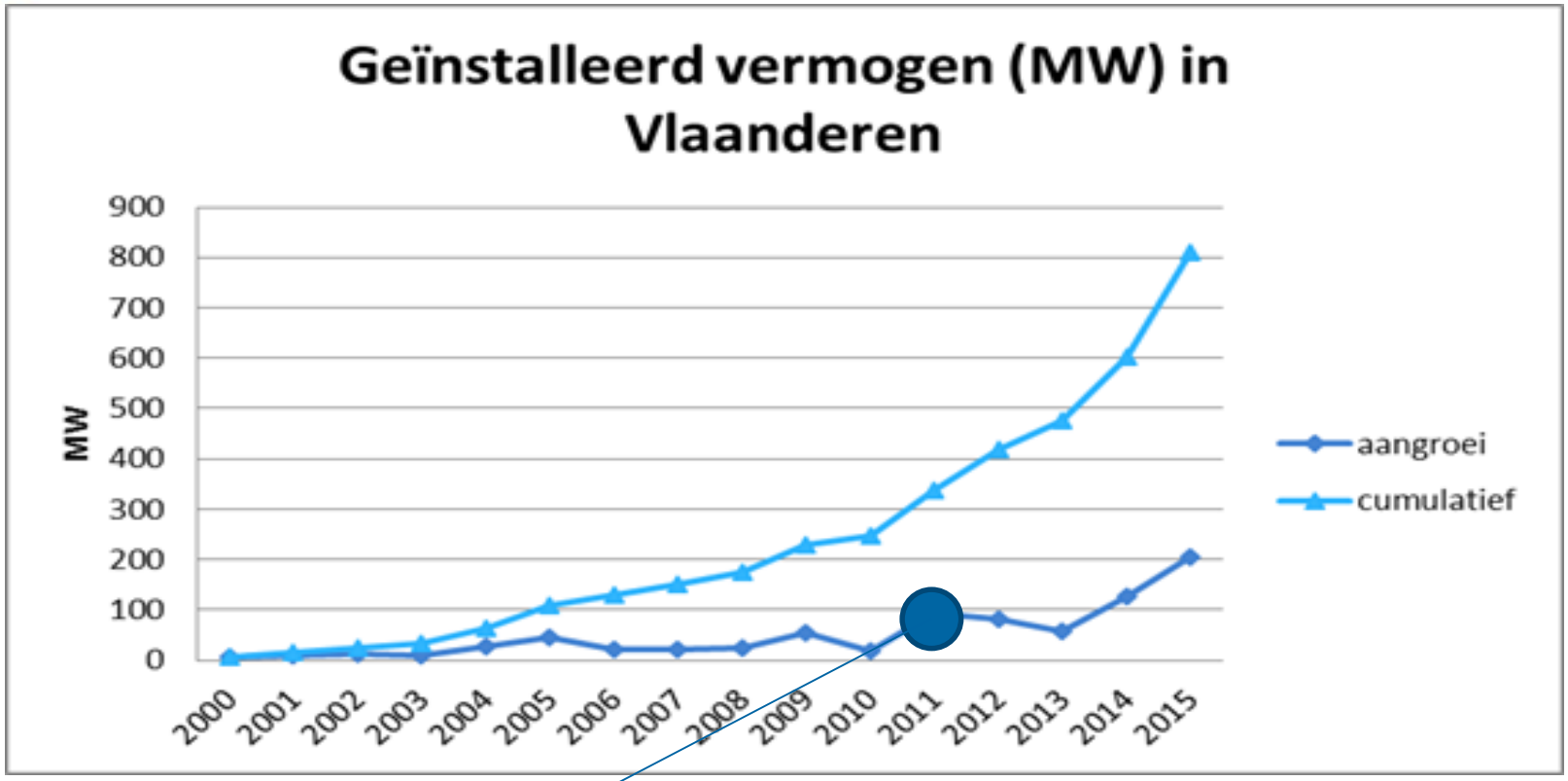
- Spatial planning principle = bundling with existing (line) infrastructure

# Wind energy policies

**In 2009 a policy correction was needed**:

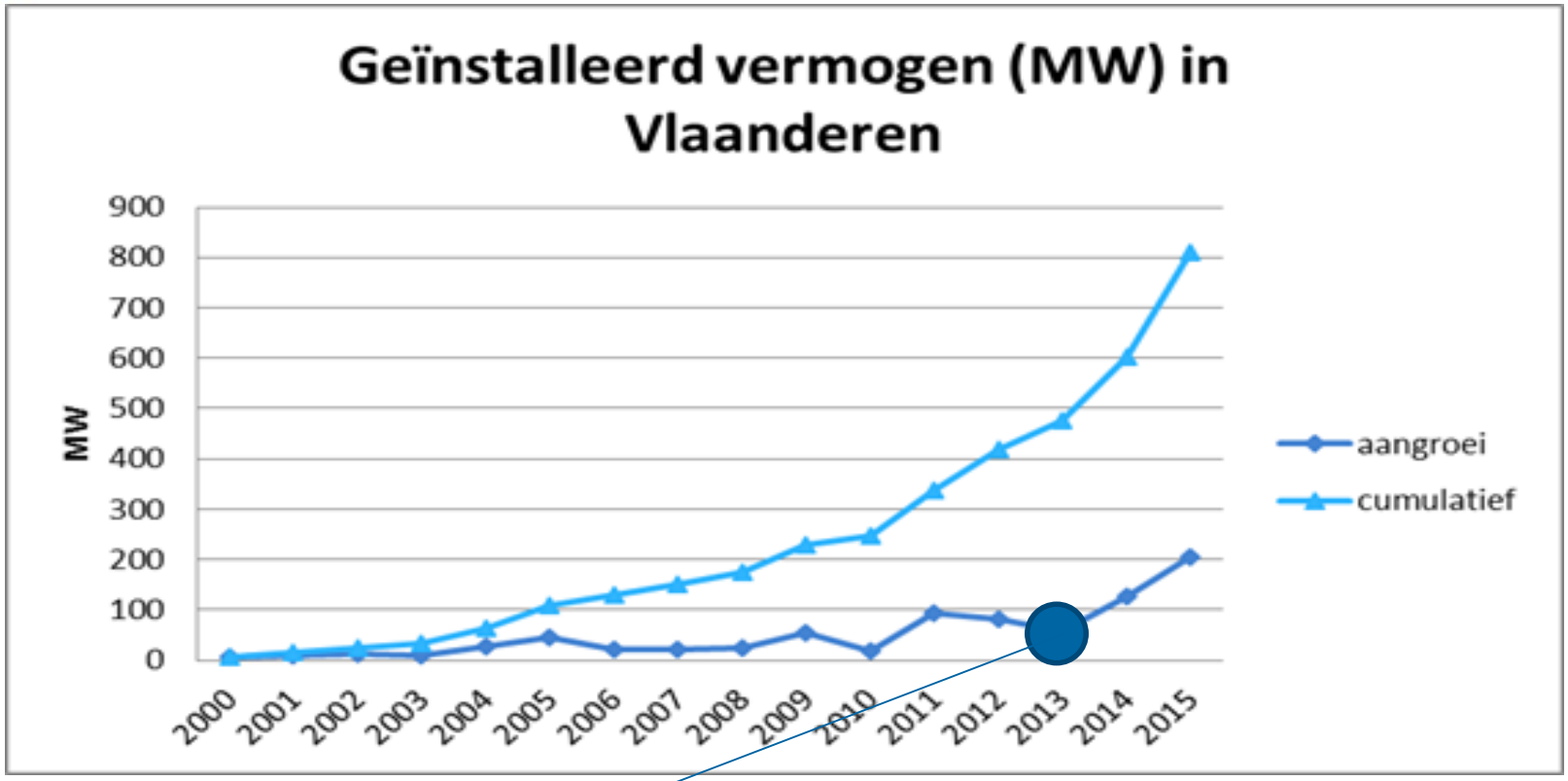
- Bundling with existing (line) infrastructure became difficult if construction of WT was not allowed in agricultural areas (e.g. along motorways)
- Adaption of VCRO regulation in 2009 made it possible to construct WT on farm land without a heavy and complex spatial planning permitting proces. As a result of this modification most of the WT were indeed built along motorways.
- This modification resulted in a strong growth of wind energy in the following years.

# Wind energy policies



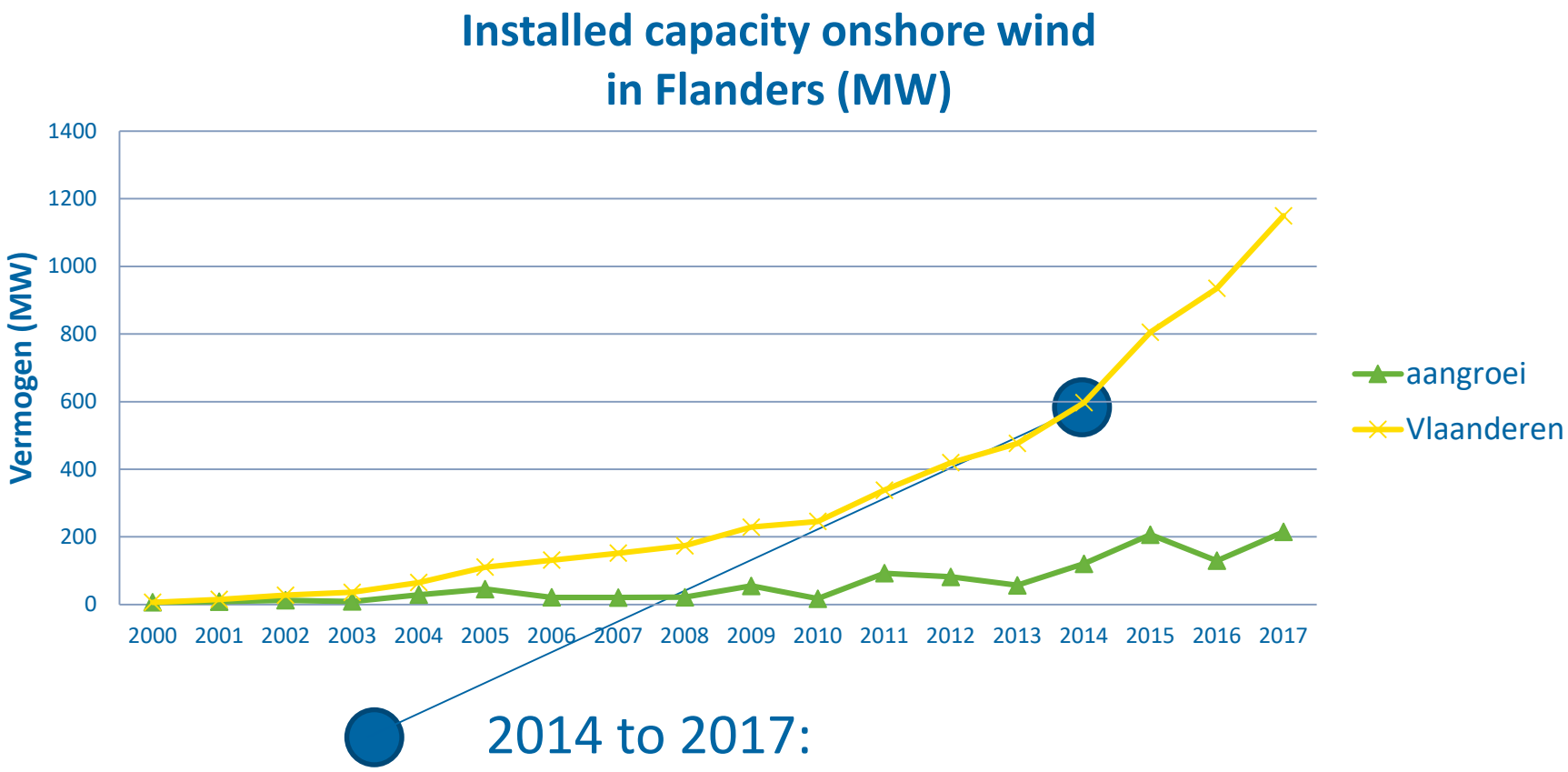

2011: first results of spatial planning modification in 2009 = growth of 92,3 MW

# Wind energy policies




2012 and 2013: lower growth due to uncertainties on reform of support mechanism (Green Certificates)

# Wind energy policies




2014 to 2017:

stronger growth, mainly due to the realization of “old” permits)

# Support mechanism in Flanders

**Green certificate system:**

- Annual calculation by the adminstration of amount of support (OT principle) on top of electricity price
- Calculation is based on evolution of different parameters: evolution of costs (CAPEX, OPEX), efficiency, full load hours, … and electricity prices
- Since 2018: support calculated for a period of 20 years (instead of 10 or 15 years)

# Support mechanism in Flanders

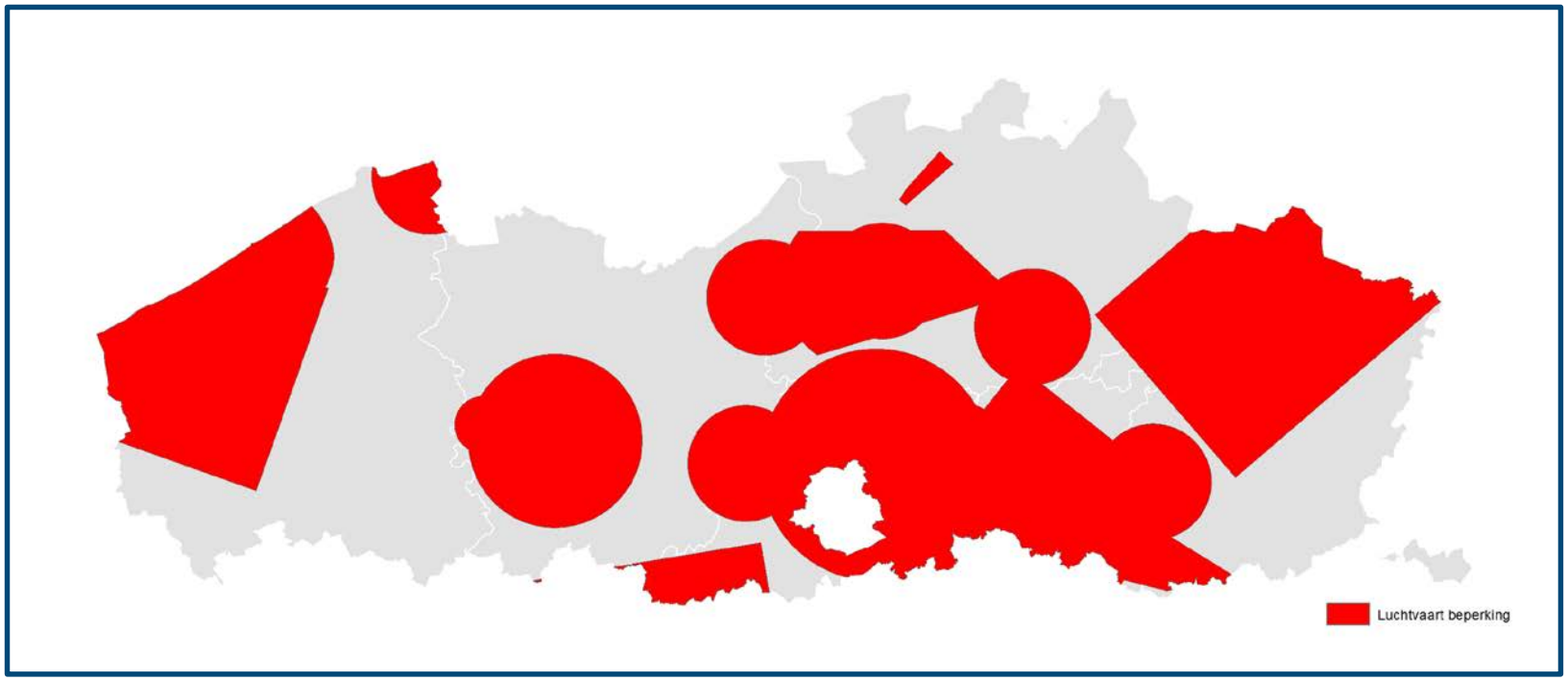
**Current discussion on the support system:**

- Maintaining the green certificate system is possible due to *de minimis* rule in the EU.
- Political parties are also looking at tendering systems (Flanders and offshore wind energy in the next zone) or Contracts for Difference (Wallonia)
- Decisions will be made for post 2020 support system
- PPA's (mandatory for offshore wind energy) and direct lines with industrial consumption are being developed

# What policy changes are needed?

- Security of **investment**. Keep the current support mechanism (open to minor adaptations). Too many pending questions on added value of tendering.
- Spatial planning: opening of new areas for onshore wind energy by implementing of the principle of "**destination neutrality**" (Beleidsplan Ruimte Vlaanderen).
- Simplify the **administration for permitting** and apply uniform rules all over the region.
- **Shorten the lead time of appeals** in lawsuits (Flemish Court of Permits Appeals) to 6 months.
- Tackle the aviaton radar problems (both civil and military).

# Unnecessary airway restrictions for onshore wind energy




Overview of all (often unnecessary) airway restriction zones in Flander for onshore wind energy. This concerns **52 %** of the total surface of Flanders.

# What policy changes are needed?

**Further negotiations:**

- Adaptation schemes for wind energy for nature conservation (birds and bats) shoudl be reasonable and in proportion to the results.
- Spatial measures: wind energy as part of a multifunctional landscape (BRV).
- Realising **2020 Climate and Energygoals** and **ambitious national** RES targets for **2030**.

# Enhance ambitious policies

**Designing an ambitious transition policy NOW:**

- By **2025** the major part of the existing capacity for electricity production (nucleair plants) has to be replaced.
- Onshore wind energy is the most appropriate technology and is the cheapest form of clean electricity production.
- Wind energy can and should be fitted further in an intelligent electricity system, with demand management, storage and adapted market models.
- Wind energy is becoming one of the corner stones of our electricity production.

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# Any questions?