BOVEN

# Tools for local political governance.

- Local authorities have to permit new initiatives
- There is an amount of uncertainty involved
- Risk comparison is helpful
- Even new uncertain risks can be ‘guesstimated’
- Often classical risks become smaller
- The risk mixing console helps comparing risks using the Disability Adjusted Life Year of the WHO as a measure
- This presentation introduces the risk mixing console and we want to discuss its usefulness for the REV with the participants


Jan van Belzen + Ira Helsloot

# BOVEN introduced

BOVEN

- BOVEN is a group of decentral politicians: mayors, aldermen and provincial executives: politicians for a safe energy transition
- BOVEN helps to combine the responsibility for a safe energy transition with the societal need to realise the energy transition
- The ministry of Economic Affairs and Climate is a partner in BOVEN.
- Several guidelines have been published up to now.

# The question at hand

BOVEN

- Local authorities have to decide

  Most initiatives are local to be permitted in the Netherlands
  Fun fact: no permit necessary for $H_2$-high volume piping

- Society has a risk perception that local authorities have to address

  Well known fact:
  - Involuntary risk are perceived 1000 worse than voluntary risks
  - New, technological risks are perceived worse than existing risks

- City councils behave just like ordinary people 😇

- So how do we reconcile perception and reality?

- BOVEN has developed a new tool. And would like to have your opinion on this for broader use.

# New vs classical risks

BOVEN

- The ET causes new risks, a.o.
  - $H_2$ : explosion
  - wind turbines: sound and falling blades
  - Local battery: fire
  - Solar energy: fire

- These new risk have a different effect on a local, regional or national scale.

- The ET makes some classical risk smaller, a.o.
  - Air pollution
  - Transport of fossil fuels
  - CO-intoxication

- Again, these risk are different depending on the scale of consideration.

# Inspiration is work of the TVC in Limburg

BOVEN

- Accepted as a principle by the permitting authorities for Chemelot: a new activity is (only) allowed as the integral safety increases.

# Using the risk mixing console

BOVEN

- You have to fill in the new energy form you want to consider: solar, wind, biomass, $H_2$ for heating or geothermic.
- The scale you want to focus on: local (+ number inhabitants), regional (+number of inhabitants), national or worldwide.
- Optional: chose a risk mitigation measure for comparison. For example sound isolation or the construction of a roundabout.

# What do you get?

BOVEN

- A comparison of the gain or loss of ‘healthy life years’. More precise the delta in terms of Disabilty Adjusted Life Years
- Lets look at the example of wind turbines. It is the delta between energy production using fossils causing air pollution and energy production using wind turbines causing noise and a very small extra risk of falling blades:
    - You loose DALY’s because of sound and falling blades
    - You win DALY’s because of less air pollution.
- So note that occupational health effects are not part of the risk mixing console.

# A real case

BOVEN

- New wind turbines in the municipality of Beuningen.

**MER-alternatieven van Windpark Beuningen.**


- We consider the two new wind turbines of 4,8 MW each in the red circle.

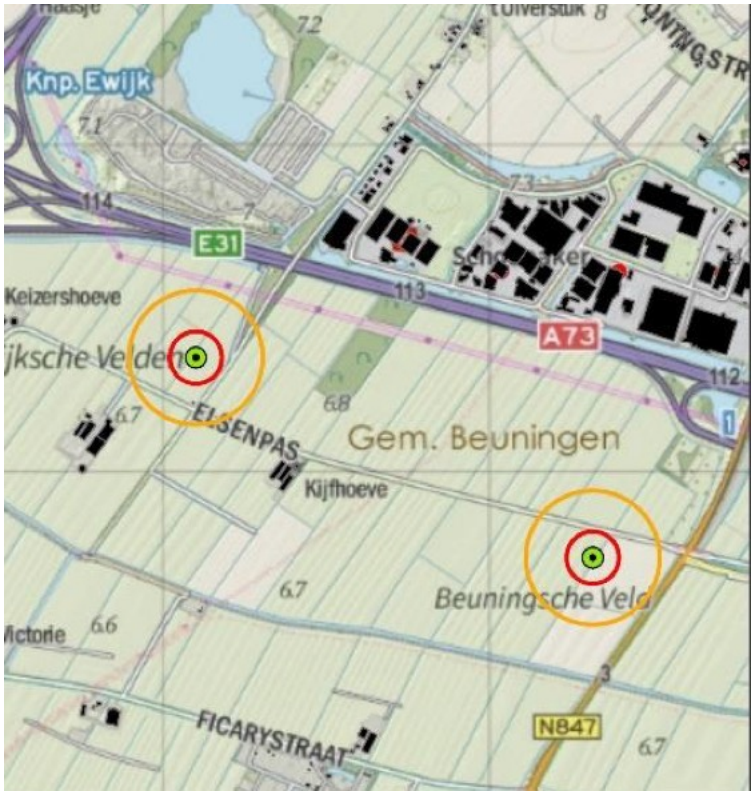
- Beuningen has 26,000 inhabitants and is part of the Gelderland with 2 million inhabitants

# The input parameters

BOVEN

- Question: Number of people within the $10^{-6}$ safety contour?
  Answer: 0

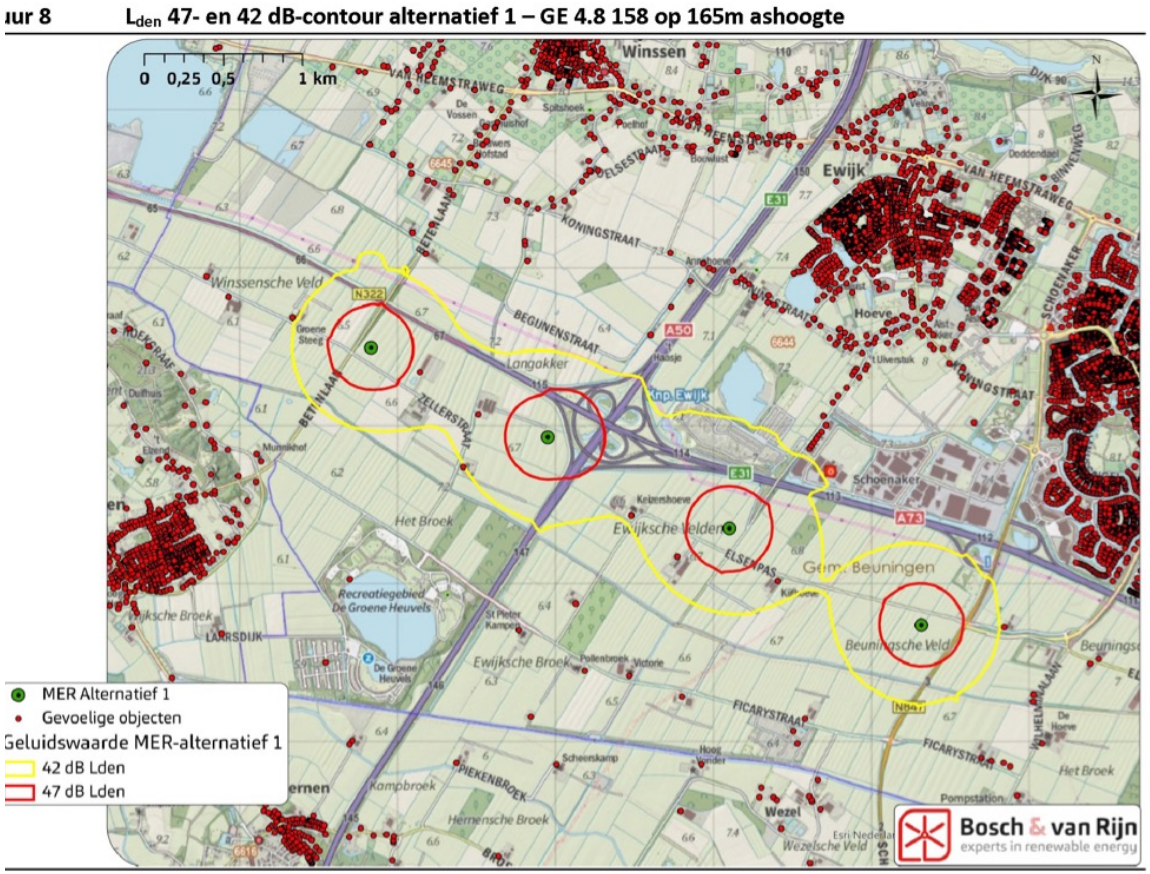
- Question: number of people passing along roads within the $10^{-6}$ safety contour?
  Answer: 1 per minute for both turbines, so 2,880 per day



# The input parameters

BOVEN

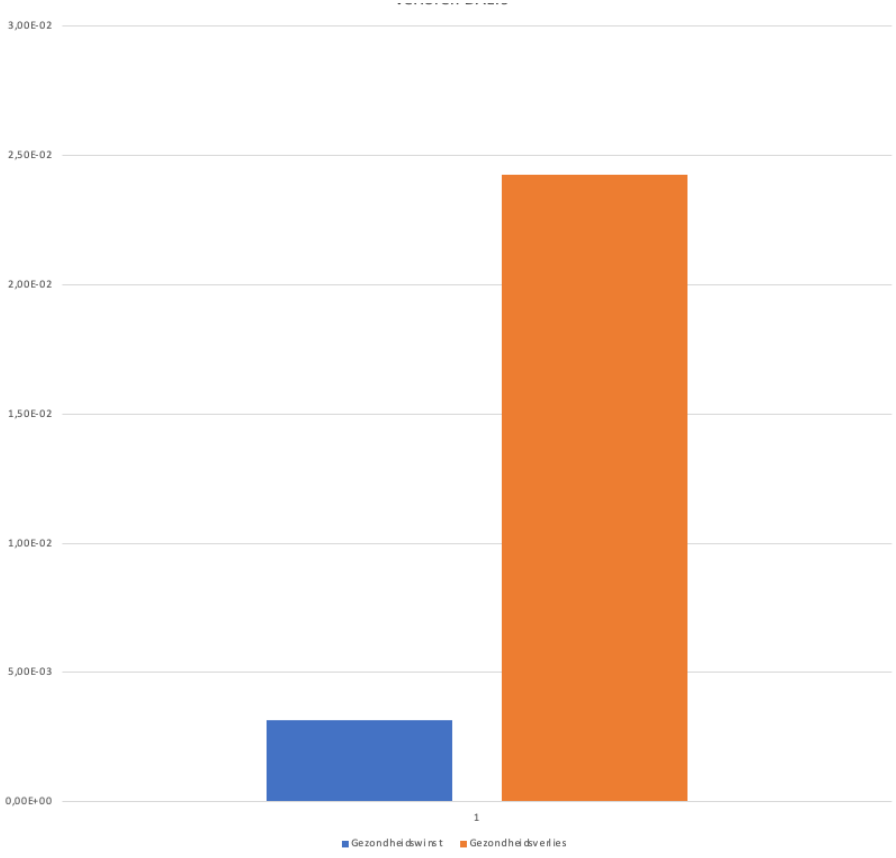
- Question: how many people live within the 45-47 dB contour, the 40-44 dB contour and the35-39 dB contour?
  Answer: 2, 20 en 100 respectively

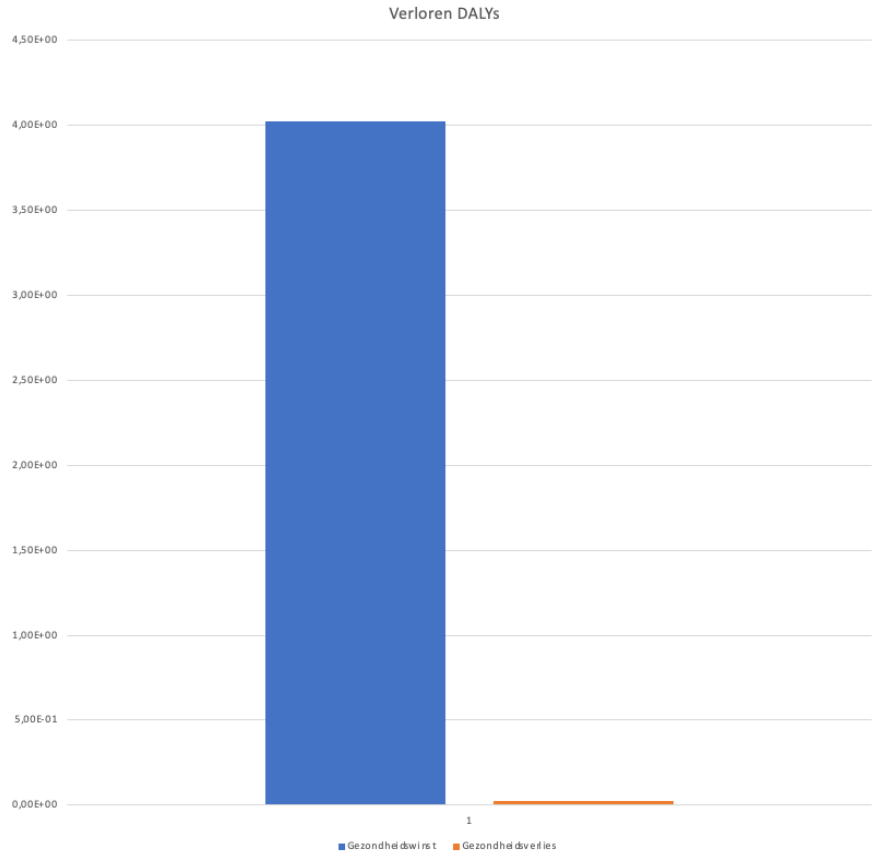


# The perspective we are interested in

BOVEN

- The scale … we present local and worldwide



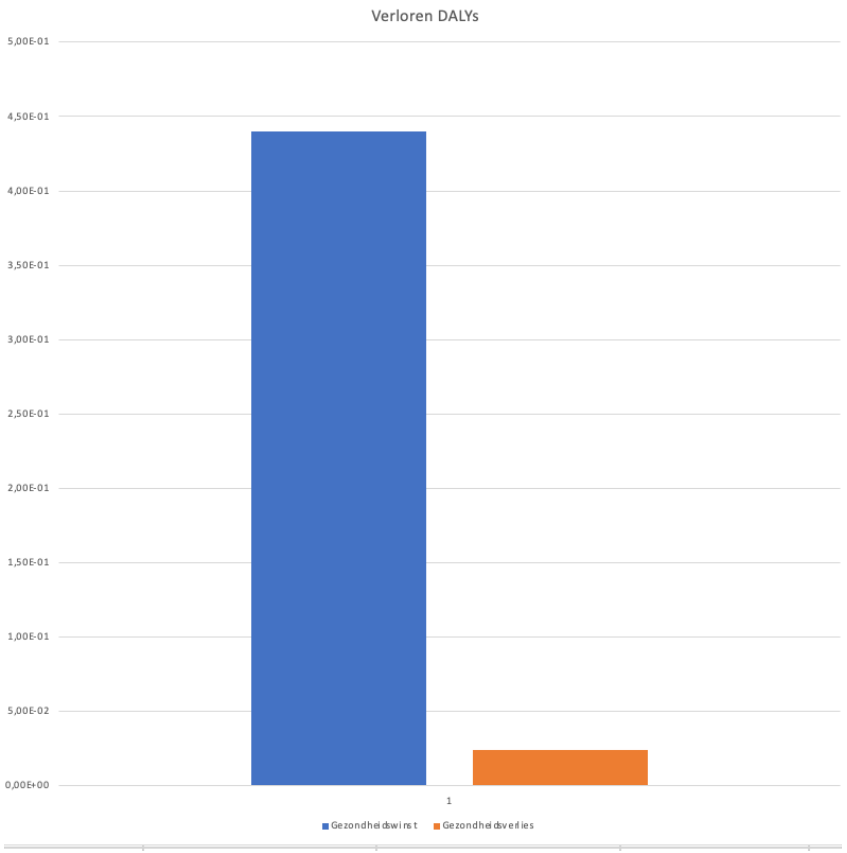

DALY gain p.y. 0.004 DALY loss p.y. 0.02

<- DALY gain p.y. 4 DALY loss p.y. 0.02

# A possible comparison

BOVEN

- Constructing a roundabout for 2 cars per minute: gain of roundabout versus local loss wind turbine



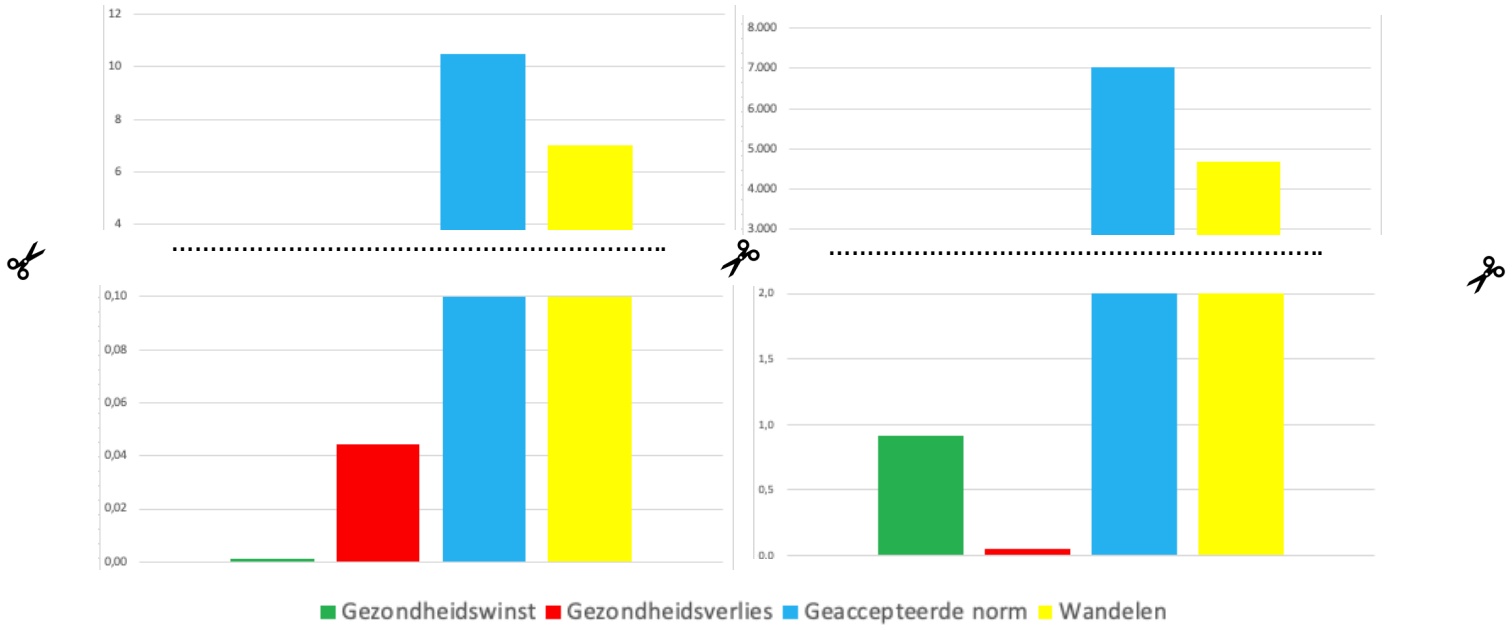

DALY gain p.y. 0.5

DALY loss p.y. 0.02

# An another one

BOVEN

- Again local and Mondial, but now versus Dutch $10^{-5}$ norm and walking on the street



# Let's dicuss

BOVEN

- Does this instrument give a useful insight when deciding about permits?

- Could you use a form of it in the communication with the general public and authorities via the Atlas Leefomgeving?

# Thank You

BOVEN

All feedback is welcome: i.helsloot@crisislab.nl

The presentation and the risk mixing console can be found at www.werkgroep-boven.nl …. In Dutch …