

# Themamiddag kostenstandaard drinkwater

New features kostencalculator  
Buitenland Leidingwerk

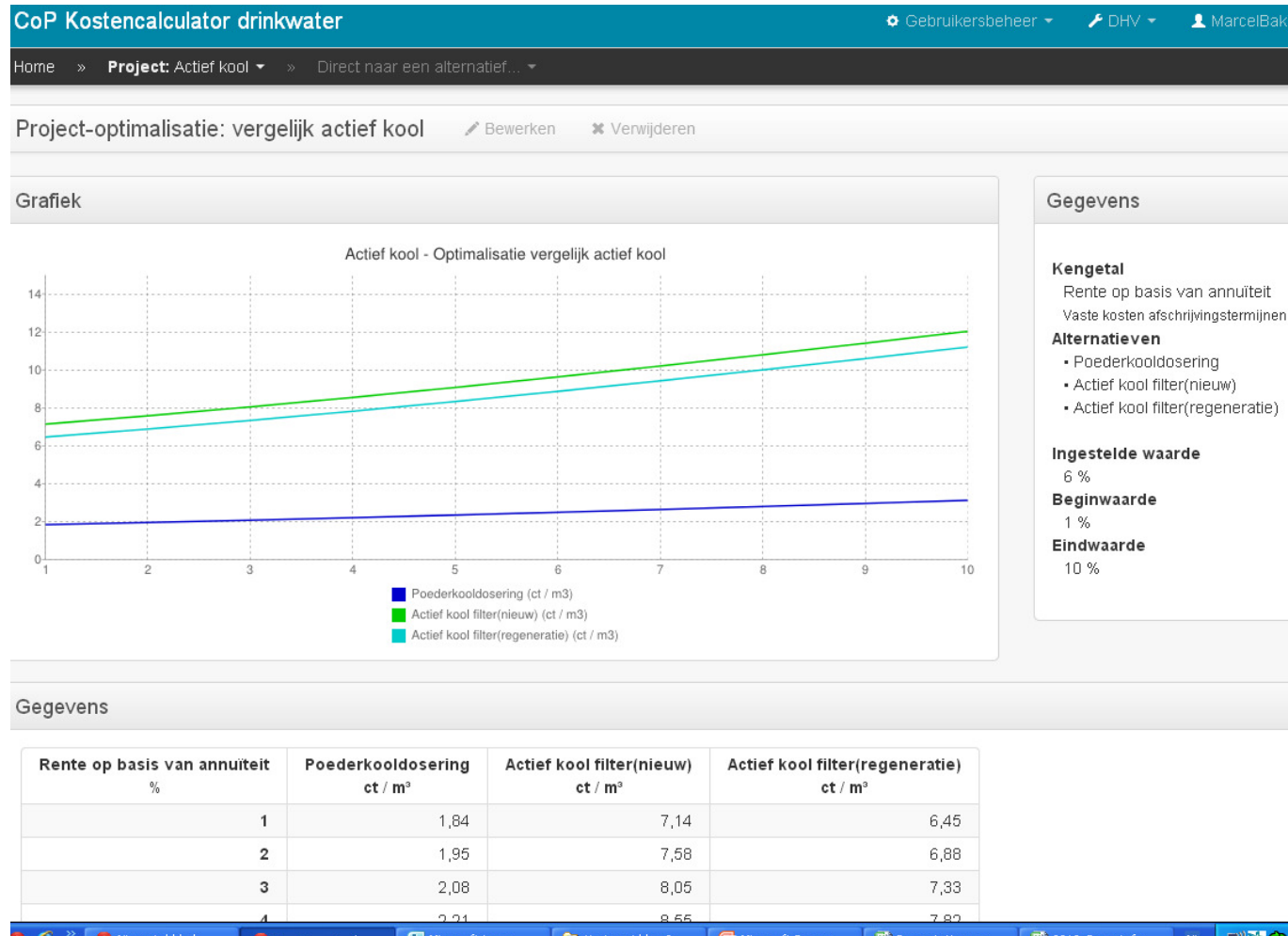
Marcel Bakker

21 november 2013

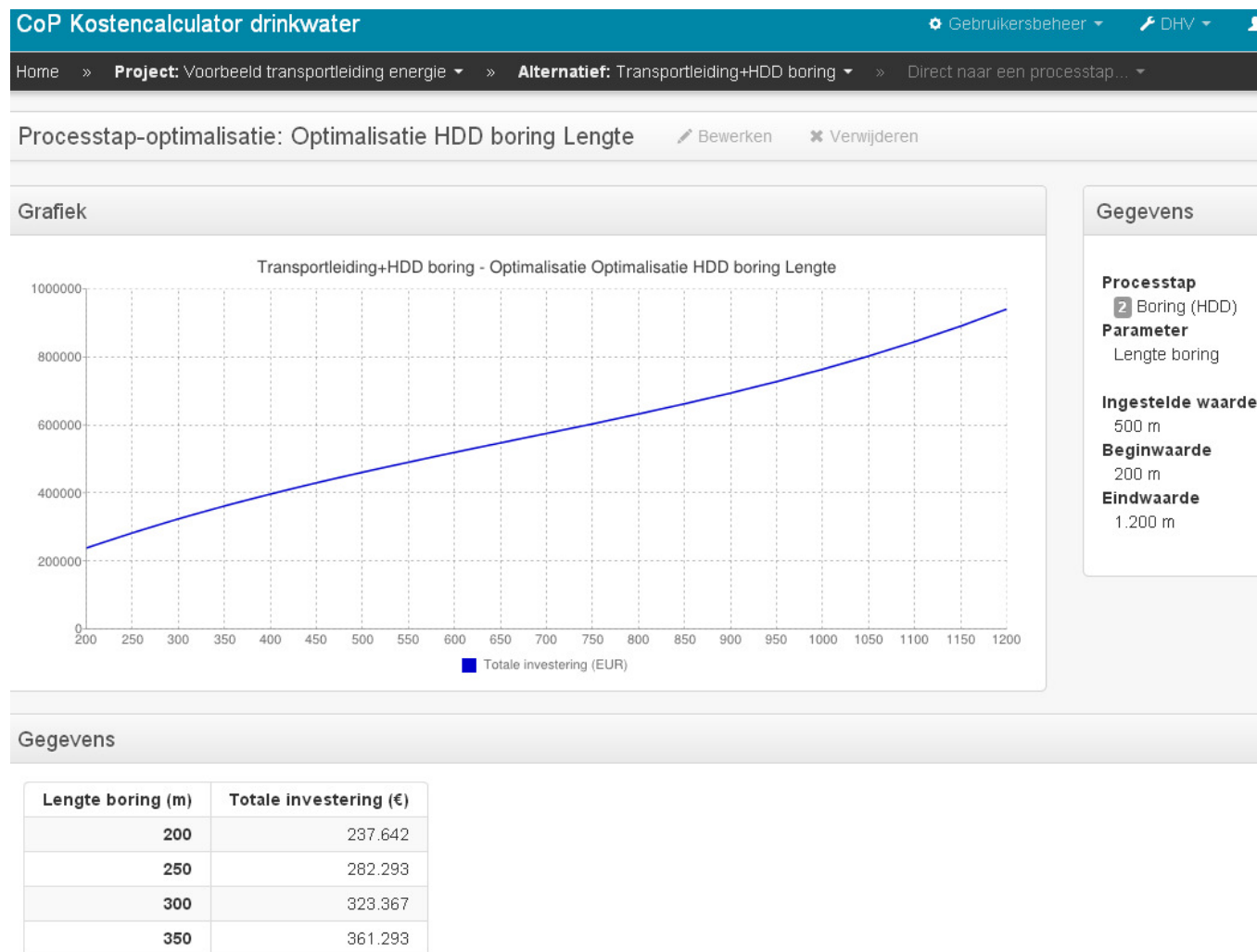
# New features

- Gebruikers interface begin 2013 vernieuwd
- Gebruiksvriendelijker
- Mobiele versie (later quick calc)
- Nieuwe processtappen ( binnenkort beschikbaar)
  - Poederkool dosering
  - HDD Boring
  - Optimalisatietool compleet project

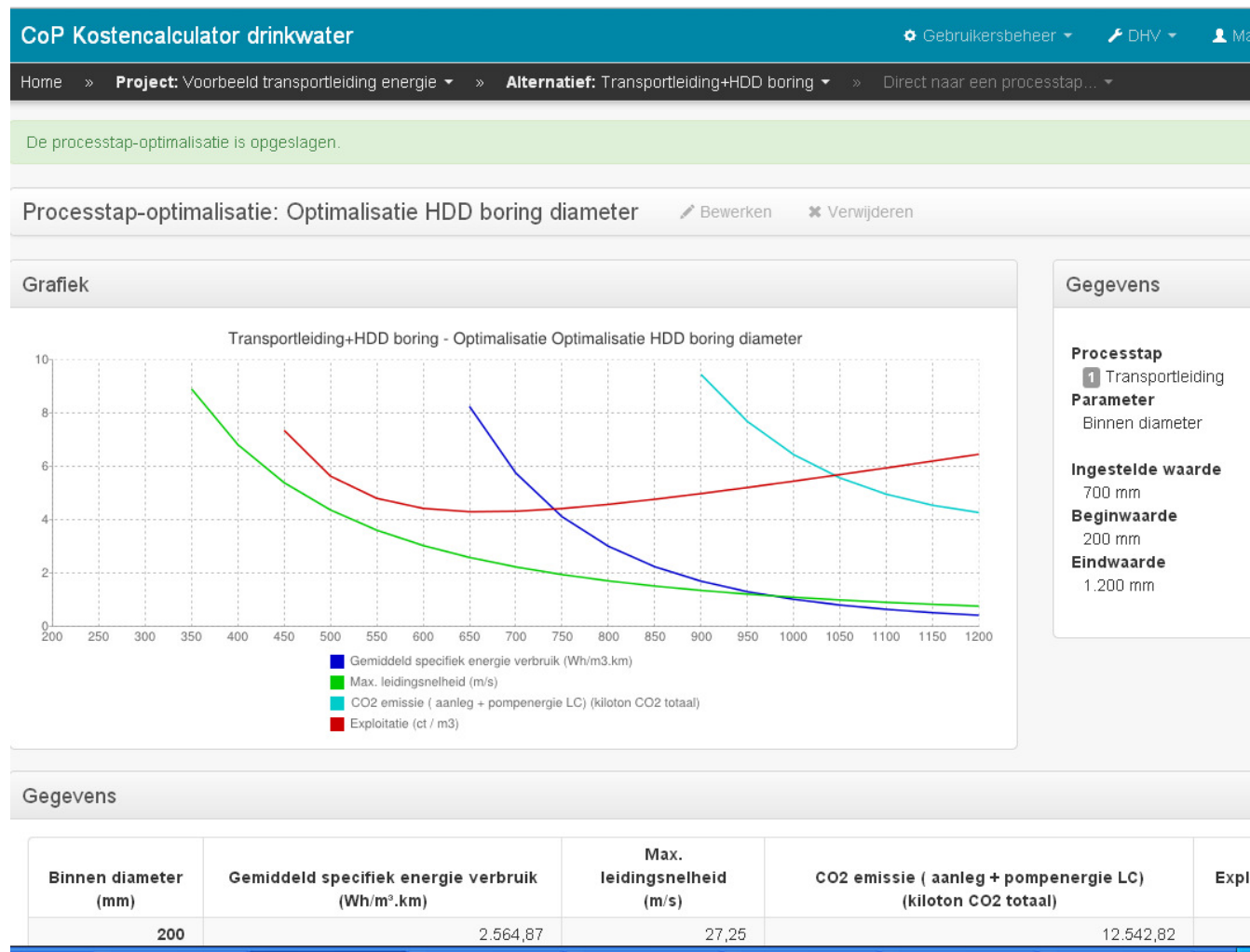
# Aktief kool



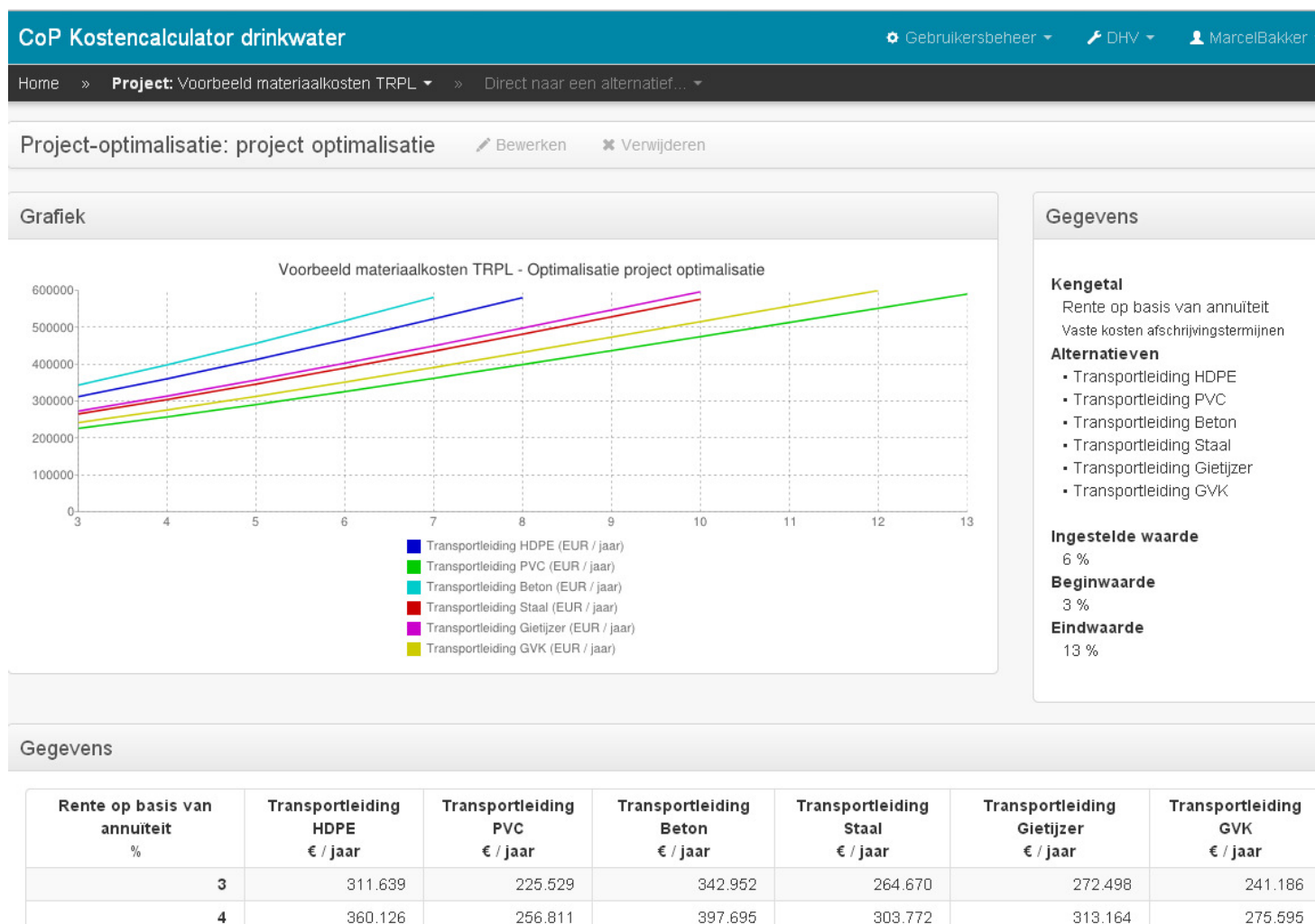
# HDD boring



# HDD boring



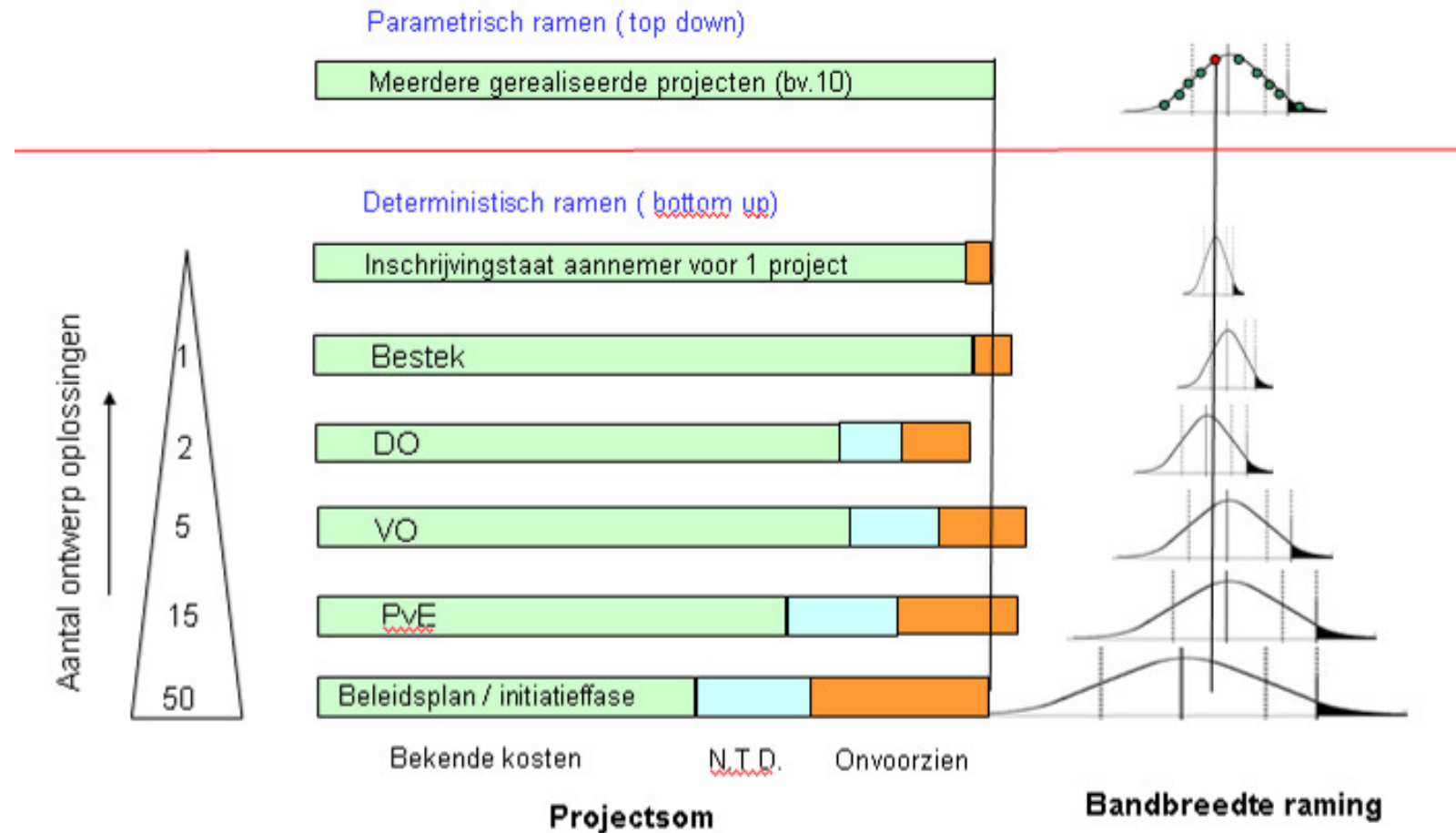
# Alle project alternatieven vergelijken



# Raming leidingwerk buitenland

- Aanvliegroutes
  - Top down benadering
  - Bottom up?
  - Of beide?

# Aanvliegroutes kostenraming





# Aanvliegroutes kostenramingen

- Top down benadering
  - Snel
  - Globaal
  - All in kosten
- Bottom up
  - Bewerkelijk ( versnellen met kostengenerator)
  - Te tellen zaken nauwkeurig maar
  - Post “nader te detailleren”

# Voorbeeld exportblad buitenland

| X14 |                          |                                                 |             |             |                                              |              |             |           |                                          |        |                  |               |
|-----|--------------------------|-------------------------------------------------|-------------|-------------|----------------------------------------------|--------------|-------------|-----------|------------------------------------------|--------|------------------|---------------|
| A   | B                        | C                                               | D           | E           | F                                            | G            | H           | I         | J                                        | K      | L                | M             |
| 1   |                          |                                                 |             |             |                                              |              |             |           |                                          |        |                  |               |
| 2   | Country                  | Gambia                                          |             |             | Material cost level ( Dutch standard = 100%) |              |             |           | Wages cost level (Dutch standard = 100%) |        |                  |               |
| 3   | Projectnumber            | 1234                                            |             |             |                                              |              |             |           |                                          |        |                  |               |
| 4   | Projectname              | name                                            |             |             | Material cost civil                          | <            | >           | 80%       | Wages civil                              | <      | >                | 2%            |
| 5   | Component                | CAPEX cost estimates                            |             |             | Material cost mech.                          | <            | >           | 100%      | Wages mech./operate                      | <      | >                | 100%          |
| 6   | Accuracy budget estimate | Treatment proces selection +/- 30%              |             |             | Material cost E&I                            | <            | >           | 100%      | Wages E&I                                | <      | >                | 100%          |
| 7   | Author                   | M.J.W.M. Bakker RHDHV Water                     |             |             |                                              |              |             |           | Proces automation                        | <      | >                | 100%          |
| 8   | Date                     | 21-Nov-2013                                     |             |             |                                              |              |             |           |                                          |        |                  |               |
| 9   |                          |                                                 |             |             |                                              |              |             |           |                                          |        |                  |               |
| 10  |                          |                                                 |             |             |                                              |              | 1           |           | 2                                        |        | 3                | 4             |
| 11  | CAPEX COST /year         | Cost indicator                                  |             |             | Construction costs                           | Import       | Civil costs | Import    | Mechanical costs                         | Import | Electrical costs | Proces autom. |
| 12  | process name             | range                                           | Parameter 1 | Parameter 2 | range function                               | CT / WT / ET |             |           |                                          |        |                  |               |
| 13  |                          |                                                 |             |             |                                              |              |             |           |                                          |        |                  |               |
| 14  | TOTAL COSTS              |                                                 |             |             | € 864.100                                    | ( %)         | € 864.100   | ( %)      | € -                                      | ( %)   | € -              | € -           |
| 15  |                          |                                                 |             |             |                                              |              |             |           |                                          |        |                  |               |
| 16  | Transportleiding D200    | leidingdiameter 100< D(mm) < 3000 + lengte (km) | 200         | 3068        | OK                                           | € 121.223    |             | € 121.223 |                                          | € -    |                  | € -           |
| 17  | Transportleiding D150    | leidingdiameter 100< D(mm) < 3000 + lengte (km) | 150         | 1264        | OK                                           | € 37.457     |             | € 37.457  |                                          | € -    |                  | € -           |
| 18  | Transportleiding D110    | leidingdiameter 100< D(mm) < 3000 + lengte (km) | 110         | 1899        | OK                                           | € 41.268     |             | € 41.268  |                                          | € -    |                  | € -           |
| 19  | Transportleiding D90     | leidingdiameter 100< D(mm) < 3000 + lengte (km) | 90          | 13577       | OK                                           | € 241.404    |             | € 241.404 |                                          | € -    |                  | € -           |
| 20  | Transportleiding D60     | leidingdiameter 100< D(mm) < 3000 + lengte (km) | 60          | 29720       | OK                                           | € 422.747    |             | € 422.747 |                                          | € -    |                  | € -           |
| 21  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 22  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 23  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 24  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 25  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 26  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 27  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 28  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 29  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 30  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 31  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 32  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 33  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 34  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 35  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 36  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 37  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 38  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |
| 39  | 0                        | 0                                               | 0           | 0           | 0                                            | € -          |             | € -       |                                          | € -    |                  | € -           |

# Voorbeeld kostengenerator TRPL

Nog in Excel ( webtool ontwikkelen?)

|    |                                                |           |             |            |             |               |               |       |
|----|------------------------------------------------|-----------|-------------|------------|-------------|---------------|---------------|-------|
| 1  | <b>Cost Calculations piping per track/area</b> |           |             |            |             |               |               |       |
| 2  |                                                |           |             |            |             |               |               |       |
| 3  | Town:                                          |           | Area:       |            |             |               |               |       |
| 4  | Drawing nr.:                                   |           |             |            |             |               |               |       |
| 5  | Track:                                         | from      | .....       | till       | .....       |               |               |       |
| 6  | Length:                                        | ..... m   |             | excavation | refilling   |               |               | to be |
| 7  | Soil:                                          | soft soil | SS %        | 75%        | 6           | 10            | m3/man's day  |       |
| 8  |                                                | rock:     | SR %        | 25%        | 1           | 8             | m3/man's day  |       |
| 9  |                                                |           |             |            |             |               |               |       |
| 10 | Pavement:                                      | Asphalt   | PV %        | 15%        |             | 25            | euro/m2       |       |
| 11 | Labour:                                        |           |             |            |             | 3             | euro/day      |       |
| 12 | House connections:                             | quantity  |             | 0          |             |               |               |       |
| 13 | Yard connections:                              | quantity  |             | 0          |             |               |               |       |
| 14 | Stand posts:                                   | quantity  |             | 0          |             |               |               |       |
| 15 |                                                |           |             |            |             |               |               |       |
| 16 |                                                |           |             |            |             |               |               |       |
| 17 |                                                |           |             |            |             |               |               |       |
| 18 | Costs/m' per item in EURO                      |           |             |            |             |               |               |       |
| 19 | Material                                       | Dimension | Class       | Length     | Material/m' | Excavation/m' | Excavation/m' |       |
| 20 |                                                | mm        |             |            |             | soft soil     | SS %          | rock  |
| 21 |                                                |           |             |            |             |               |               | SR %  |
| 22 | PVC                                            | 60        | 6 (0,6 MPa) | 29720      | 5,72        | 0,22          | 75%           | 1,34  |
| 23 | PVC                                            | 90        | 6 (0,6 MPa) | 13577      | 6,16        | 0,24          | 75%           | 1,46  |
| 24 | PVC                                            | 110       | 6 (0,6 MPa) | 1899       | 8,80        | 0,26          | 75%           | 1,55  |
| 25 | PVC                                            | 160       | 6 (0,6 MPa) | 1264       | 14,40       | 0,30          | 75%           | 1,78  |
| 26 | PVC                                            | 200       | 9 (0,9 MPa) | 3068       | 19,36       | 0,33          | 75%           | 1,98  |
| 27 |                                                |           |             |            |             |               |               |       |
| 28 |                                                |           |             | number:    | unit price  |               |               |       |
| 29 | House connections:                             |           |             | 0          | 750,00      |               |               |       |
| 30 | Yard connections:                              |           |             | 0          | 500,00      |               |               |       |

# Kostengenerator

- Nodig: verzamelen kostenkengetallen “all-in” op dieper niveau
- Per land (of groep landen)
- Kengetallen
  - Materiaal prijzen ( leiding / afsluiters)
  - Uurlonen
  - Productie indicators
  - Grondsoort
  - Asfalt
- Ook de input voor (toekomstige )distributie webtool