Radioactive waste management in the Netherlands II

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COVRA NV

8 December 2014

CONTENTS

- Siting
- Organisation

SITE SELECTION

- **1984 new policy: >>centralised solution**
- **siting? >>>>NIMBY**

- **1984 procedure approved by Parliament:**
  - high level governmental committee
  - selection criteria

SITE SELECTION

Criteria:

- industrial site
- large enough
- discharge water/ cooling water
- infrastructure
- directly available

➡ 12 sites

Co-operation from local government

COVRA NV

SITE SELECTION

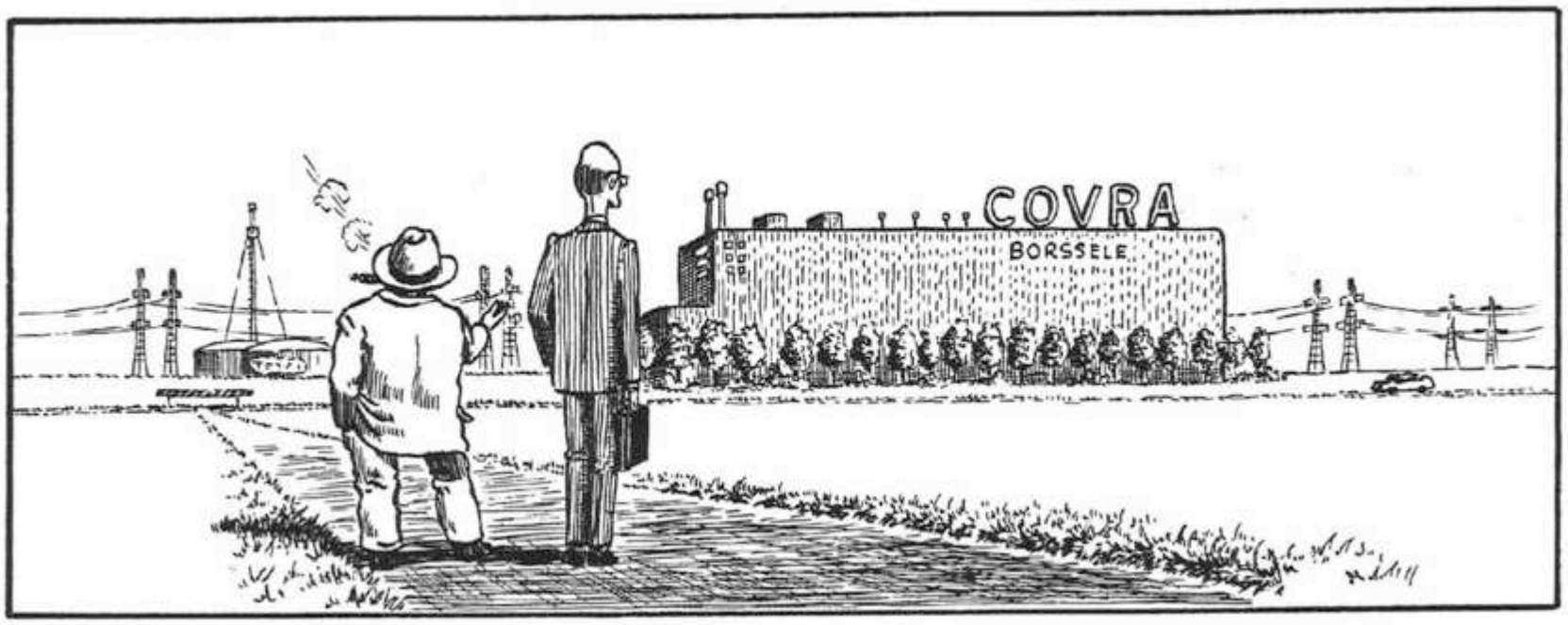
- 2 sites

COVRA had to choose:

>>> Borsele site

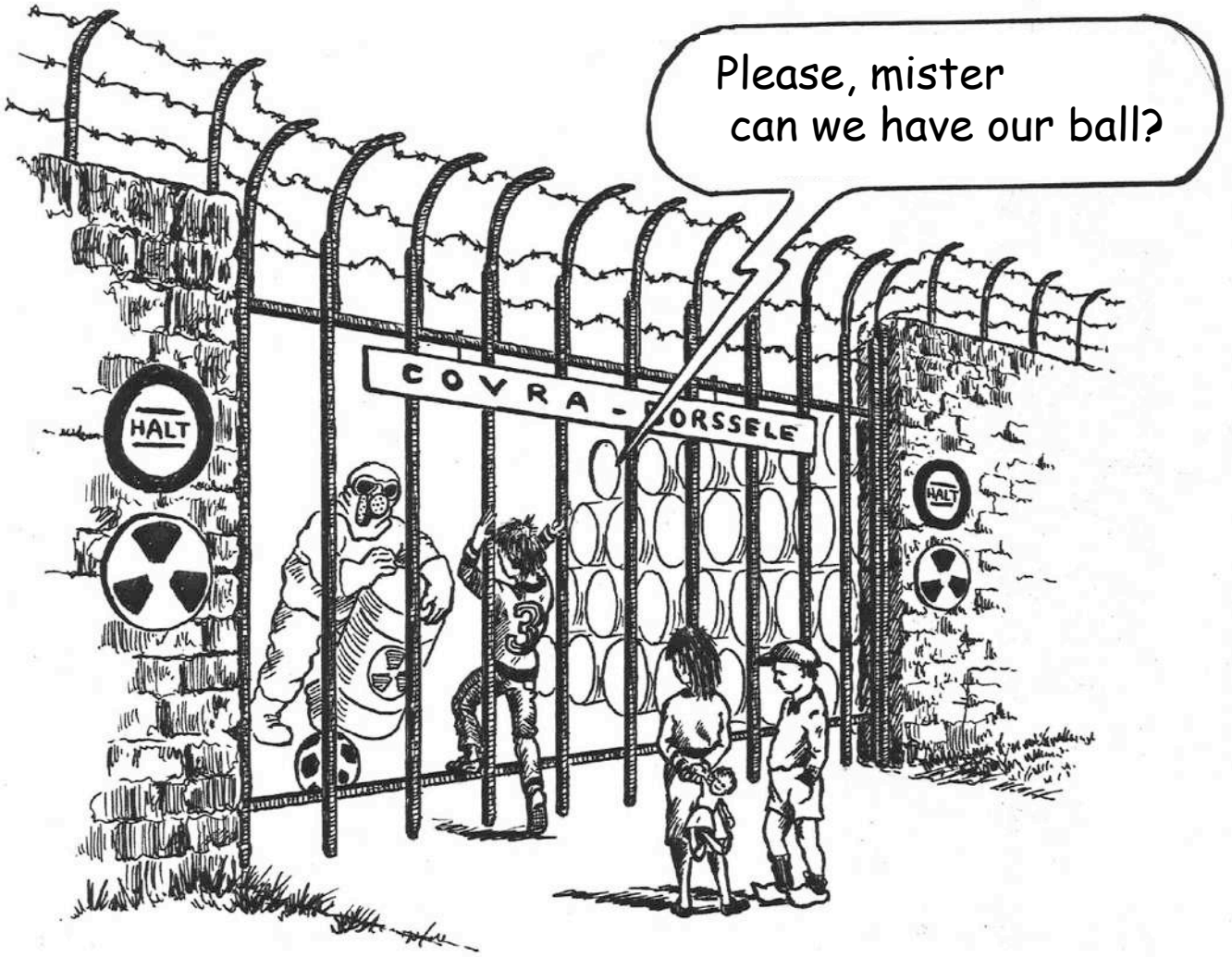
COVRA NV

FINDING A SITE



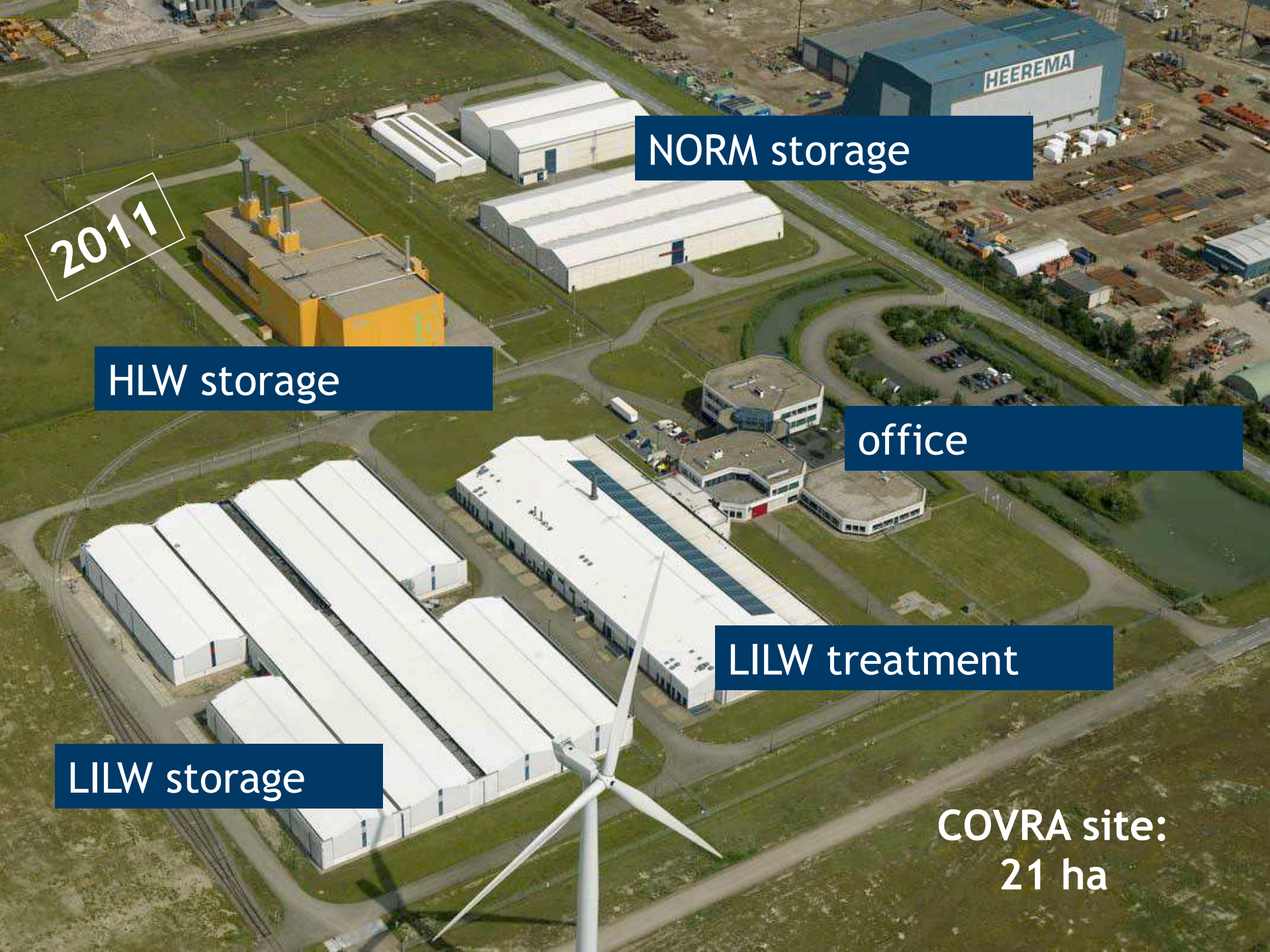
"…the municipality planted some trees around it,
"now you hardly see it……"

FINDING A SITE




1986


2004


2011
NORM storage
HLW storage
office
LILW treatment
LILW storage
COVRA site:
21 ha

CONTENTS

- Siting
- Organisation

WASTE MANAGEMENT ORGANISATIONS

GENERAL PRINCIPLES RWM

- adequate framework to manage radioactive waste
- cover all responsibilities and liabilities in ‘the classical triangle’

INFRASTRUCTURE, RESPONSABILITIES?

CLASSICAL TRIANGLE

authority

- policy
- laws
- licenses
- inspection

- clarity of roles,
  clear definition of responsibilities

- polluter pays,
  cost efficien

- prevent, minimise, re-use
- notify, deliver
- payment

waste producer

WMO

- infrastructure
- acceptance criteria
- financing
- execution

RWM POLICY THE NETHERLANDS

- all waste managed and ***owned*** by COVRA
- all waste managed at one industrial site
- at least 100 years storage, in buildings
- deep disposal after 100 years

stable policy since 1984!

- policy to be executed by COVRA

COVRA

- statutory task:
  to take care of all Dutch radioactive waste

- N.V. (Ltd. , Inc. or GmbH)
  shareholders 1982:
  - ~~30% n.p.p. Borssele~~
  - ~~30% n.p.p. Dodewaard~~
  - ~~30% research foundation ECN~~
  - ~~10% Dutch state~~

  2002: 100 %

COVRA NV

COVRA'S TASKS

- collection and shipment
- treatment and conditioning
- long-term storage
- final disposal
- monitoring
- administration
- informing the public

COVRA PRINCIPLES

- polluter pays
- costs covered by fees
- cost effective
- no retrospective adjustment of fees paid
- COVRA takes over full title
- future costs to be paid from funds
- capital growth fund

COVRA PRINCIPLES

1. polluter pays to COVRA
2. transfer of title to COVRA
3. capital growth fund within COVRA

COVRA PRINCIPLES

1. polluter pays:

LILW (including DSRS)

- collecting drum delivered to producer
- collection of filled drum + data
- treatment of waste >>cemented waste form
- at least 100 years storage
- final disposal

standard tariff for standard waste

cost-plus for other waste


HYSTER
HYSTER


HEEREMA

FINANCING

- treatment and storage buildings financed by COVRA / capital loans / investment subsidy
- waste producers pay according to kind of treatment and storage volume (and radiation level at surface of conditioned waste)
- for LILW no relation to activity

COVRA PRINCIPLES

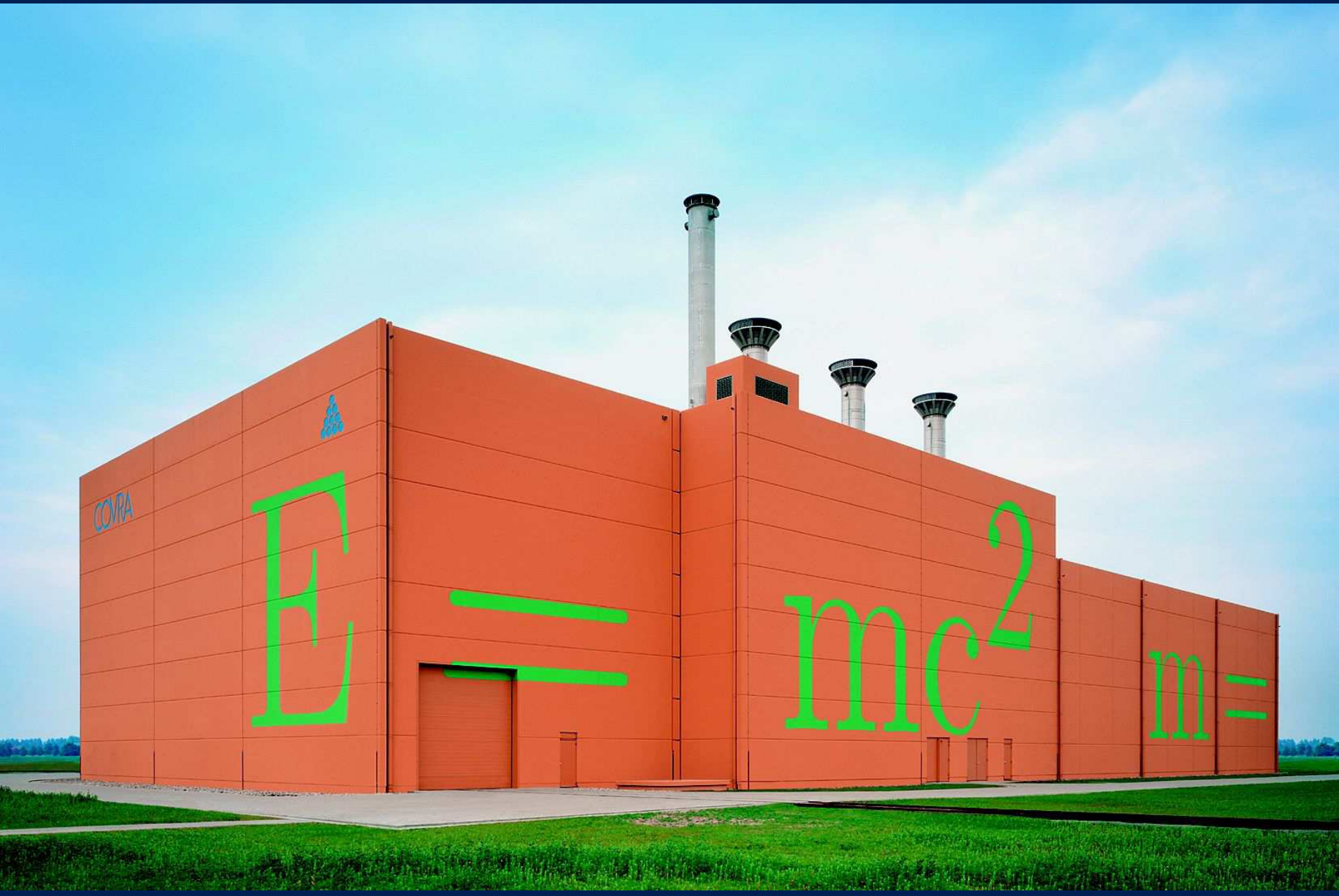
1. polluter pays:

HLW (spent fuel, reprocessing waste, other)

- shipment research SF, other waste to COVRA
- packaging research SF, other waste

all waste types

- at least 100 years storage
- geological disposal


COVRA
E = mc²
m =

FINANCING

- direct payment upfront of share in treatment installations and storage volume
- shared between clients (1994: 2 npp, 3 research establishments; now: 1 npp, 2 research establishments)
- direct payment of shipment and delivery costs when executed

COVRA PRINCIPLES

2. transfer of title to COVRA:
   ownership and all liabilities for COVRA

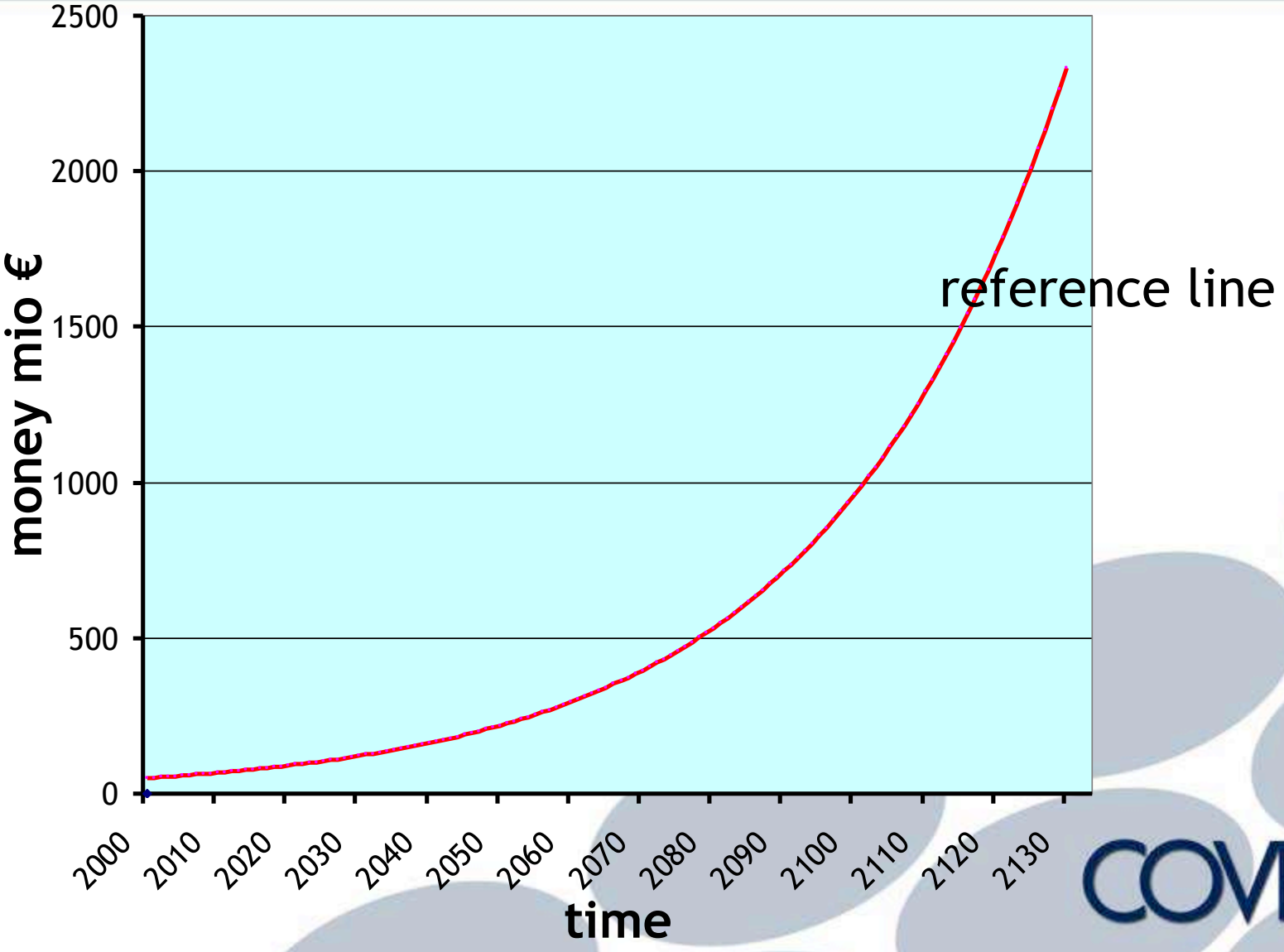
- collection at waste producer:
  at moment waste delivered in COVRA truck
- delivery by train (repro waste, depU):
  at moment waste delivered at COVRA premises
  or inside building

COVRA PRINCIPLES

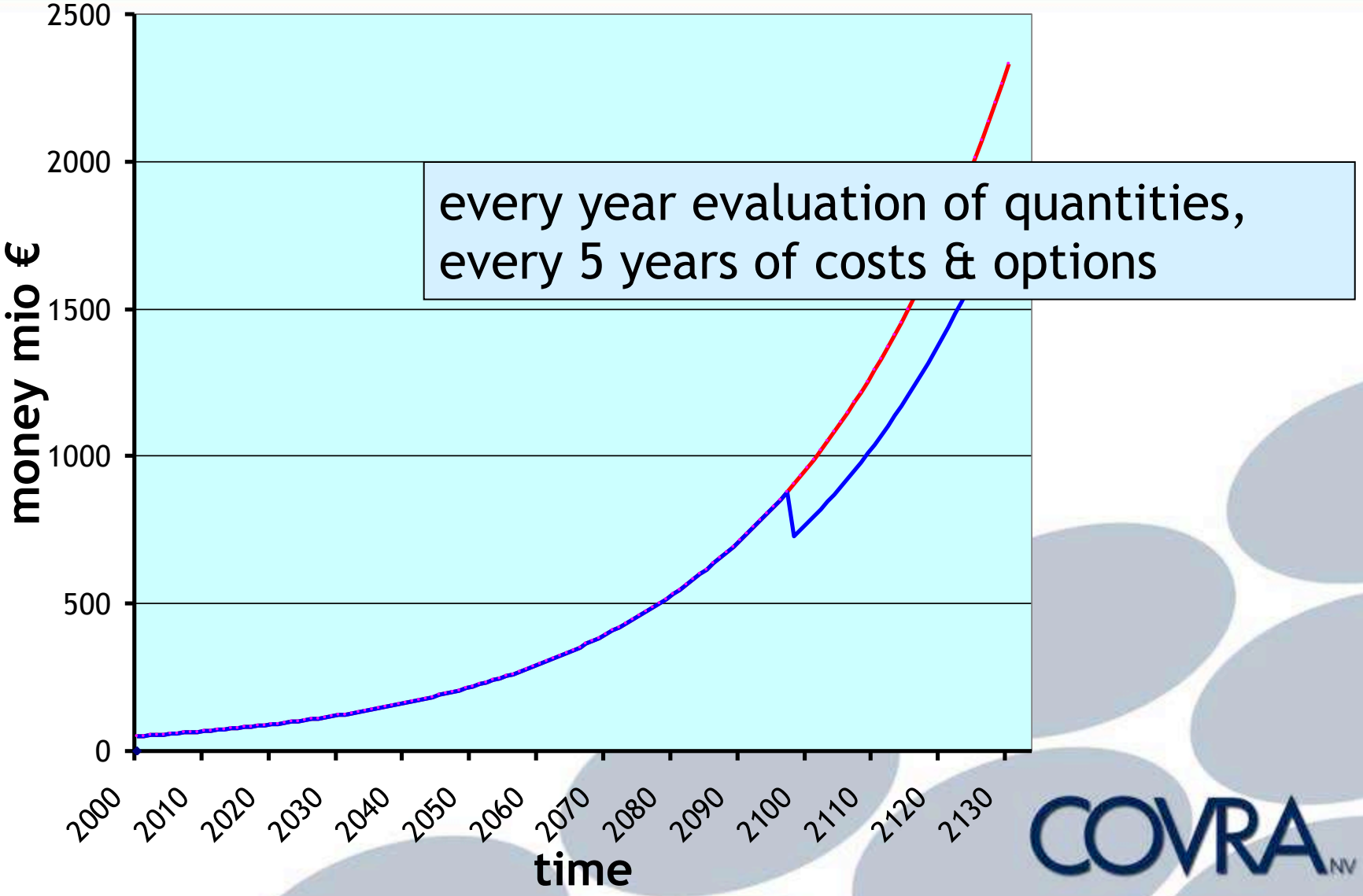
3. Capital growth fund:

- all producers pay
- contribution per m^3
- HLW : LILW = 2 : 1
- after 100-130 years: € 2 billion
- real interest rate 2.3%
- safe investments
- State as back-up

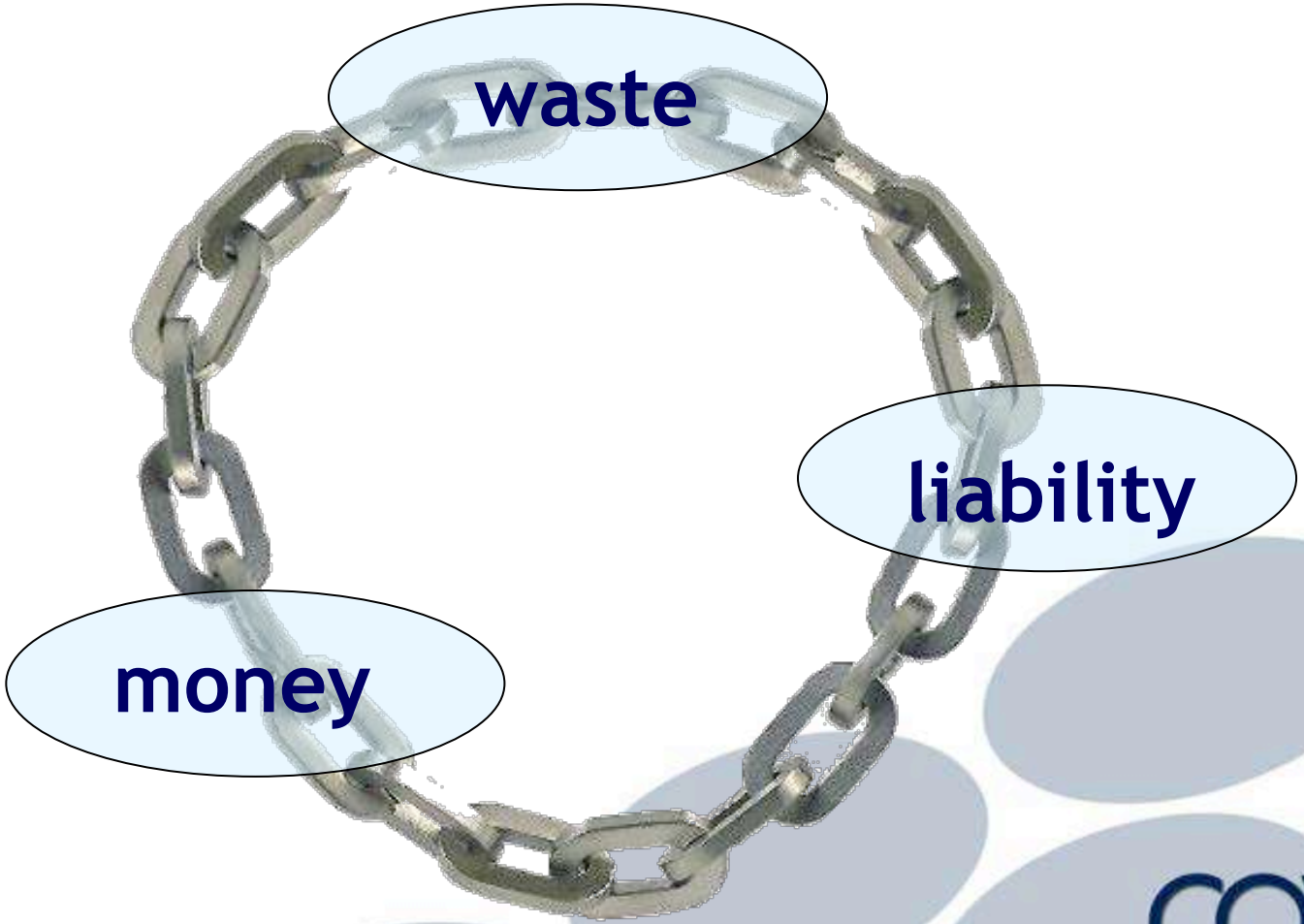
CAPITAL GROWTH FUND



CAPITAL GROWTH FUND



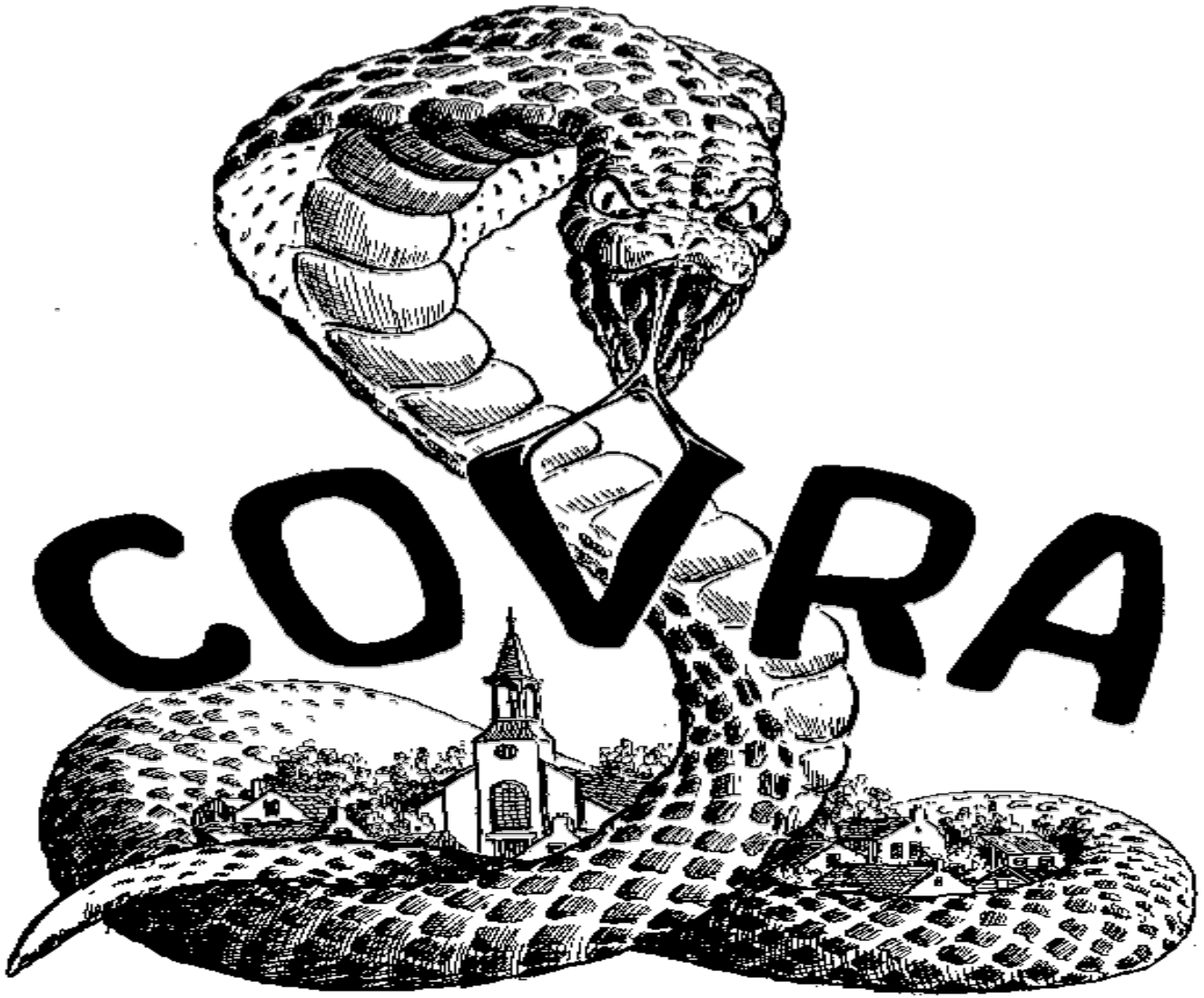
CONCLUSION




COVRA
Active for the future
www.COVRA.nl

EXPERIENCE: A MIRROR

1986



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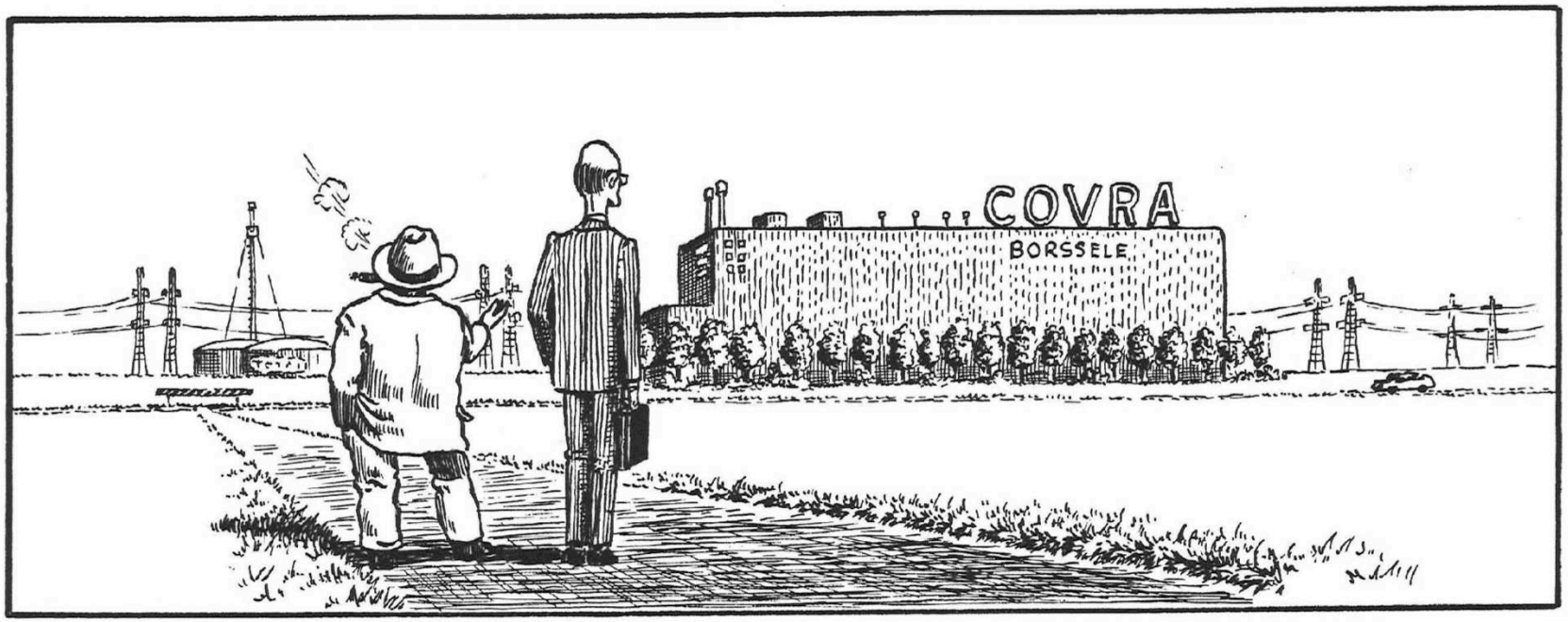

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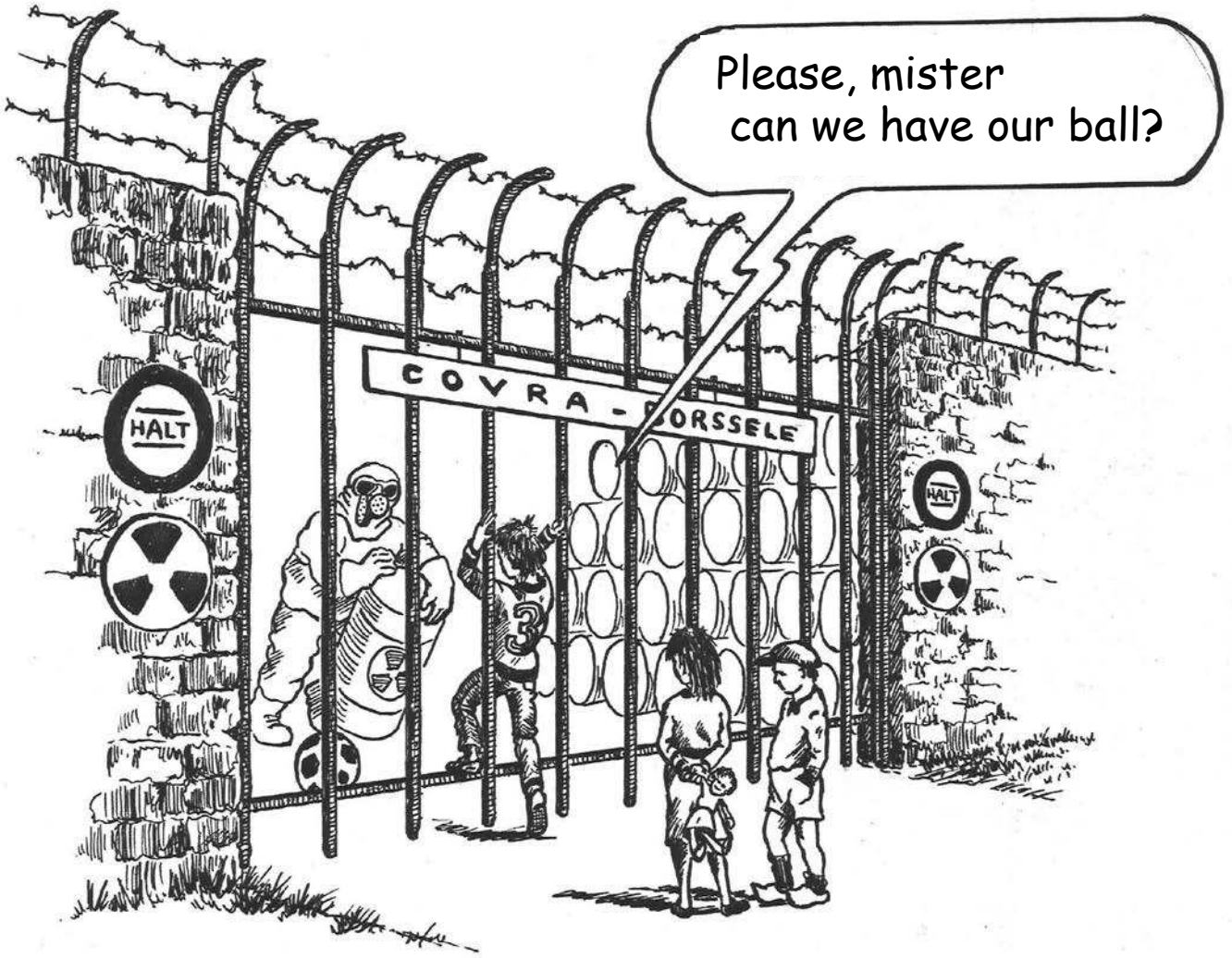


COMMUNICATION 1986-1992

- door to door flyers
- local municipal interest group
- involvement of local companies

COVRA attitude:
rational approach (facts and fi

SAFETY FIRST

COVRA experience with negative local attitude:
include communication in the design

YOUR NEIGHBOUR?

YOUR NEIGHBOUR?

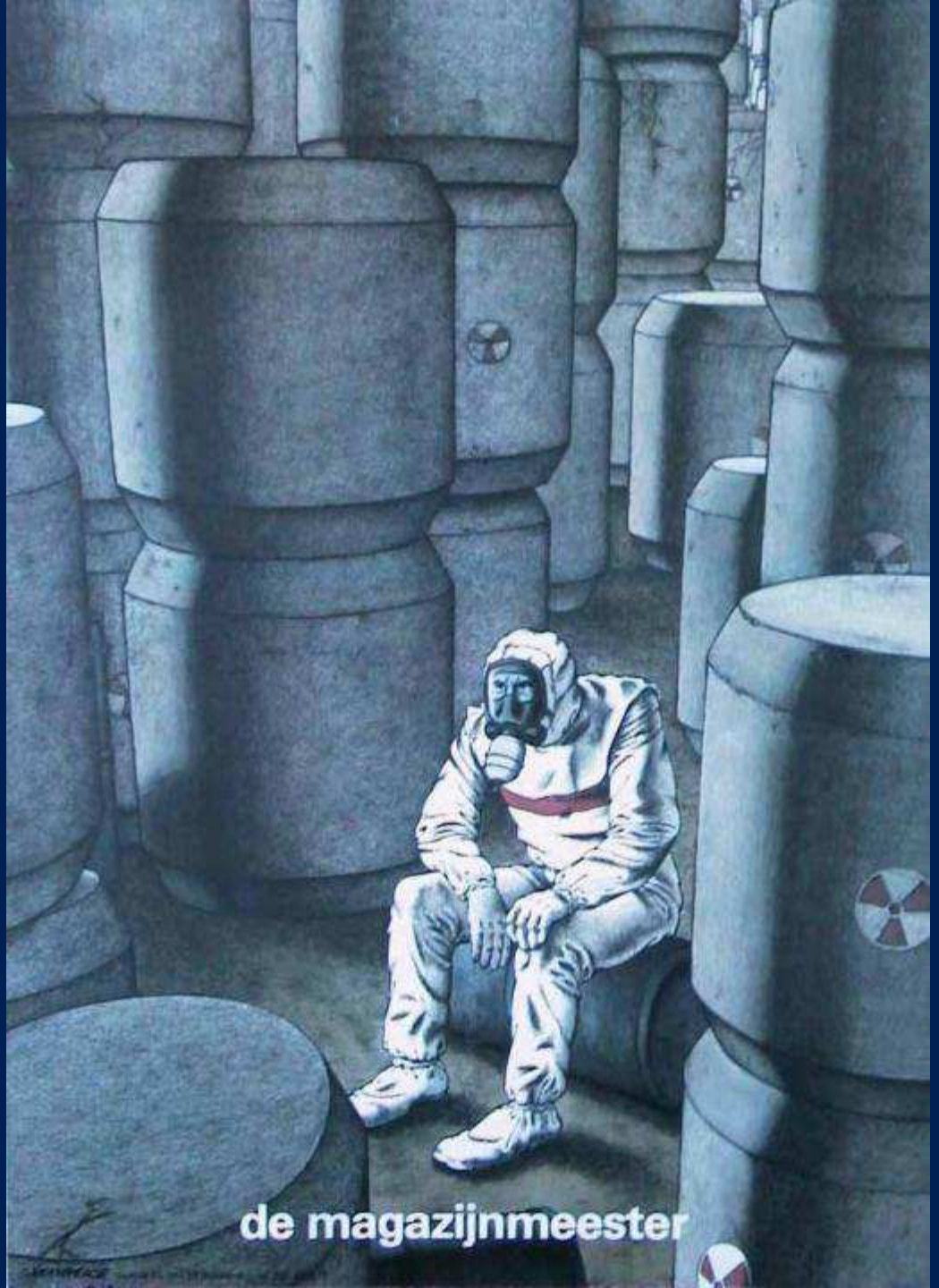
OPENNESS IN DESIGN

TRANSPARANCY IN DESIGN

TRANSPARANC

be clean,
look tidy

EVERYBODY WELCOME



GREENPEACE

COMMUNICATION 1992-2002

- impeccable behaviour
- be open, transparent
- all facts easy accessible and understandable
- always answer

but…….

- look for positive things to share
- focus on non technical aspects
- show emotions!!!!!!
- create opportunities

COMMUNICATION 1982-2003

1982-2003:

- rational approach: facts & figures

2003-now:

- emotional approach: art & time

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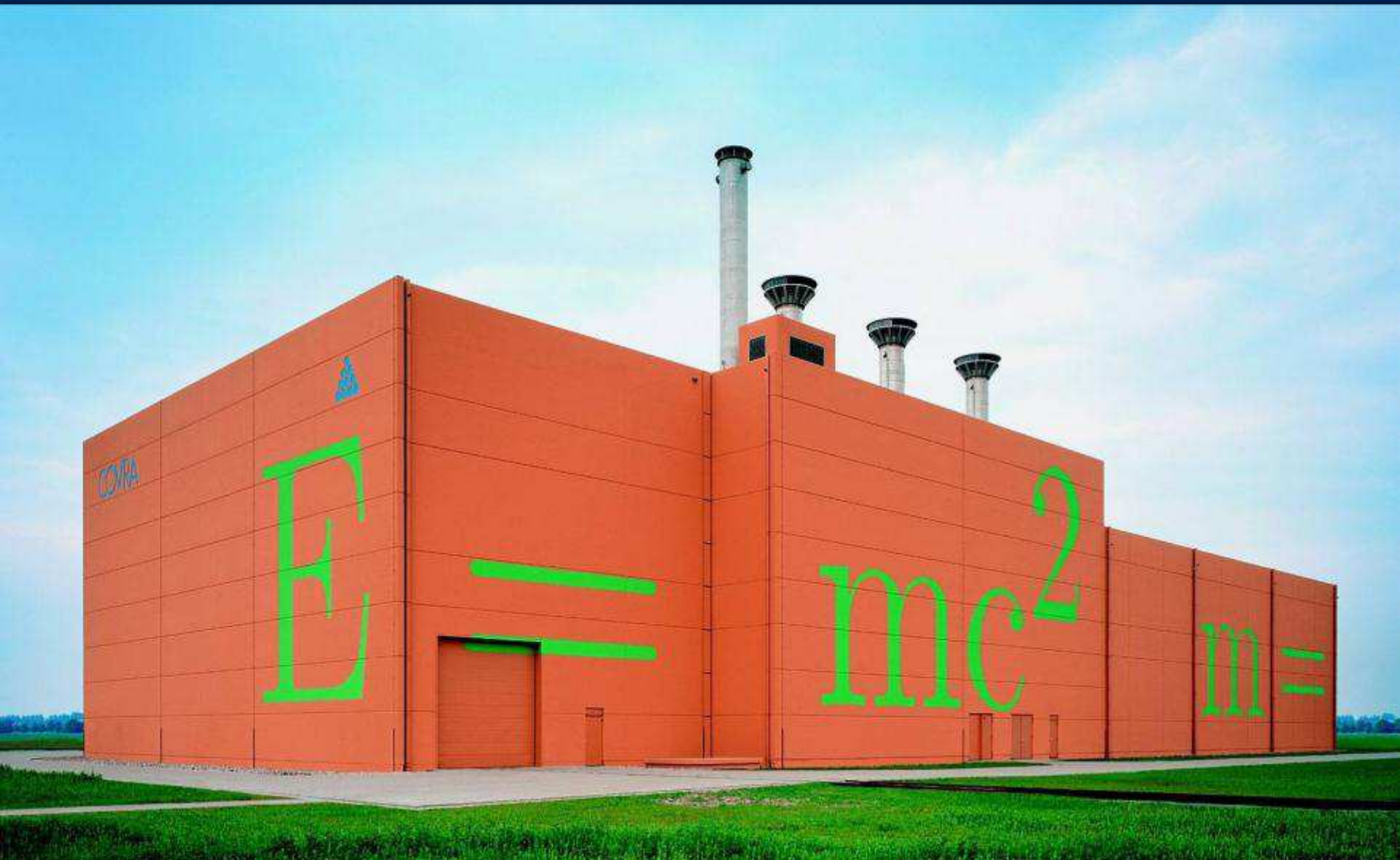
COMMUNICATION 2003-NOW

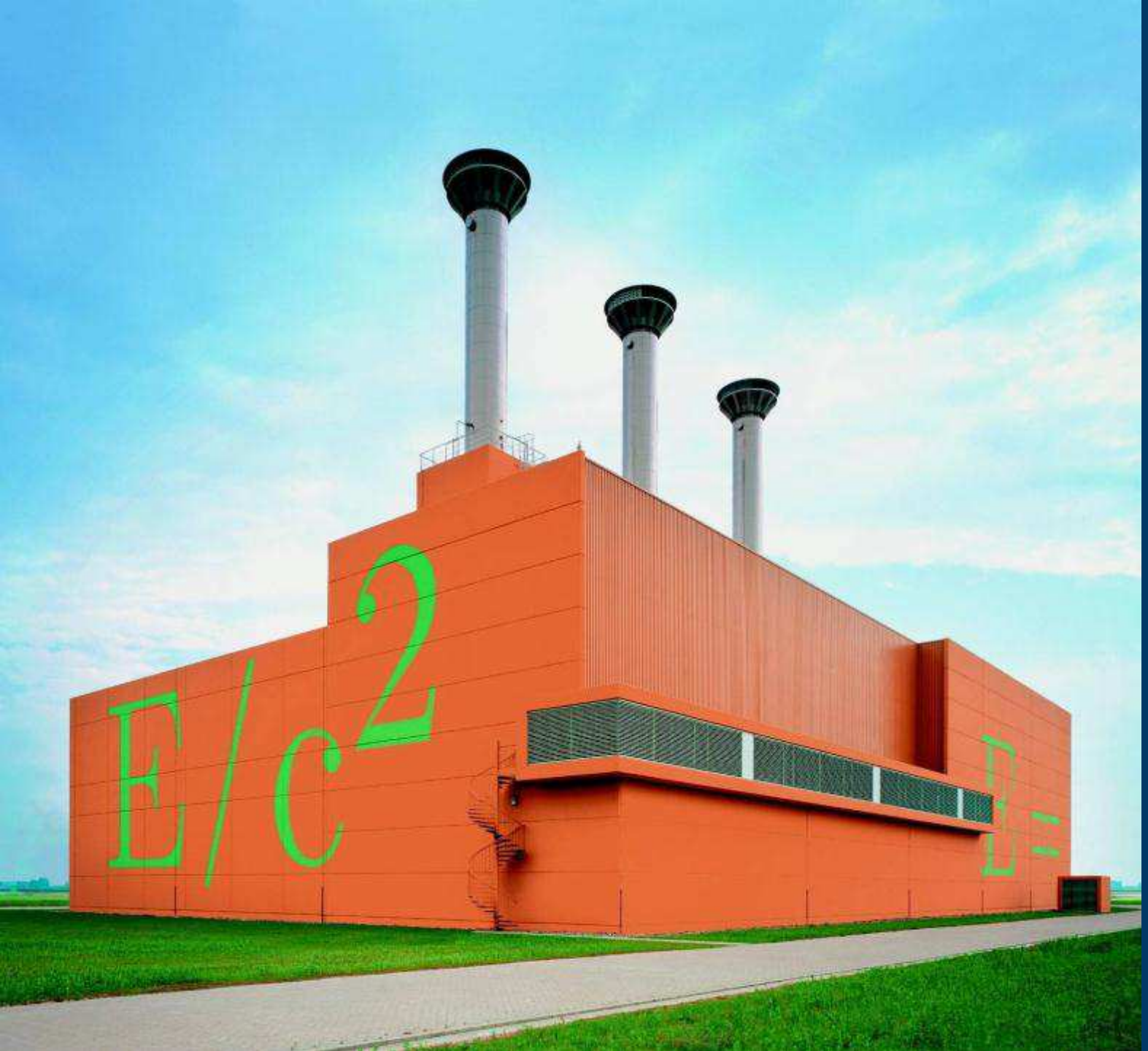
Include Art:

- Safe is beautiful
- Metamorphosis 2003-2103
- Art exhibitions
- performances

- the Art of storage, the storage of Art

SAFE = BEAUTIFUL





2003

2023

2043

2063

2083

2103

ART IS PART OF TECHNICAL VISIT

HABOG, METAMORPHOSIS

- the story about changing colour/art includes that we will take care
- people remember the concept of decay
- people understand the importance of time
- easy to be proud of something beautiful
- people remember the art, forget technical details

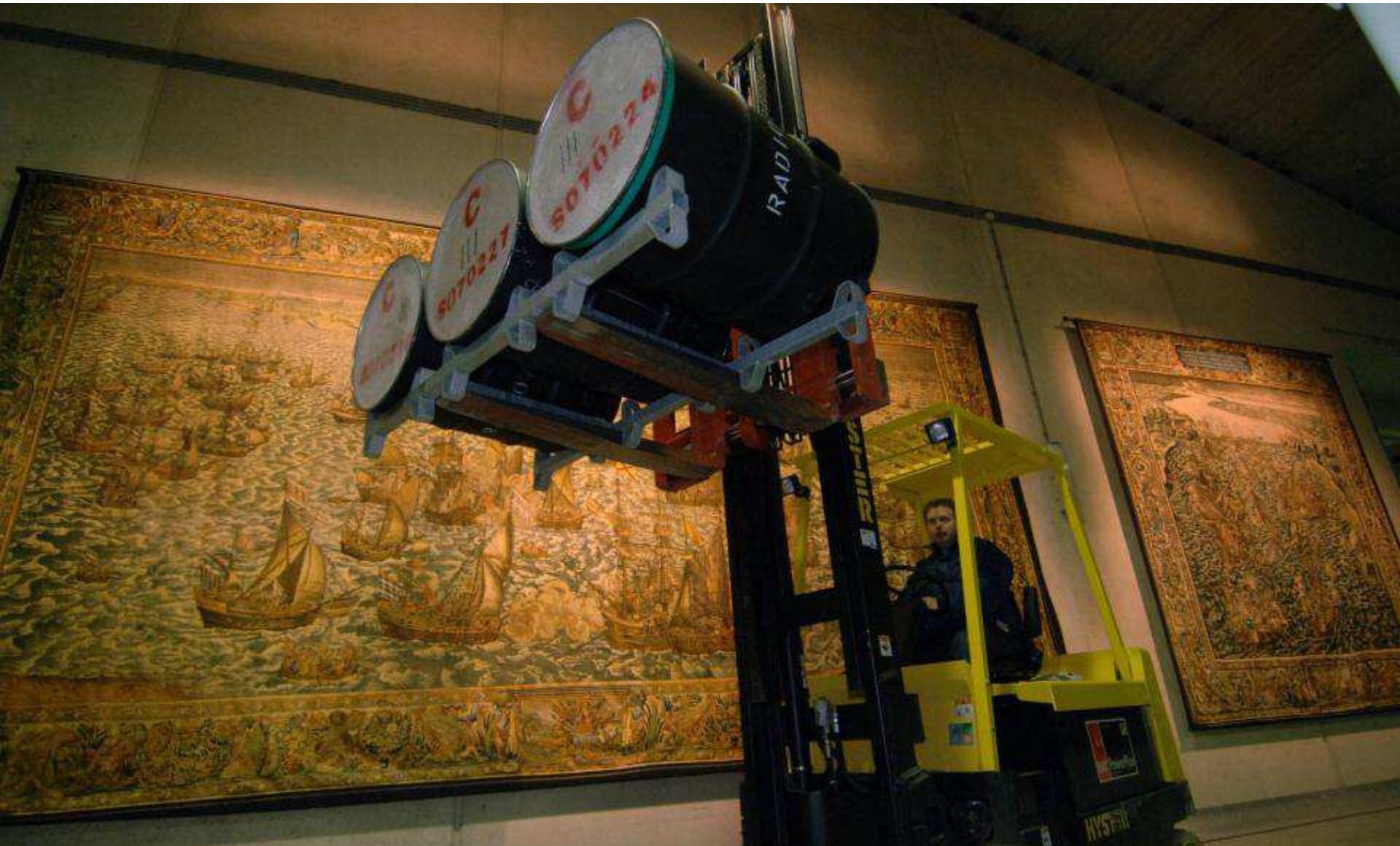

Store for 100 years?

THE ART OF STORAGE

- unused space available
- well guarded
- only slow and gradual temperature changes
- air humidity 60% or lower
- available for a very long time

perfect depot storage for museums!

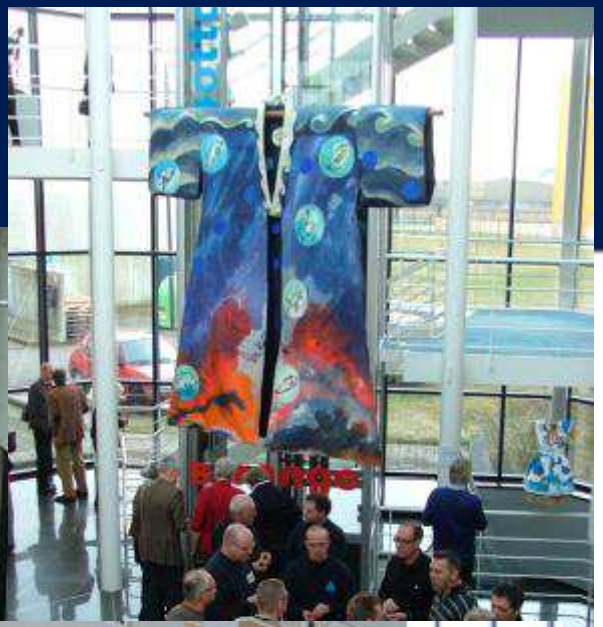
THE ART OF STORAGE



DEPOT FOR MUSEUMS

many museum artefacts are > 400 years old (golden age)

ART EXHIBITIONS



PERFORMANCES

THEATRE (QUARTET BY HEINER MÜLLER)

What did we learn?

THINK OUTSIDE
THE BOX

SHOW EMOTIONS!