New Legislation to Guide the World

Introduction to the ETH-NPC Focus Event

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New Legislation
to Guide the World ?

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?

A slightly disillusioned conclusion

Legislation is „only" a final administrative element

of a long, important and difficult process

and while legislation is usually in the hands of a few

an oligarchic process
(ολίγοι: a few, having the power)

the need to create rules to guide the world

should follow superior principles

in a democratic process
(δήμος: the people, having the power)

How can <u>we</u> guide Legislation ?

how did we guide Legislation during these 25 years!

by using our interdiciplinary skills on

physics, chemistry, biology, engineering

our committment and determination

Identify a major health effecting problem

↳ Evidence - persistant, mutagenic . . . .

   ↳ Quantify - do we have numeric criteria

      ↳ Metrology - can we measure and control success?

         ↳ Technology - for mitigation available and defined

            ↳ Feasibility and Timing

↳ Benefit/Cost

   ↳ Limit Values

      ↳ Particularly sensitive groups

         ↳ Prevention required

↳ **Legislation** - probably combined with public consultation

   ↳ Control mechanisms in place

Identify a major health effecting proble...

↳ Evidence

  ↳ Quantify do we have numeric criteria

    ↳ Metrology new paradigma PN

      ↳ Technology - BAT > 99% eliminati...

        ↳ Feasibility and Timing

↳ Benefit/Cost?

  ↳ Limit Values

    ↳ Particularly sensitive groups

      ↳ Prevention required

↳ Legislation: „VERT-certified DPF mandatory in CH, D, A"

  ↳ Control mechanisms in place – no exceptions

NEAT VERT 1995/98

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Open Filters
S.Gabriel
2008

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↳ **Legislation** - public consultation VERT → NR = OR

  ↳ Control mechanisms in place

NRMM 2006/10/14 A stakeholder driven process

Identify a major health effecting problem

↳ Evidence

  ↳ Quantify do we have numeric criteria

    ↳ Metrology can we measure and

      ↳ Technology for mitigation

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    ↳ Particularly sensitive groups

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↳ **Legislation** - probably combined with public consultation

  ↳ Control mechanisms abandoned

2012 EU 2014/45 control delegated to onboard electronics

VW-Scandal

Defeat Devices

NPTI 2016

Prior to Legislation
we need Consensus on Superior Principles
„contrat social" (Rousseau, Genève 1762)

- **Human Right for Clean Air** – also for the forest worker with the chain saw (400g/kWh CO) and for the taxi passenger 60'000 P/cc

- **Polluter pays principle** – TA Luft

- **Non-limited TAC can be limited -** CAA 202

- **BAT** best available technology for persistant, mutagenic substances – EPA

- **Early prevention** to limit effects which *could* become harmful (EPA CH)

- **Measures can be enforced below emission limits -** EPA CH 11

- **Public Participation**

- **Sustainability / circular economy**

Being committed is not enough – must be determined to act, based on science and technology
(W.v.Goethe „wissen genügt nicht, wir müssen handeln)

Looking back to the 25 years

We have successfully cleaned exhaust gas
but we failed on introducing
PN-Limit for indoor and outdoor air

- Requested from the first ETH conference
- Repeated in each conference
- Moved on the agenda of the Swiss parliament three times
- Urged a the EU court of Audits at Luxembourg

If we had a PN limit indoor today we might have

- Nanofilters for vehicle cabins which are hotspots
- Nanofilters for populated rooms → ahead of the pandemia 2020

?

**If you start with a question mark
you may risk to end up with many of them**

**Lets see whether our speakers
will have the answers**