



# NICOTINE REDUCTION STRATEGY – THE PROMISE AND THE PERIL

Moderator & Introduction by Jack Henningfield

## **Presentations:**

- Ray Niaura: State of the Science  
David Levy: Modeling the Benefits and Risk  
David Sweanor: Business and Economic Perspectives  
Rolf Lutz: Industry perspectives

## **Discussants:**

- Clive Bates: Public Health Perspectives, Risks & Unintended Consequences  
Marina Trani: Industry Perspectives, Goals, and Practical Realities

*Rapid Fire Discussion: All Panelists & Audience  
(please try to limit questions and comments to 1-2 minutes)*



*Panel discussion:*

## *NICOTINE REDUCTION STRATEGY – THE PROMISE AND THE PERIL*

*PMI perspective*

*Rolf Lutz*

*Director Product Policy*

*Philip Morris International*

*28 September 2016*



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## *Transformation to nicotine-free cigarettes?*



PMI's ambition is that **smokers who would otherwise continue to smoke replace cigarettes** as soon as possible **with non-combustible products** (e.g. heated tobacco products, e-cigarettes, snus).

**Proposals aimed at mandating nicotine-free cigarettes are in our view not a promising harm reduction strategy.**



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## What is Nicotine?

**Nicotine occurs naturally in tobacco.**

**Nicotine is addictive and not risk free.**

**Nicotine at high doses is toxic when swallowed or absorbed through the skin.**

**Smoking-related diseases, such as lung cancer, cardiovascular disease and emphysema, are caused primarily by inhaling harmful compounds formed when tobacco is burned, not by nicotine.<sup>1</sup>**



1) 2015 Public Health England: Electronic cigarettes



# *What is WHO's Nicotine Reduction Strategy<sup>1</sup>? (mandating "nicotine-free cigarettes")*



**Nicotine content in  
tobacco blend [mg/g]**

**Nicotine yield in cigarette  
smoke <sup>2</sup> [mg/cig]**



**18.8 mg/g**

**0.8 mg/cig**



**17.4 mg/g**

**0.1 mg/cig**



**Nicotine-free cigarettes**

**< 0.4 mg/g**



- 1) WHO Advisory Note: Global Nicotine Reduction Strategy
- 2) ISO smoking regime



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# *Technologies to produce "nicotine-free" tobacco*



## **Genetically modify (GM) tobacco plant**

- Patents owned by 22<sup>nd</sup> Century Group Inc.
- Used in nicotine-free cigarettes for clinical trials and "Magic Zero"

## **Nicotine extraction**

- Was used by PM USA in nicotine-free NEXT, Benson & Hedges and Merit launched in 1989
- Batch process / detrimental to taste

### *Hypothetical scenario*

#### **Estimated time & costs to implement<sup>1</sup>**

Canada cigarettes (27 bio.)

EU cigarettes (636 bio.)

#### **GM tobacco**

Approx. 20 years

Approx. 20 years

#### **Extraction**

Approx. 3 years

Approx. 5 years



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1) PMI estimates based on 2015 cigarettes volumes; **GM tobacco steps:** Licensing agreement; Transfer low nicotine modification to approx. 80 varieties for Canada / 220 varieties for the EU; Apply/Obtain GM regulatory approval in 8 countries (Canada) / 30 countries (EU); Breeding field trials; Crop growing; **Extraction:** derived from 1988 PM USA project; Investment of approx. 200 mio UD to denicotinize 9,500 tons (approx. 12 bio cigarettes) per annum

## *Experience with nicotine-free cigarettes to date*



### **1989 - 1993**

PM USA launched nicotine-free cigarettes NEXT, MERIT and Benson & Hedges in 1989, after investing more than 200 Mio USD.

Consumers missed the taste and satisfaction.



### **2003 - 2008**

Vector Tobacco Inc. marketed Quest nicotine-free cigarettes in eight U.S. states.



### **2015**

22<sup>nd</sup> Century Group launched “Magic Zero” in Spain, a nicotine-free cigarette produced with genetically modified tobacco.

Consumers did not accept the taste characteristics, “Magic Zero” sales were stopped.

### **Clinical trials**

Most smokers did not like nicotine-free cigarettes. Non-compliance was common (panelists complemented test cigarettes with conventional cigarettes).



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## *PMI's view on mandating nicotine-free cigarettes*



- Based on past experiences, it appears as a non promising harm reduction strategy.
- Still many unanswered questions/concerns: e.g. smokers may change their smoking behavior and “compensate”.
- Does not make sense to force products on consumers that remove the far less problematic substance nicotine, but still generate all harmful substances associated with smoking related diseases.
- Given the complete lack of consumer acceptance, mandated nicotine reduction, amounts to prohibition.

Promising harm reduction strategies should be promoted.

PMI's ambition is that **smokers who would otherwise continue to smoke replace cigarettes as soon as possible with non-combustible products** (e.g. heated tobacco products, e-cigarettes, snus).



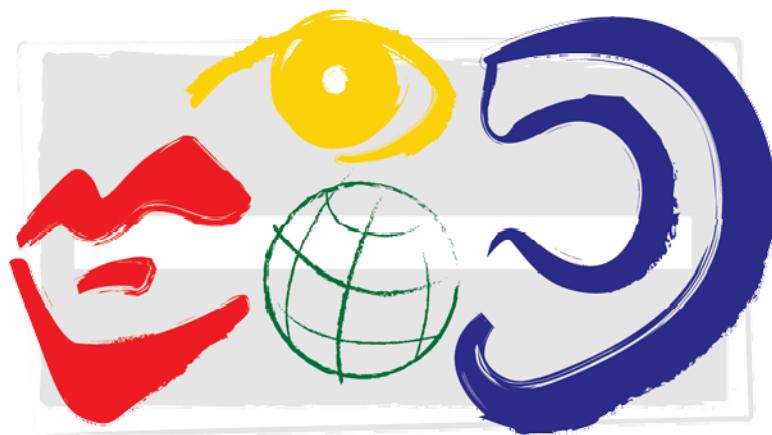
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# Thank you very much!



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*Global Tobacco & Nicotine Forum*  
Dynamic dialogue, expanding perspectives.