



Briefing paper

**Revision of the Tobacco Excise Directive
Implications for low-risk nicotine products**

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Revision of the Tobacco Excise Directive Implications for low-risk nicotine products

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This report was written by Clive Bates, an Associate of the New Nicotine Alliance, with comments and suggestions provided by NNA trustees. The work was undertaken on a voluntary basis. Clive Bates has no competing interests with respect to tobacco, vaping or pharmaceutical industries.

1 Executive summary

- The possible revision of the Tobacco Excise Directive creates both risks and opportunities for consumers and public health. The choices made by policy-makers and legislators will have consequences for smoking prevalence and therefore significant implications for human health.
- The opportunity is to create a European Union excise regime for the emerging recreational nicotine market that will incentivise smokers to switch to products that cause much lower risk to health than cigarette smoking. These products are all ‘smoke-free’ and include e-cigarettes and vapour products, smokeless tobaccos, heated tobacco products, and novel forms of tobacco and nicotine – all are likely to be 90-100% lower risk than smoking. Recent innovation has greatly increased the potential of these products – to the point where they may ultimately marginalise cigarette smoking and radically reduce the burden of smoking-related premature deaths, which stands at 700,000 per year in the European Union.
- The risk is that excise duties, if carelessly applied to smoke-free nicotine products, will create adverse changes in demand in favour of smoked tobacco products. It should be a high priority in any tax policy impact assessment to assess and avoid unnecessary disease and death to the extent possible. Experience so far, for example in Italy, suggests that authorities do not yet have a sufficient grasp of the underlying economics of low-risk smoke-free nicotine products to make adequately precautionary policy on excise duties for these products.
- The economic evidence to date suggests that e-cigarettes have quite high price elasticities and a positive cross-elasticity with conventional cigarettes. It follows that excise duties applied to e-cigarettes are likely to increase smoking compared to not applying such duties.
- We argue that the most important public health distinction is between products that involve combustion and ‘smoke-free’ nicotine products that have no combustion. Any public health distinctions within these two categories are of far less importance than the difference between them. Excise policy should be broadly focussed on substantially different treatment *between* the two categories and less on different treatment *within* these categories, aiming for broadly equivalent taxation strategy within each category, with variation only to address practicalities.
- The EU principle of ‘non-discrimination’ does not prevent different treatment of combustible and non-combustible products, in fact it requires different treatment. The principle is defined: *Non-discrimination means that comparable situations should not be treated differently, and that different situations should not be treated in the same way, unless there are objective grounds for doing so.* The treaties also require EU policies to secure a high level of health protection. In this respect, the situation is very different for smoked and smoke-free products.
- European Union policymakers will try to balance the triple objectives of protecting public health, raising revenue, and containing tax administration costs. This paper makes two main arguments with respect to the trade-offs implicit in these objectives:
 1. The societal value of quitting smoking is so high that other sources of revenue or expenditure saving should be sought rather than risking benefits that arise from switching from smoking to smoke-free products. The social benefit, primarily years of extra life, arising from a single successful quit is estimated at £72,000 by England’s Department of Health, while lost excise revenue would be £11,000. If viewed as an investment, this has an

extremely high benefit-cost ratio and would be deemed 'very high value for money'.

2. If duties are set at rates low enough to meet the public health imperative to create a fiscal incentive to switch from smoking to smoke-free nicotine products, then the costs of tax administration are likely to undermine the cost-effectiveness of this revenue raising option.
- In terms of tax discrimination, a relevant comparator for e-cigarettes is the sale of nicotine replacement therapy (NRT) over the counter (i.e. outside clinical settings). Both categories do negligible harm to health and both can assist in achieving a health benefit through smoking cessation. NRT attracts a tax break in many jurisdictions through application of a reduced VAT rate – 5% rather 20% in the UK. However, recent research suggests that e-cigarettes are much more likely to support successful smoking cessation than over-the-counter NRT. E-cigarettes therefore start with adversely discriminatory tax treatment relative to NRT. This could be addressed by applying the VAT discount to e-cigarettes or removing it from NRT. It should not be further exacerbated by levying an additional tax burden on e-cigarettes.
 - It is difficult to establish a reliable tax base for e-cigarettes and vapour products. This report considers an *ad valorem* approach and specific duties on liquid volume and nicotine mass. The challenge is down to fundamentals, notably:
 - the divisibility of the products into many separate components: nicotine, liquid diluent, flavourings, device, heating element, battery and so on;
 - the diversity of products available, and the scope for product, commercial or consumer innovation that would facilitate tax avoidance;
 - the ease of international cross-border internet purchases and compactness of key product components such as liquid nicotine concentrate, which can be purchased at a cost of a few cents per day for a typical user.
 - For e-cigarettes and vaping products, we recommend:
 - No imposition of excise duties on public health and practicality grounds;
 - Further study of the economics and public health impacts of these products;
 - If, contrary to our advice, these products are included in the Tobacco Excise Directive, a minimum excise duty constraint should allow for a zero rate. This would allow member states discretion to pursue tobacco harm reduction strategies and tax simplification;
 - The concept of a *maximum* excise duty rate relative to smoking tobacco should be implemented to reflect the very substantial difference in risk and to respect the EU treaty principles of proportionality and non-discrimination.
 - The case for applying excise duties to non-combustible 'smoke-free' tobacco products (smokeless tobacco products or heated tobacco products) is weak on public health grounds for the same reasons as for e-cigarettes.
 - For the same reasons as apply for e-cigarettes, the minimum excise duty for such products should be set at zero, and a *maximum* set at some fraction (say 30%) of the lowest level of duty applied to any smoking tobacco in each member state.
 - Duties for smoke-free tobacco products should be specific duty per kg of tobacco.

2 Introduction – a revision of the EU Tobacco Excise Directive

The framework for taxing tobacco products in the European Union is established at EU level through Directive 2011/64/EU¹. The European Commission has initiated a consultation on the possible revision of the Directive², which could lead to a new Commission proposal to revise any aspect of the directive and to expand its scope. This could include products that are important for the public health strategy of tobacco harm reduction, such as e-cigarettes, smokeless tobacco or heated tobacco products. These products provide recreational nicotine at a small fraction of the risk associated with smoking. This paper discusses the issues with raising duties on these products.

3 Excise terminology and structure

There are three types of tax applied to tobacco products in the European Union.

- Value Added Tax – the general sales tax based on a fixed percentage of the pre-VAT price
- *Ad valorem* excise duties – specified as a fixed percentage of the price
- Specific excise duties – e.g. a fixed amount per 1,000 cigarettes or per kilo of loose tobacco

For the UK, these taxes combine as in the table below to account for about 84% of the typical selling price of 20 cigarettes at current (November 2016) duty rates³. The actual rates and tax breaks down as in the table below for typical UK cigarettes in October 2016, showing two UK price points⁴.

Figure 1. Pricing and taxation of cigarettes

Retail price	£9.40	£7.73	Pack of 20 cigarettes in UK
VAT	£1.57	£1.29	20% of pre-VAT price
<i>Ad valorem</i> duty	£1.55	£1.28	16.5% of retail price
Specific duty	£3.93	£3.93	£196.42 per 1000 cigarettes
Total duty	£5.48	£5.21	Ad valorem + specific
Total duty + VAT	£7.05	£6.49	= 75% / 84% of retail price
Untaxed price	£2.35	£1.24	To retailer, manufacturer etc

Note that in this example, a 22% increase in retail price results in a 90% uplift in the untaxed revenue accruing to the retailers and manufacturers. This table explains why tobacco companies can still be very profitable in high tax jurisdictions. For a relatively small price premium to the consumer, the companies gain a very substantial revenue premium.

The Tobacco Excise Directive provides harmonised definitions and methodologies and defines the structure of taxation for smoking tobacco. Excise *rates* are set by EU member states but within limits set in the Directive, including minimums and constraints on the mix of different types of tax.

¹ Council Directive 2011/64/EU of 21 June 2011 on the structure and rates of excise duty applied to manufactured tobacco [\[link\]](#)

² European Commission, *Possible Revision of 2011/64/EU* [\[link\]](#) including a consultation strategy [\[link\]](#) and an inception impact assessment [\[link\]](#).

³ HM Revenue and Customs, Excise Duty - Tobacco Duty rates [\[link\]](#) accessed 15 November 2016.

⁴ £9.40 is the UK Most Popular Price Category (MPPC) at 1st January 2016 (source: TMA [\[link\]](#)). £7.73 is the UK Weighted Average Price (WAP) at 1 July 2016 (source: European Commission [\[link\]](#)). These concepts, MPPC and WAP, are used in the tobacco excise policy. The Tobacco Excise Directive relies on WAP. .

4 Low risk tobacco and nicotine products

Although the Tobacco Excise Directive only cover smoking tobacco at this stage, a new category of low-risk consumer alternatives to cigarette smoking is emerging and may be considered for possible inclusion in a revised directive. This category broadly consists of four sub-categories:

1. **Vapour products.** These products use electrical heat applied to a flavoured nicotine 'e-liquid' to create an inhalable vapour aerosol. These products include e-cigarettes, personal vapourisers, e-shisha and come in hundreds of device designs and many thousand liquid options. The liquids may be sold as integral to the device or the device and liquid may be sold separately. Not all e-liquids contain nicotine and not all 'vaping' involves nicotine use. Major reviews of e-cigarette safety^{5 6 7} give confidence that risks are likely to be *at least 95% lower than smoking* – a view recently endorsed by the government agency Public Health England⁸. At present, there is *no evidence* suggesting that e-cigarettes are a cause of any serious disease, so even the 5% residual risk is an allowance for unknowns. The most recent authoritative statement is from the Royal College of Physicians⁹:

Although it is not possible to precisely quantify the long-term health risks associated with e-cigarettes, the available data suggests that they are unlikely to exceed 5% of those associated with smoked tobacco products, and may well be substantially lower than this figure". (Section 5.5 Page 87)

2. **Heated tobacco products.** These products use electrical heat applied to a slug of tobacco to create a vapour, but without reaching the temperature required to cause combustion. An inhalable vapour is created with tobacco flavours and nicotine. These products are relatively new in a form acceptable to consumers, but the experimental data published so far by the manufacturers suggests these products are likely to offer reduced toxic exposures of at least 90% relative to smoking^{10 11 12 13 14}.

⁵ Burstyn I. Peering through the mist: systematic review of what the chemistry of contaminants in electronic cigarettes tells us about health risks, *BMC Public Health* 2014;**14**:18. [\[Link\]](#)

⁶ Farsalinos KE, Polosa R. Safety evaluation and risk assessment of electronic cigarettes as tobacco cigarette substitutes: a systematic review. *Therapeutic Advances in Drug Safety* 2014;**5**:67–86. [\[Link\]](#)

⁷ Hajek P, Etter J-F, Benowitz N, Eissenberg T, McRobbie H. Electronic cigarettes: review of use, content, safety, effects on smokers and potential for harm and benefit. *Addiction* [Internet]. 2014 Aug 31 [\[link\]](#)

⁸ Public Health England. E-cigarettes around 95% less harmful than tobacco estimates landmark review. [\[link\]](#) E-cigarettes: an evidence update [\[link\]](#) 19 August 2015.

⁹ Royal College of Physicians (London), *Nicotine without smoke: tobacco harm reduction*. 28 April 2016 [\[link\]](#)

¹⁰ Gilchrist M. Heat-not-Burn Products: Scientific Assessment of Risk Reduction. Presentation to Global Tobacco and Nicotine Forum, Phillip Morris International, September 2015. [\[link\]](#)

¹¹ Lüdicke, F., G. Baker, J. Magnette, P. et al (2016). Reduced exposure to harmful and potentially harmful smoke constituents with the Tobacco Heating System 2.1. *Nicotine and Tobacco Research* (2016) [\[link\]](#).

¹² Gonzalez Suarez, I., F. Martin, D. Marescotti, et al (2016). In vitro systems toxicology assessment of a candidate modified risk tobacco product shows reduced toxicity compared to a conventional cigarette. *Chemical Research in Toxicology* 29(1): 3-18. [\[link\]](#)

¹³ British American Tobacco, Controlled aerosol release to heat tobacco: product operation and aerosol chemistry assessment. Poster presentation SRNT March 2016, Chicago. [\[link\]](#)

¹⁴ British American Tobacco, Hybrid Device Delivers Tobacco Flavours with E-cig Like Vapor, 6 March 2016 [\[link\]](#)

3. **Smokeless tobacco products.** These tobacco products are generally placed in the mouth to be sucked or chewed or, less commonly, up the nose. Nicotine enters the blood through oral or nasal mucosa. These products create much lower risks to human health than smoking, and this effect has been most thoroughly documented in the case of snus¹⁵. Although these products have been available for years, their positive impact on public health has been only recently accepted, notably through the experience of Sweden, where the lowest rates of smoking in Europe have been achieved¹⁶ and the lowest rates of main tobacco related diseases are found in men because of snus use¹⁷. Though snus is banned in the EU outside Sweden, it is a ‘proof of concept’ that low risk smoke-free nicotine products have potential to make major health gains.
4. **Novel nicotine products.** These products may include inhalers, synthetic snus, tobacco lozenges, thin dissolvable nicotine films, liquids or variants on nicotine replacement therapy.

Figure 2. Categories of low-risk recreational nicotine products



They have one common defining characteristic – they do not involve combustion and are ‘smoke-free’. The absence of combustion of organic material and the creation of smoke has attracted interest in their potential role as a harm reduction strategy that would reduce the burden of disease arising from smoking.

5 Balancing public health, revenue raising and administrative cost

There are strong reasons not to tax e-cigarettes at all and possibly to provide tax subsidies. However, the same is true of taxing employment (income tax) or investment (corporation tax).

¹⁵ Lee PN. Epidemiological evidence relating snus to health - an updated review based on recent publications. *Harm Reduct J.* England; 2013;10(1):36. [\[link\]](#)

¹⁶ European Commission. Eurobarometer Special Survey 429: Attitudes of Europeans towards Tobacco and Electronic Cigarettes. 2015. [\[link\]](#)

¹⁷ Ramström L, Wikmans T. Mortality attributable to tobacco among men in Sweden and other European countries: an analysis of data in a WHO report. *Tob Induc Dis.* 2014 Jan;12(1):14. [\[link\]](#)

Tobacco excise is a significant revenue base for governments (£9.5 billion for the UK, about 1.4% of public sector current receipts in 2015-16, with a further approximately £2.6 billion in VAT). Governments need to raise revenue (£678 billion annually in the UK) and they approach this task roughly as described by Louis XIV'S Finance Minister, Jean-Baptiste Colbert (1619-1683):

the art of taxation consists in so plucking the goose as to obtain the largest possible amount of feathers with the smallest possible amount of hissing

Governments are looking for tax bases that cause the least 'hissing', hence their attraction to 'sin taxes' on tobacco, alcohol and gambling. Any argument against applying excise duties must be made recognising the expediency that lies behind tax policy and show that taxing low risk nicotine products would create adverse trade-offs between competing government objectives.

More formally, governments are likely to approach taxation of such products with three objectives in mind: raising revenue; public health impact; cost of administration. This was articulated, for example, in the European Union approach in Economic Council conclusion for March 2016¹⁸.

12. UNDERSCORES that, in this context, a solution for excise taxation of e-cigarettes, heated tobacco, other novel tobacco products and, where relevant, of products related to tobacco products, needs to be practical and foresighted, and strike the right balance between the revenue, expenses of tax administration and public health objectives.

This three-way balancing act is a reasonable framework for testing the viability of different approaches to taxation of smoke-free products taxation.

6 Guiding principles from the European Union treaties

The European Union has several relevant principles embedded in the Treaties¹⁹ that should inform European Union policymakers in this field.

1. **Health protection objective.** All European Union policies, including taxation and the internal market, should be defined and implemented with a view to a high level of health protection. Article 168 of the Treaty on the Functioning of the European Union enshrines this principle²⁰.

A high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities.

2. **Proportionality.** The principle of proportionality is relevant to the Tobacco Excise Directive²¹

Under the principle of proportionality, the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties.

¹⁸ European Union, Council conclusions on the structure and rates of excise duty applied to manufactured tobacco, Press release 109/16 8 March 2016 paragraph 12 [\[link\]](#)

¹⁹ 'The Treaties' refers to the [Treaty on European Union](#) (TEU) and the [Treaty on the Functioning of the European Union](#) (TFEU) and their [Protocols](#)

²⁰ TFEU Article 168 [\[link\]](#)

²¹ Treaty on European Union Article 5.4. [\[link\]](#)

Note that revenue raising is not an objective of the EU treaties – that is a matter for member states. The relevant European Union treaty objective is the development of the internal market with a high level of health protection. Under the principle of proportionality combined with the public health objective, the excise treatment should reflect relative risk to health, which is 90-100% lower than smoking tobacco for these smoke-free products, and should also reflect the health benefit that arises from reducing smoking. Cigarettes are heavily taxed (75% or more of the retail price in the UK) but this reflects in part their unique harmfulness. Smoke-free products cause minimal harm and prevent smoking-related harm. For this reason, they should attract zero or very low taxation, or even tax breaks.

3. **Non-discrimination or ‘equal treatment’.** The principle of non-discrimination, as articulated by the Court of Justice and universally applied in European Union policy-making is as follows²²:

... the principle of equal treatment or non-discrimination requires that comparable situations must not be treated differently and that different situations must not be treated in the same way unless such treatment is objectively justified. (emphasis added)

The situations with smoke-free nicotine products and smoked tobacco are very different, and it follows that they *must* be treated differently under this principle. The major difference is the risk to health, which is an important consideration in the development of the internal market, as noted in 1 above. There is a broad consensus that these products will be much less risky than smoking. The most authoritative assessment to date has been by the Royal College of Physicians, which concentrated on vapour products²³:

Although it is not possible to precisely quantify the long-term health risks associated with e-cigarettes, the available data suggest that they are unlikely to exceed 5% of those associated with smoked tobacco products, and may well be substantially lower than this figure".
(Section 5.5 page 87)

The situation for all non-combustible products, including smokeless and heated tobacco products, is very different to smoked products. Under the principle of non-discrimination, it is not only acceptable to treat such products with dramatically different risk profiles differently, *it is a requirement.* Any inclusion of low risk products in a revised Tobacco Excise Directive should respect this principle.

4. **Subsidiarity and harmonisation:** is action justified to harmonise at EU level? Both the Tobacco Excise Directive (2011/68/EU) and Tobacco Products Directive (2014/40/EU) allows for major differences in the treatment of e-cigarettes at national level. If there is any harmonisation of excise, it should be based on harmonising *tax design*, not tax rates. It should always include the option to have zero rates and a mandatory *maximum* rate for low-risk smoke-free products to preserve a differential with smoked tobacco as discussed under ‘non-discrimination’ above.

²² [Case 304/01 Sept 2004 Spain v European Commission](#) para 31

²³ Royal College of Physicians (London), Nicotine without smoke: tobacco harm reduction, 28 April 2016 [\[link\]](#)

7 Key differences between cigarettes and vapour products

It will be challenging to raise duties on vapour products efficiently, especially over the longer term as manufacturers and consumers adapt. There are several important differences between vapour products and cigarettes that greatly increase complexity and allow scope for avoiding duties.

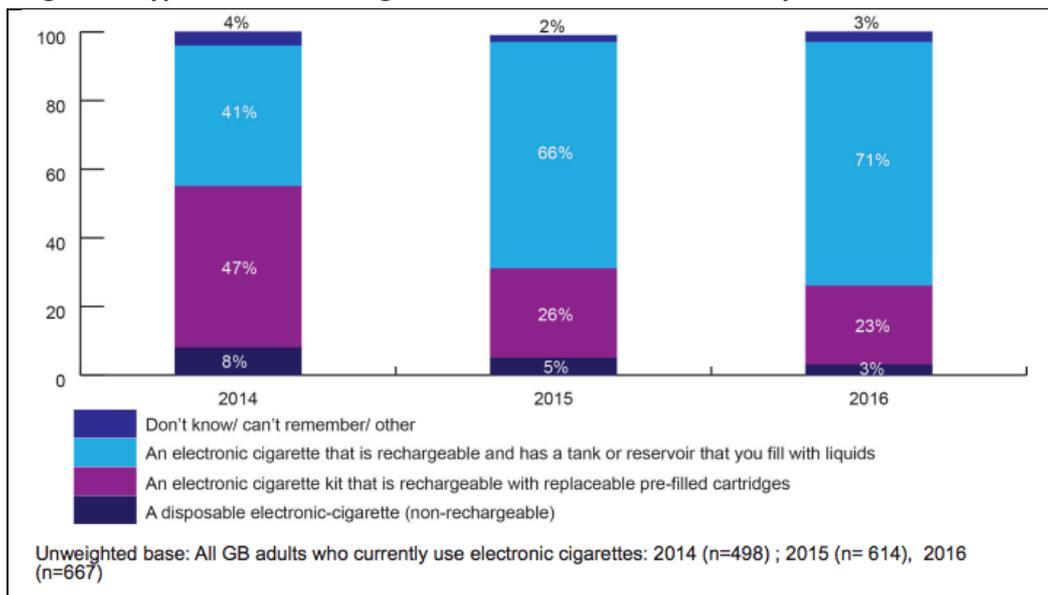
Figure 3. Comparison of cigarette and vapour products

Cigarettes	Vapour products
Nicotine, tobacco, flavour and cigarette are indivisible	Device, nicotine, diluent liquid, flavouring may be sold together or separately
Tobacco industry broadly compliant and uses tax to raise underlying prices	Vapour industry sees excise as a burden and threat
Inelastic demand – nicotine dependence has allowed prices to rise with incomes	More elastic demand and possible price sensitivity at point of switching
Small number of experienced producers familiar with excise regime, bonding etc	Large number of producers including many SMEs with high rate of entry/exit
Homogenous product	Highly diverse products [strengths, liquid volumes, modularity of devices]
Stable product design	Rapid pace of innovation including the capability to innovate to minimise tax burden
Fewer behaviour change options – down-trading, switching to hand-rolled, black market, quitting.	Many behaviour change options – moving to open system, DIY mixing, change strength / volume mix.
Little internet trade available direct to consumers and relatively bulky packaging	Internet trade established – small high value package (e.g. of concentrated nicotine)
Little interaction between users through social networks	Powerful social networks that will share knowledge and tax-avoiding strategies
Very harmful to health	Likely to be at least 95% less risky than smoking cigarettes and probably much lower than that.

These differences should alert policy-makers to the risk of ‘policy by analogy’ or simply assuming that what can be done with cigarettes can be translated to vapour products. They are likely to greatly increase the complexity and administrative costs of revenue collection, drive tax-avoiding innovation by producers and consumers, and make recourse to illicit trade more straightforward.

The UK market has been moving steadily towards use of the more complicated disaggregated devices and liquids, which now dominate the market, as shown in the figure below and this will make the application of duties much more complicated in future.

Figure 4. Type of electronic cigarette used most often nowadays



Source: Action on Smoking and Health²⁴

8 Tobacco excise policy and impact on public health

The European Union treaties place weight on the functioning of the internal market with a high level of health protection. The intent of the treaties is summarised in the second recital of the Tobacco Excise Directive²⁵:

The Union's fiscal legislation on tobacco products needs to ensure the proper functioning of the internal market and, at the same time, a high level of health protection, as required by Article 168 of the Treaty on the Functioning of the European Union, bearing in mind that tobacco products can cause serious harm to health and that the Union is Party to the World Health Organization's Framework Convention on Tobacco Control (FCTC). Account should be taken of the situation prevailing for each of the various types of manufactured tobacco.

The final sentence endorses a differentiated approach for tobacco products, and by implication any tobacco alternatives, within the scope of the directive.

The World Health Organisation (WHO) recently reflected this philosophy in its paper on Electronic Nicotine Delivery Systems (ENDS)²⁶.

22. Price: The limited empirical research on the topic shows that:

- a. ENDS/ENNDS sales and prices have a strong inverse relation⁸³;
- b. ENDS/ENNDS and cigarettes are substitutes, with higher cigarette prices being associated

²⁴ Action on Smoking and Health (London). Use of electronic cigarettes (vapourisers) among adults in Great Britain, May 2016 [\[link\]](#)

²⁵ Council Directive 2011/64/EU of 21 June 2011 on the structure and rates of excise duty applied to manufactured tobacco [\[link\]](#)

²⁶ WHO, FCTC/COP/7/11: Electronic Nicotine Delivery Systems and Electronic Non-Nicotine Delivery Systems (ENDS/ENNDS), August 2016 [\[link\]](#)

with increased ENDS/ENNDS sales⁸⁴. Therefore, differential tax policies based on product type could lead to substitution between different types of ENDS/ENNDS and between ENDS/ENNDS and cigarettes⁸⁵;

c. Existing initial costs for a rechargeable ENDS/ENNDS devices and costs of disposable ENDS/ENNDS are generally higher than those of cigarettes⁸⁶.

The citations for this WHO statement provide some valuable context for EU policymakers:

- Referring to the relationship between e-cigarette price and e-cigarette demand: *“Estimated own price elasticities for disposable e-cigarettes centred around –1.2, while those for reusable e-cigarettes were approximately –1.9. [...] E-cigarette sales are very responsive to own price changes.”*²⁷
- Referring to the relationship between e-cigarette price and e-cigarette demand in the six European Union countries studied: *“Based on static models, every 10% increase in e-cigarette prices is associated with a drop in e-cigarettes sales of approximately 8.2%, while based on dynamic models, the drop is 2.7% in the short run and 11.5% in the long run.”*²⁸
- Referring to the relationship between cigarette prices and e-cigarette demand: *“The estimated cross-price elasticity is 4.55 and 3.6 in the static models, while the long-run multipliers in the dynamic models are 6.46 and 6.54. This implies that a 10% increase in regular cigarette prices is associated with about a 40% increase in e-cigarette sales based on static models and a 60% increase in the long run based on dynamic models. [...] E-cigarettes and regular cigarettes are substitutes, with higher cigarette prices being associated with increased e-cigarette sales.”*²⁸
- Referring to the opportunity to use risk-related fiscal measures for health benefits: *“We believe that implementing differential taxes on nicotine-yielding products on the basis of degree of risk could substantially expedite the move away from cigarette smoking that has occurred during the past half-century, especially now that there are nicotine-yielding products that pose dramatically less danger than combustible tobacco products.”*²⁹
- Referring to the high upfront costs of e-cigarette use: *“Comparable units of combustible cigarettes cost less than disposable e-cigarettes in almost every country in the sample. While the e-liquids consumed in rechargeable e-cigarettes might cost less per comparable unit than combustible cigarettes, the initial cost to purchase a rechargeable e-cigarette presents a significant cost barrier to switching from smoking to vaping”.*³⁰

These findings suggest great care should be taken in applying excise duties to e-cigarettes: the result could be a decline in demand and resulting increase in smoking and in ill-health. Alternatively, maintaining a significant difference in pricing could have highly beneficial health effects.

²⁷ Huang J, Tauras J, Chaloupka F. The impact of price and tobacco control policies on the demand for electronic nicotine delivery systems. *Tobacco Control*. 2014;23(suppl 3):iii41-iii47. [\[link\]](#) Citation 83 in the WHO paper.

²⁸ Stoklosa M, Drope J, Chaloupka F. Prices and E-Cigarette Demand: Evidence From the European Union. *Nicotine & Tobacco Research*. 2016;:ntw109. [\[link\]](#) Citation 84 in the WHO paper.

²⁹ Chaloupka F, Sweanor D, Warner K. Differential Taxes for Differential Risks — Toward Reduced Harm from Nicotine-Yielding Products. *New England Journal of Medicine*. 2015;373(7):594-597. [\[link\]](#) Citation 85 in the WHO paper.

³⁰ Liber A, Drope J, Stoklosa M. Combustible cigarettes cost less to use than e-cigarettes: global evidence and tax policy implications. *Tobacco Control*. 2016;:tobaccocontrol-2015-052874. [\[link\]](#) Citation 86 in the WHO paper.

9 The key public health distinction is *combustible versus non-combustible*

The taxation of tobacco and nicotine products has the potential to reduce the disease and premature deaths associated with tobacco. Until now, the health focus has been on raising taxation to create incentives to reduce tobacco use. For a public health optimum, a revised directive should also create incentives to switch the type of tobacco and nicotine use to the less harmful products. This should be the centrepiece of any reform of the Directive.

From a *public health* point of view, the key distinction is between nicotine products designed for combustion and those that do not involve combustion. The differences in risk *within* the non-combustion category is small and matters far less than the difference in risk *between* combustible and non-combustible categories. The health risks of non-combustible products are all likely to be substantially (90-100%) lower than regular cigarette use – and for practical purposes the health impact may be characterised as approximately equivalent to quitting smoking.

The excise system can provide incentives for behaviour change by implementing a significant tax differential between combustible and non-combustible products, reflecting their respective risks³¹. However, it should not try to incentivise behaviour change *within* these categories – from a public health perspective, what matters is choosing a non-combustible product that is sufficiently attractive to smokers to make a switch possible. The ideal overarching approach is therefore:

- **Combustible nicotine products:** excise duties set at a rate that deters uptake, incentivises switching to low-risk products rather than switching within the category and avoids excessive diversion to the black market. There should be little discrimination within the broad combustible category for equivalent patterns of use.
- **Non-combustion nicotine products:** low, zero or negative taxation³² and little discrimination within the broad non-combustible category for equivalent patterns of use.

10 The economic value of quitting smoking is very high

In its Impact assessment for the Tobacco Products Directive, the Department of Health estimates the average discounted value for the benefit of quitting smoking to £72,000 per successful quit arising from longer life³³. The same assessment estimated loss of tobacco duty and net loss of VAT associated with quitting smoking at a present value of £11,000³⁴. Note: these figures are not directly comparable. The value of longer life is a real welfare benefit but the lost excise is a *transfer* within the economy – the value lost by the Treasury is a gain to the quitter, which can be spent on

³¹ Chaloupka FJ, Swenor D, Warner KE. Differential Taxes for Different Risks - Toward Reduced Harm from Nicotine-Yielding Products. *N Engl J Med*. 2015 Aug 13;373(7):594–7. [[link](#)]

³² Medical nicotine products can attract a tax subsidy, for example nicotine replacement therapy (NRT – patches, gum inhalers) is sold with a reduced rate of VAT, 5% compared to the 20% standard rate, in the UK

³³ Department of Health (England). Impact Assessment for Tobacco Products Directive (TPD), April 2016 – paragraph 76 and Annex A. On average, each additional non-smoker will gain 1.2 life years (discounted). Each life-year gained is valued at £60,000 based upon studies of what members of the public are on average willing to spend to reduce their own mortality risk, or to improve their own health outcomes. [[link](#)]

³⁴ Department of Health (England). Impact Assessment for Tobacco Products Directive (TPD), April 2016. Annex A page 72. [[link](#)]

other goods and services. However, they do give some basis for judging the costs and benefits of an excise regime that creates one more or one less smoker.

11 Tax revenue lost to quitting should be raised from other sources

For the sake of comparison, this tax loss could be thought of as a form of public spending (i.e. a drain on the public finances but with a benefit to society). If that were the case, then it implies an extremely high benefit-cost ratio of 6.5 (72,000/11,000). In public sector value for money assessment would be considered “very high value for money” compared to other forms of public investment³⁵.

What this means is that quitting smoking should be the policy priority even if the tobacco duty revenues are lost. It follows that a loss of tobacco revenue should not simply be addressed by taxing whatever is causing the quitting (that is likely to be the worst source of replacement revenue if it reduces quitting). It should be made up in one of two ways:

- By reducing spending on projects or programmes that have lower value for money. Almost everything else the government does has a benefit cost ratio below 6.5. For example, the High Speed Train 2 project (HS2) has a b/c ratio of only 1.8³⁶ - based on optimistic forecasts.
- By raising *other* taxes in a less damaging way that does not reduce the number of those quitting by switching to smoke-free nicotine products. There is no reason to seek out the most similar-looking tax base, any replacement should come from the next least distorting tax base.

12 Danger of excise on smoke-free products increasing smoking

12.1 Impact of rational economic response to excise duties

If excise duties can incentivise beneficial switching with the range of nicotine products, it also follows that certain excise design choices could *disincentivise* such changes, or mean that they happen at a lower rate. In that case, there may be a detriment that is very large compared to the tax raised if switching or relapse behaviour is responsive to absolute prices or relative price of smoking and vaping. For example, a change in excise arrangements that caused just 1% of the UK’s 860,000 former smokers who are current vapers to relapse to smoking would have a detriment of £620 million (8,600 x £72,000) associated with ‘negative quitting’. Further costs would arise from smokers that do not quit in the future (‘lost quitting’). The full cost-benefit analysis for excise raised on non-combustible products is thus highly sensitive to any increase it causes in combustible use.

12.2 Signalling consequences of excise duties

As well as influencing economic choices, tax policy conveys information signals. For example, most taxes of this nature are ‘sin taxes’ and convey a measure of official disapproval and a policy intent

³⁵ Department of Transport (UK), Value for Money Assessments, accessed 11 October 2016. [\[link\]](#) “Very high value for money” is defined as a benefit-cost ratio greater than 4.

³⁶ The UK government’s estimated benefit-cost ratio for phase one of the High Speed 2 (HS2) rail project is 1.7. See: High Speed 2 Outline Business Case, para 1.8 [\[link\]](#).

to deter use or convey risks that are, in practice, not real. The behavioural consequences of such signalling are not well understood, but they may partly account for high price sensitivity and add to already dramatic misalignment of expert assessment and public perceptions of risk about these products³⁷. Those already using the products are likely to see the imposition of excise duties as arbitrarily punishing what they consider, rightly, to be a virtuous and responsible choice to adopt an alternative to smoking for no real reason – and an exploitative assault on their own efforts to protect their own health and wellbeing.

12.3 Should excise duties be applied to deter adolescent uptake?

Some commentators propose that taxes should be applied to low-risk products to deter adolescent uptake³⁸. The high entry costs of e-cigarettes already provide an adequate barrier to uptake by non-smokers or adolescents. However, it is important to recognise that most adolescent vaping is among smokers³⁹. If their uptake of e-cigarettes is an *alternative* to smoking, then the price deterrent may have a *negative* health effect. In these cases, the use of low risk smoke-free alternatives is beneficial.

12.4 The importance of a credible impact assessment

Before embarking on any excise initiatives with smoke-free nicotine products, the Commission and member states should undertake a full impact assessment, using modelling scenarios for price elasticities and cross elasticities, and consider potential behavioural and perception impacts.

13 The challenge of identifying a viable tax base for vapour products

We consider the implications of four possible options for applying taxes to vapour products:

1. Variations in VAT rates
2. Ad valorem duties applied to products
3. Specific duty applied to volume of e-liquid
4. Specific duty applied to the mass of nicotine

13.1 Using variations in the VAT rate – e-cigarettes and NRT

One option to vary the taxation on smoke-free nicotine products would be to use the VAT system. At present, licensed medicinal nicotine replacement therapy (NRT) products attract a reduced rate of VAT in the UK and several other jurisdictions as part of an effort to promote smoking cessation.

Medicines versus consumer products. E-cigarettes and other smoke-free nicotine products are not medicines. The consumers of these products are not patients or in treatment. These products work for health because they are pleasurable alternatives to smoking that appeal to smokers, while dramatically reducing exposure to the toxins found in tobacco smoke. However, they do result in the same *desired outcome* that is used to justify the reduced VAT rate for NRT - smoking cessation and

³⁷ See ASH briefing on e-cigarettes, May 2016 – table 6 & 7 [\[link\]](#) Only 12% of GB adults correctly identify e-cigarettes as much less harmful than combustible cigarettes.

³⁸ Chaloupka FJ, Sweaner D, Warner KE. Differential Taxes for Different Risks - Toward Reduced Harm from Nicotine-Yielding Products. *N Engl J Med.* 2015 Aug 13;373(7):594–7. [\[link\]](#)

³⁹ ASH Fact Sheet - Use of electronic cigarettes among children in Great Britain, October 2016 [\[link\]](#)

related health improvements. It is therefore important to ensure there is no discrimination simply because one product is classified as a medicine and the other as consumer product. Tax breaks should be based on desirable outcomes, not an arbitrary difference in regulatory approval route.

Basis for VAT variation. The European Union VAT Directive⁴⁰ requires member states to impose a standard rate of VAT not less than 15%. For the UK, the standard rate is 20%. Article 98 of the VAT directive allows for two *reduced rates* to be applied, but only to those products or services that are listed in Annex III of the directive. There is no scope to *increase* VAT above the standard rate for a particular product. The only relevant item in Annex III is:

(3) pharmaceutical products of a kind normally used for health care, prevention of illnesses and as treatment for medical and veterinary purposes, including products used for contraception and sanitary protection

Discriminatory treatment of NRT and e-cigarettes. At present, nicotine replacement therapy (NRT) sold over the counter (OTC) attracts a reduced rate of VAT in many member states, reflecting its classification as a pharmaceutical. The reduced rate of 5% applies in the UK⁴¹. However, there is no evidence-based justification for this tax break. A study of the impact of NRT and e-cigarettes sold over the counter on smoking cessation showed that NRT was ineffective and e-cigarettes significantly improved success rates⁴².

People attempting to quit smoking without professional help are approximately 60% more likely to report succeeding if they use e-cigarettes than if they use willpower alone or over-the-counter nicotine replacement therapies such as patches or gum, reveals new research published in Addiction.

Discriminatory treatment of NRT and e-cigarettes should not be further aggravated. If there is a rationale to provide NRT at a reduced VAT rate for smoking cessation purposes, then the same rationale applies to e-cigarettes. However, for e-cigarettes the case is stronger because of evidence of a better impact than NRT sold OTC. A starting point for consideration of the appropriate treatment for vapour products in the Tobacco Excise Directive is that they are already over-taxed relative to NRT and subject to discriminatory tax treatment. This discriminatory position should not be further aggravated by adding excise duties to e-cigarettes.

13.2 Applying *ad valorem* duty

The important issue of principle is that *ad valorem* duties penalise high quality, high-specification products and promote down-trading or seeking black market alternatives. However, regulators should be encouraging users to purchase high quality products or at least not penalising them for making that choice. The important practical issue with an *ad valorem* duty is what to apply it to. This becomes problematic because the products are not necessarily sold as integral units.

⁴⁰ Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax [\[link\]](#)

⁴¹ For UK see VAT Notice 701/57: health professionals and pharmaceutical products, 2014 – section 3.4 [\[link\]](#). NRT and smoking cessation medications provided on prescription through GPs or Stop Smoking Services qualify for zero-rating.

⁴² Brown J, Beard E, Kotz D, Michie S, West R. Real-world effectiveness of e-cigarettes when used to aid smoking cessation: A cross-sectional population study. *Addiction*. 2014 May 20;109(9):1531–40. [\[link\]](#)[\[press release\]](#)

Applying *ad valorem* duty could be quite straight-forward for integral products in which the nicotine liquid, flavourings, and devices are sold together (e.g. 1st generation ‘cig-a-likes’) and the average unit price approximately reflects the full cost of using the product. These products most closely resemble cigarettes from a visual point of view, but also from a tax administration perspective. Like cigarettes, some cig-a-likes contain all the main components in a single-use disposable form.

However, this is not a promising option. Such fully integrated products are a minor part of the market (3% of users in 2016, see Figure 4 above) and most vapers will migrate to using products where the components are sold separately – either a separate liquid and device, or increasingly, as ‘mods’ in which the battery and other components can be bought separately and assembled into a bespoke product.

The separation of device and liquids presents difficulties for administration of *ad valorem* duty. For the integral ‘cig-a-like’ products the cost of the liquid and device are combined in an average unit price. But for the products sold separately, the average cost of use is split between an upfront ‘capital’ outlay, which would be made infrequently but could be a significant cost, and a low-cost refill liquid purchased regularly. The dilemma is as follows:

- **Not applying *ad valorem* duties to vaping devices sold separately.** This would mean just increasing the price of the liquid. It would then be discriminatory to apply *ad valorem* duties to integrated products, where the device cost is effectively included in the unit price. This is because part of the selling price of integral products represents the cost of the device and battery. *Ad valorem* duty applied only to refills would also work against commercial models in which vendors sell a proprietary cartridge and amortise the up-front cost of the device over the first few months of cartridge sales (the ‘razor-blade model’) in which the cartridges carry part of the up-front device cost. This commercial model may be important in encouraging smokers to switch by spreading the up-front cost of a high-quality device over several refill purchases.
- **Applying *ad valorem* duties to vaping devices sold separately.** It is unlikely that this would work. There are no set prices for wide variety of devices on sale, so it would be difficult to enforce a regime that would be vulnerable to commercial models that avoided the tax by, for example, shifting the total cost of a purchase onto something outside the tax base – like a battery. The more sophisticated vaping devices are relatively infrequent purchases, so many users would purchase outside the tax jurisdiction and import for personal use. If different tax rates were adopted within the European Union, it may lead to intra-EU cross-border shopping. The extension of this would be growth in internet trade to the large well-constructed sites based in China. It is already the case that users buy the components separately as their products and patterns of use evolve. There are public health consequences: applying excise to the device would have the undesirable effect of increasing the initial outlay for a smoker to switch to a higher specification device – and therefore one that is more likely to be successful in helping smokers to quit smoking.

The case for applying *ad valorem* duties to cover *devices* is weak on practicality grounds and disincentivises quality, high-specification products. However, unless an attempt is made to raise excise tax on devices, any *ad valorem* tax would be discriminatory *within* the vapour category as some products are sold with the device integral or built into the cost of refill cartridges.

13.3 Applying specific duty base on the volume of e-liquid

If specific duties are considered, there are two possible bases for applying excise, the volume of liquid sold and the quantity of nicotine sold. This section considers the approach of applying duty to the liquid volume and the next section considers the case for using nicotine mass as the tax base.

Taxing the volume of liquid is the most common approach so far. For example, in Italy, the excise duty has been set at €3.85/10ml for 2016.

Given the evolution of the industry towards open systems, this would present many challenges. Once again, the divisibility of the product creates much complexity and scope for gaming any excise regime. Liquids can be sold as prefilled e-cigarettes or pre-filled cartridges. But it is increasingly common to sell the liquid and the device separately. Furthermore, the liquids are themselves divisible into a diluent, nicotine and flavourings – each of which can be sold separately. There are several issues arising from applying excise to e-liquid volume:

- **Impracticality of taxing non-nicotine liquids.** It would be impractical to tax non-nicotine liquids as these are sold as bulk general purpose chemicals (propylene glycol and vegetal glycerine). Flavours are also sold separately and for different purposes, for example for food. Italy had initially imposed duty on non-nicotine liquids, but abandoned this in 2015.
- **Gaming by mixing.** Applying excise to liquid volume will incentivize sales of low volumes of nicotine concentrate (taxed) combined with non-nicotine liquid (not taxed) separately for subsequent mixing.
- **Excise-avoiding innovations.** It would incentivise product innovation that facilitates separate sale, as above, but with design to facilitate ease of mixing of liquid and nicotine concentrate.
- **Black market.** It would incentivise black market trade in high strength, but highly compact, nicotine liquids, at concentrations as high as 99.9% - far higher than the maximum 2% concentration deemed acceptable in the European Union under revised tobacco products directive. This could be mixed with non-nicotine liquid in the end-user market – either by final consumers or illicit on-sellers.
- **Small business impact.** Applying specific duties to liquid volumes would also make any enterprise that mixes liquids prior to sale to the consumer a ‘tax point’ – i.e. responsible for measurement and accounting, the operation of bonded facilities and payment to the exchequer. Established tobacco taxation is applied ‘upstream’ in the distribution chain, with the excise regime managed by a relatively small number of large entities (tobacco companies) at their bonded warehouses. Tobacco products do not significantly change once they leave the factory, so tax administration is concentrated in a small number of high volume facilities with high capability and long experience. In contrast, the e-liquids may change substantially right down to the retail point of sale, with some vape stores mixing liquids for consumers. This potentially brings many more businesses into a tax administration role with commensurate transaction and enforcement costs. Applying the duty to wholesalers will encourage sale of stronger liquids by wholesalers and subsequent dilution by retailers.
- **Behavioural impact.** Given consumers ‘titrate’ nicotine to achieve their preferred level in the body, users can either get their preferred dose from lower volumes of a high strength liquid or

higher volumes of a low strength liquid – for the same nicotine intake. Applying tax to the liquid volume may have a distorting effect on vaping behaviour, which has seen a trend towards vaping larger volumes of low-strength liquid.

13.4 Applying specific duty based on the mass of nicotine

Under this approach, the nicotine itself would be taxed. A 10ml bottle of 16mg/ml concentration would attract tax on 160mg of nicotine. The main advantage of this approach is that the nicotine can be taxed upstream in the supply chain as it is indivisible and the tax due does not vary with how it is mixed or diluted as it passes down the supply chain. It therefore offers the possibility to apply the tax in the wholesale market – possibly at the pharmaceutical plant where the nicotine is extracted or on wholesale imports of liquids. The cost would be passed on down the supply chain to the user. It also provides a means of applying duties to nicotine products that do not use liquids, such as inhalers, thin film strips, lozenges, gum etc. However, this approach has several weaknesses:

- **Black market in high-strength nicotine liquids.** The overwhelming risk with this approach is that it would encourage internet trade in nicotine liquids purchased outside the European Union. A recent test purchase showed that large volumes of near-pure nicotine could be purchased easily⁴³. The following example is based on pricing from a Chinese-based supplier⁴⁴.

Figure 5. Nicotine sourced internationally via the Internet

Worked example: purchasing pure nicotine from a Chinese internet supplier	
Cost 100ml pure (=99%) nicotine liquid	US\$59.99
Shipping to UK (Fed-Ex taking 4-7 days)	US\$20.99
Total cost	US\$80.98
Nicotine strength (99% solution)	990mg/ml
Mass of nicotine in 100ml container	99,000mg
Daily consumption nicotine (typical) ⁴⁵	36mg per person per day
Average daily nicotine cost	2.9 US cents
Supply in 100ml bottle of 99% nicotine	2,750 person-days or 7.5 person-years
To make an e-liquid base	
Dilute with 10 litres of propylene glycol ⁴⁶	US\$50
Retail cost per 10ml of 1% nicotine base e-liquid	13 US cents
Retail price of 10ml unflavoured e-liquid ⁴⁷	US\$5.71
Ratio of UK retail price to DIY source	44 times

⁴³ Clive Bates, Regulators and the compliance fallacy - buying 99% nicotine e-liquid from China, Counterfactual [link]

⁴⁴ See HiLiq Pure Nicotine 100ml Glass Bottle [link]

⁴⁵ Farsalinos KE, Romagna G, Tsiapras D, Kyrzopoulos S, Voudris V. Characteristics, perceived side effects and benefits of electronic cigarette use: A worldwide survey of more than 19,000 consumers. *Int J Environ Res Public Health*; 2014 Apr 22;11(4):4356–73. [link] The typical user in this survey uses 3ml/day and 12mg/ml liquid (1.2% nicotine). See Table 2.

⁴⁶ This dilution would give a base e-liquid of ~10mg/ml (1%) nicotine liquid. Cost of a 5-litre container of PG is £19.95 from Amazon UK [link]. GBP:USD rate = 1.25 (15 November 2016). The maximum permitted retail strength under the Tobacco Products Directive is 20mg/ml (2%) nicotine. The maximum retail container size is 10ml.

⁴⁷ Price from Totally Wicked (UK retailer) = £5.47 per 10ml container [link] (15 November 2016). GBP:USD rate = 1.25.

- **The pricing of pure nicotine from Chinese vendors is extremely competitive.** The table above shows that a days' supply can be purchased in high-strength form for around three US cents and in quantities that would last several years, or supply a 15-person network for 6 months, and that the effective UK retail price is 44 times greater than sourcing nicotine e-liquid via this route.
- **Accounting and compliance.** While it is straightforward to measure how much liquid volume is present, it is much more difficult to know how much nicotine is present, and this requires analytical testing – and the difference between 5mg and 6mg is 20%.
- **Adverse behavioural impact.** Application of duty to nicotine would make stronger liquids more expensive. But stronger liquids are used by vapers in the early stage of transition away from smoking and by those most heavily dependent on nicotine. At the point of switching, vapers are faced with a financial risk that they will purchase vaping equipment and liquids and still find them unsatisfactory and so smoke as well. This form of duty incentivises using weaker liquids, hesitation in trying to switch and early relapse.

13.5 The experience of Italy

We recommend long term monitoring of excise policies as applied to e-cigarettes or e-liquids before finalising any policies. The case of Italy is salutary, and has been documented by *E-cigarette Intelligence* in its November 2016 market report for Italy⁴⁸.

- Following imposition of a tax of €3.73/10ml in 2014 demand collapsed from >€400m in 2013 to €97m in 2015.
- Vaping prevalence fell from 4.2% adults in 2013 to 1.2% in 2015.
- Revenue accruing from this tax on liquids for 2015 in fact amounted to €5,176,352, less than one twentieth of the amount expected
- In 2015 the Italian tax authority AAMS cancelled the tax on non-nicotine products and in February 2016 published a decree that increased tax on e-liquids containing nicotine from €3.73 per 10ml to €3.85 per 10ml.
- This tax is substantial and disproportionate – perhaps as high as doubling the retail price.
- 90% of Italian vapers are using open systems and 60% purchasing supplies via the internet.
- Demand appears to be recovering rapidly in 2016 driven by 24% and 44% decreases of average prices within open system and cheapest tank categories respectively.

These data suggest a high demand sensitivity to taxation and pricing combined with a poor understanding of market dynamics and potentially harmful consequences on the part of the excise authorities.. It may also be the case that Italian consumers are avoiding the duties or enforcement has been poor or costly, given the low yield – though there is no direct evidence to confirm this.

13.6 Proposal for excise duties on vaping products

The complexity and diversity of vaping products, especially their divisibility into separate components and the ease with which consumers can access a well organised cross border internet based market black/grey market will present formidable practical obstacles. If the duty rate is kept

⁴⁸ E-cigarette Intelligence, Italy: price drop triples vaping population, November 2016, 2 November 2016 [[link](#) pay-walled content reproduced with permission]

low enough to meet health objectives, it is unlikely that the tax administration costs and leakage to the black market would make the application of a new excise duty worthwhile.

- There is no case for applying excise duties to vaping products or e-liquids. Vaping is low-risk pro-health alternative to smoking – applying the EU treaty principles related to health protection, proportionality and non-discrimination would imply either a tax break or excise duties so low that they would not be worth collecting.
- The issue could be revisited when the market has become more stable and there is better insight into how it affects health, its price sensitivity, the impact of the Tobacco Products Directive and vulnerability to the black market.
- There may be merit in applying zero rates but collecting data as if there was an excise regime in place – this would allow for learning before intervening. At this stage in the evolution of this market, policy-makers should aim to acquire a deeper understanding of the behavioural economics of low-risk nicotine products.
- For parity with NRT, governments should start by considering applying the reduced rate of VAT to recognise their pro-health characteristics, as with other quit smoking aids.
- If the European legislature insists on pursuing the inclusion of e-cigarettes in the Tobacco Excise Directive, then the least-damaging regime would have the following characteristics:
 1. A new category for non-tobacco non-pharmaceutical recreational nicotine products would be required.
 2. The most plausible tax base would be a specific duty – either on liquid volume or mass of nicotine – both have considerable disadvantages.
 3. There should be a minimum duty rate set to zero to allow member states to pursue harm reduction approaches fully, to pursue tax simplification and to gather data if they wish to.
 4. The key feature of any EU excise regime should be a *maximum* rate set to ensure that any duty is substantially below the lowest rates for smoking tobacco. The idea of a maximum rate is to ensure a significant fiscal differential between smoked and smoke-free products. This differentiation is a EU treaty requirement (see section 6 above) in which different situations must be treated differently. To implement a maximum rate requires two elements:
 - I. A policy intent – for example that e-cigarette use attracts no more than X% of the duty applicable to the lowest rate of smoked tobacco – where X% should as far as possible reflect the relative risk (i.e. less than 5%).
 - II. An equivalence factor to allow comparison of typical e-cigarette use to smoked tobacco use⁴⁹.
- Any excise regime imposed should be carefully monitored for adverse effects and withdrawn if there is evidence that it is causing harm to health, and this in conflict with the EU treaties.

⁴⁹ For example: average UK cigarette consumption is 11 cigarettes per day (ONS – [link](#)). Average e-liquid consumption is 3ml per day at 12mg/ml strength (Farsalinos et al [link](#) See Table 2). 1 manufactured cigarette would be equivalent to 0.75g of loose tobacco or hand-rolling tobacco (Gallus et al [link](#))

14 Applying excise duties to smokeless and heated tobacco products

The Tobacco Excise Directive applies only to *smoking* products⁵⁰. At present non-combustible tobacco duty is a matter for member states. The UK approach is to apply the same duty as pipe tobacco at £107.71/kg to smokeless tobacco products – a specific duty based on the mass of tobacco. The table below show the UK duties for smoked tobacco products other than cigarettes.

Figure 6. Duties on tobacco products other than cigarettes

	UK duty Specific	EU Minimum Excise Duty Either/or	
		specific	<i>ad valorem</i>
Cigars & cigarillos	£245.01/kg	€12/kg	5%
Hand rolling tobacco	£198.10/kg	€54/kg	46%
Other smoking tobacco and chewing tobacco	£107.71/kg	€22/kg	20%

The excise duty, not including VAT, on 20 cigarettes at the UK weighted average price is £5.21 for 20 cigarettes⁵¹. On the basis that hand rolling tobacco cigarettes have approximately 0.75g of tobacco⁵², the UK duty on the 20 cigarettes equivalent (15g of HRT) would be £2.97 (approx. 57% of the cigarette duty) and extending this to ‘other smoking tobacco’ the pack of 20 equivalent duty would be £1.62 (approx. 31% of the cigarette duty). The duty on smoking tobacco other than cigarettes is substantially lower than the cigarette equivalent. There is no health justification for these differentials, it is more likely that the price of hand-rolling tobacco is held down by lower prices elsewhere in Europe⁵³ and concerns about illicit trade.

14.1 Proposal for excise duties on smoke-free tobacco products

It is likely that the duties applied to other smoking products will rise in future, even if they do not reach parity with cigarettes. We therefore propose three new elements of excise design for non-combustible tobacco products:

1. Introduce a separate ‘smoke-free tobacco’ definition that applies to all tobacco products that do not involve combustion – this allows differentiation of treatment of smoke-free tobacco products for health policy reasons.
2. A *minimum* excise duty rate set at zero for this category so that member states are free to pursue tobacco harm reduction strategies as part of their efforts to meet health protection, smoking cessation and non-communicable disease objectives.

⁵⁰ Article 2 of 2011/ 64/EU defines the scope of the directive to include: (a) cigarettes; (b) cigars and cigarillos; (c) smoking tobacco: (i) fine-cut tobacco for the rolling of cigarettes; (ii) other smoking tobacco.

⁵¹ Duty on cigarettes at the UK weighted average price of £7.73 is £5.21 (£1.28 ad valorem plus £3.93 specific duty).

⁵² Gallus S, Lugo A, Ghislandi S, La Vecchia C, Gilmore AB. Roll-your-own cigarettes in Europe. *Eur J Cancer Prev*. NIH Public Access; 2014 May;23(3):186–92. [\[link\]](#)

⁵³ Tobacco Manufacturers’ Association (UK). Hand rolling tobacco prices across Europe. April 2014 [\[link\]](#)

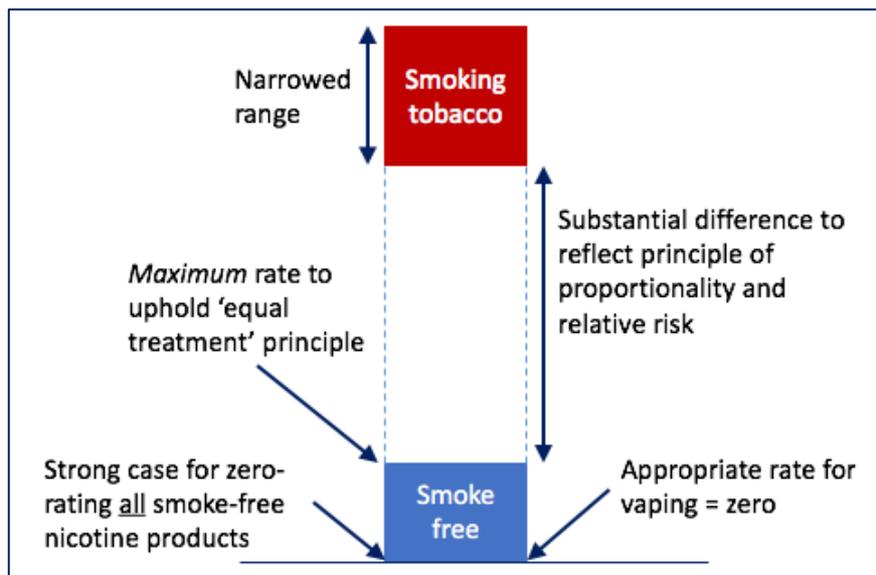
3. Apply excise duty as specific duty per kg mass of tobacco for this category.
4. To preserve the health-based differential between smoke-free and smoked tobacco, set a *maximum* excise duty level for smoke-free tobacco. This would be based on a policy intent to have the highest rate of smoke-free tobacco at some fraction of the lowest rate of smoked tobacco - for example, 30%. Note this need not be directly linked to relative risk – if it was, the duties would likely be too low to be worth collecting. In the UK case, the lowest rate for smoked tobacco products is £107.71/kg that would mean 30% x £107.71/kg = £32.31/kg.
5. Alternatively, the benchmark may be the dominant product on the market, cigarettes. This would require some additional complexity as cigarettes are not simply taxed by weight. Two elements would be required.
 - i. A policy intent to set the maximum at some fraction of that applied to cigarettes, for example, smoke-free tobacco should attract Y% of the duty applied to smoked tobacco.
 - ii. An equivalence factor to allow comparison between smoke-free and smoking tobacco.

It may be possible to construct more complex ways of expressing a policy intent and equivalence calculation, but there is probably little utility in doing so.

15 Visualising an excise regime

In summary, any update of the Tobacco Excise Directive should be grounded in key principles of the EU treaties – high level of health protection; proportionality and ‘equal treatment’ (or, in this case, different treatment in different situations).

Figure 7. Idealised tobacco and nicotine excise regime



The diagram above is a stylised view rather than a recommendation for specific excise rates (other than zero) or for relative rates between categories.

16 Conclusion

Policymakers re-assessing the Tobacco Excise Directive face a serious challenge. This is because it is possible for the choices they make to result in harm to the health of European Union citizens, including serious disease and premature death. With that comes a responsibility to ‘first do no harm’ enshrined in the EU treaties as a commitment to secure a high level of health protection in all policies.

This has been a minor risk so far because the directive has focussed only on *combustible* tobacco products. The possible inclusion of non-combustible, smoke-free products could adversely or positively shape the incentives to switch from high-risk to low-risk products.

This area of policy is fraught with the danger of unintended consequences and because such consequences carry mortal dangers and real flesh and blood harms, they should be assessed and avoided with the utmost care. In addition, consideration of applying excise coincides with the implementation of the regulatory burdens and restrictions of the Tobacco Products Directive (2014//40/EC). There is thus the danger that these measures will compound in their impact on smoke-free alternatives and, in doing so, serve to protect the cigarette trade, increase smoking and harm the health of EU citizens.

The Royal College of Physicians summarises the challenge for policymakers as follows²³:

A risk-averse, precautionary approach to e-cigarette regulation can be proposed as a means of minimising the risk of avoidable harm, e.g. exposure to toxins in e-cigarette vapour, renormalisation, gateway progression to smoking, or other real or potential risks.

However, if this approach also makes e-cigarettes less easily accessible, less palatable or acceptable, more expensive, less consumer friendly or pharmacologically less effective, or inhibits innovation and development of new and improved products, then it causes harm by perpetuating smoking. Getting this balance right is difficult. (Section 12.10 page 187)

We urge the European Commission, European Council and member state tax authorities to take great care in striking the balance between public health, revenue raising and administrative costs. The institutions involved should conduct thorough impact assessments, take a hard look at the risks of causing harm to health and then think again about imposing excise duties on products that are already helping millions of Europeans to improve their health and wellbeing and have the potential to help millions more.