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EXPERIENCES WITH A NOISE ABATEMENT POLICY BASED ON FINANCIAL SUPPORT FOR INVESTORS IN LOW-NOISE EQUIPMENT.

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INTRODUCTION

In the Netherlands exists a noise abatement act since 1979. By means of this act noise pollution can be abated efficiently. Parts of the act related to traffic noise, industrial noise, noise of recreational facilities, silence areas, noise insulation of buildings and noise from airports are in operation. Also the part of the act dealing witch noise from machinery (apparatus) is in force. That chapter of the act gives the possibility for specified apparatus to set limit values for their noise emission. The act also gives the possibility for noise labelling.

POLICY

The policy in the Netherlands is aiming on several targets to reduce the noise of individual machines. In the first place on setting limit values for the noise emission, bases on the act mentioned before, but secondly on the use of the market-mechanism to reach that goal. This last possibility refers to a creation of a demand by the public for low-noise products. Although, based on the noise abatement act, legal measures have been taken to limit the noise emission of for instance trucks, buses, motorcompressors, generators and pneumatic hammers, one conclusion can be drawn, and that is that, partly due to slow actions in achieving EEC guidelines, a substantial reduction of noise emissions of these types of machines does not take place. The reason is that legal limit values are set at such a level that a main part of industry can meet these levels.
A stimulating effect for industry to produce more less noisy machines fails, unless limit values are sharpened every few years. This last system of dynamic limit values, bringing down the limits in 3 steps, spread out over an 8 years period, is chosen in the Netherlands for a few categories of machines. The consequence is of course that a cer-

tain goal is reached only after many years.
A good result is reached by a system, existing since 1980. This system is based on financial support given to (industrial) investors in noise-proofing products and in low-noise equipment. The lower the noise emission is, the higher is the financial support as a percentage of the total investment costs of the machine.

INVESTMENT PREMIUM

In 1978 a regulation came into force with the purpose to stimulate employment by stimulating industrial investments, taking into account different aspects. One of the aspects to be considered was the environment. Since July 1980, it is possible to get on top of the basic subsidy for making investments, a special "environmental premium", witch can go up to 15% of the total investment costs. In a decree of the minister of Economic Affairs, which is screened and renewed periodically, the kinds of investments which can be considered in this regulation are listed. The decree has two parts. Part one deals with investments to prevent or reduce pollution by the company of the investor, part two deals with equipment or processes being considered as less harmful for the environment. In the most recent version of the decree, 22 categories of investments are listed in part one, and 38 categories in list two, all dealing with many aspects of the environment. Related to noise pollution an idea of the categories of investments in question is given below. (Shortly stated).

Part 1: Investments to reduce noise levels in the environment.
category 9: silencers, mufflers, hoods for stationary sources, enclosures for pipings, vibration insulating constructions, insulation for piling equipment.
" 10: screens and walls.
" 11: sound insulation of buildings.
" 12: low-noise fans.
" 13: ground-flares.

Part 2: Investments to reduce noise production.
category 24: trucks and buses.
" 25: tractors and lift-trucks.
" 26: motorcompressors, generators, pneumatic hammers.
" 27: axial fans.

On January 1st 1983 the last version of the decree was published. In this last version for instance the lift-trucks in category 25 are mentioned for the first time, and the noise criteria for categories 24 and 26 are made stronger, while criteria for tractors were weakened. Plans for the near future are to bring more kinds of machinery, for instance earth moving equipment, into the decree.

MEASUREMENTS

Investors using the regulation need a declaration that their investments fit into the scope of the regulation. This declaration for in-

vestments of the kinds mentioned in part 2 of the regulation is based upon measurement of the noise production. An institute, instructed by and in order of the Ministry of Housing, Physical Planning and Environment is carrying out the measurements following measuring methods 70/157/EEC (cat. 24); 74/151/EEC (cat. 25, tractors) and 79/113/EEC (cat. 25, lift-trucks and cat. 26). The method for lift-trucks is based on a working cycle of the machine.
Measurements are carried out on machines presented by the manufacturer. For category 24 machines a system of type-approval is followed, determining the loudest type of a "family" of different types. The manufacturer issues conformity declarations for types of the "family" to the customers. It is also possible that an individual investor asks for measurement of the noise production of the machines he invested in.

RESULTS

Some results of the regulation which turns out to be a still growing success, can be shown in table 1. Manufacturers are taking more and more noise reducing measures on their machines, and when after a test turns out to be successful, advertisements can be seen telling the customer the percentage of the premium that can be get from the government after buying the advertised product. The result is, that for many products, the noise production is far below the proposed limit values in the draft guidelines of the EEC. Table 1 shows that the regulation is in particular successful for category 24, trucks and buses, although also the results in categories 25 and 26 cannot be neglected.

Table 1. Summary of results of the regulation for low-noise investments.

category	number of requests		total investment (x 1000 guilders)		environmental premium (x 1000 guilders)	
	1981	1982	1981 (1)	1982	1981 (1)	1982
9	37	46	5009	2387	723	324
10	10	6	1064	492	152	69
11	11	12	1641	1115	238	159
12	2	7	85	366	11	49
24	556	3610	130740	690868	3838	20184
25	140	377	8199	16513	224	443
26	40	64	6363	5990	445	361
27	3	3	82	13	3	
"noise" total	799	4124	153187	718127	5638	21650
all categ.	1986	6572	283569	938538	24017	52282
"noise"as % of total	40,6	62,8	54,0	76,5	23,5	41,4

(1) Round off amounts; 1 Dutch guilder is approx. 0,4 US $.

Table 1 also shows that in 1982 as well the number of requests for the premium, as the total amount of investments in the categories for "noise" form a majority of the total use which is made of the regulation for all categories. As mentioned, on January 1st. 1983 some criteria for getting a premium have been changed and the scope of the decree has been widened by adding some new items. These criteria are based on the philosophy, that the lowest premium (percentage of the investment costs) for a certain category of investments can be obtained when the noise production of the machine is at least 3 dB(A) under the legal limit value (or proposed legal limit value) in the Netherlands for that particular type of machinery.
In table 2 a summary of these criteria is given.

Table 2. Criteria in dB(A) for low-noise investment premium (January '83)

	% premium			
	3	5	7½	10
cat. 24. trucks max. weight > 3500 kg	83		77	
trucks max. weight > 12.000 kg and motorpower > 147 kW	85		79	
buses max. weight > 3500 kg	79		76	
buses motorpower > 147 kW	82		79	
cat. 25. tractors weight < 1500 kg	82	79	76	
tractors weight > 1500 kg	86	83	80	
lift-trucks fuel engine	106		103	
lift-trucks electric		92		89
cat. 26. motorcompressors < 5 m3/min		98	96	94
motorcompressors 5-10 m3/min		99	97	95
motorcompressors 10-30 m3/min		101	99	97
motorcompressors > 30 m3/min		103	101	99
pneumatic hammers < 20 kg		107	105	102
pneumatic hammers 20-35 kg		110	108	105
pneumatic hammers > 35 kg		113	111	108
power generators < 240 kW		100	98	96
power generators > 240 kW		102	100	98
welding generators < 200A		101	99	97
welding generators > 200A		98	96	94