## Text A Particles

Part 1

It is only within the last decade that we have realized how dangerous airborne particles actually are. It has long been known that soot, particles and sulfur dioxide contribute to coughing and respiratory disease.

There have been two main problems. For one thing, it has been extremely difficult to differentiate between the effects of the various forms of pollution.

The second problem is that we do not know *how and why* particles cause people to die. It is thought that particles enter the lungs and gain a foothold.

Until the middle of the 1980s all particles were measured and classified as soot or smoke.

The smallest particles come from combustion in motor vehicle engines, power stations and industry as well as from fire-places and wood burning stoves. The slightly larger particles come from dust and mechanical wear and tear. Although only 10 percent of all particles are man-made they are the most common in our urban environment.

The emission of $SO_2$ causing much of the particle pollution has fallen dramatically - in the EU by about 50 percent since 1980 and in the US by about 37 percent since 1970. This has been achieved: 1) by reducing consumption of fossil fuels, especially high-sulfur coal; 2) by using smoke scrubbing equipment on power plant smokestacks; 3) by increasing energy efficiency.

The political decision to limit sulfur emissions is closely linked to the question of acid rain. The fear of acid rain proved to be grossly exaggerated. The SO reduction efforts turned out to be reasonable because they helped to reduce the particle pollution.

### Part 2

However, reductions in urban areas have several other causes. Historically, a move away from sitting power plants in urban areas and the use of taller smokestacks were two of the primary causes of pollution reduction. At the same time we no longer use coke ovens and we have reduced our dependence on oil central heating, having instead changed to natural gas and district heating. Finally, cars pollute much less because of catalytic converters. The diesel vehicles now use low-sulfur diesel oil. However, compared to gasoline cars, diesel cars pollute much more. Although diesel cars make up only 6 percent of the total car park, they contribute 92 percent of all vehicle emissions. Thus, a marked increase in the use of diesel cars could slow the decline in particulate emissions.

Specialist literature has contained a lot of discussion about the degree to which legislation has been crucial to the reduction of air pollution. Many studies have not been able to document any noteworthy effect.

In a study of three US cities, it was found that the mandated pollution control had an effect, but that the effects of regulatory control "generally have been overshadowed by the effects of economic changes, weather and other factors." Generally it is probably fair to say that regulation is one of the reasons for the reduction of pollution but that other, technological factors also play a major role.

In conclusion, it is worth emphasizing that particle pollution is the most important air pollutant, and consequently the most important pollutant of all.

## VOCABULARY 1:

| | | | |
|---|---|---|---|
| Airborne | Воздушный | Urban | Городской |
| Particle | Частица | Partly | Частично |
| Sulfur | Сера | Dramatically | Совершенно |
| Contribute | Способствовать | Consumption | Потребление |
| Coughing | Кашель | Fossil | Ископаемое |
| Respiratory | Дыхательный | Fuel | Топливо |
| Lang | Легкие | High-sulfur | Высокосернистый |
| To enter | Проникать | Coal | Уголь |
| Combustion | Горение | Smokestack | Дымовая труба |
| Stove | Печь | Decision | Решение |
| dust | Пыль | Fear | Опасения |
| although | Хотя | Grossly | Чрезвычайно |
| Man-made | Искусственный | To exaggerate | Преувеличивать |
| Reasonable | Разумный | To gain a foothold | Укрепиться |
| Mechanical wear and tear | Износ | Smoke scrubbing | Воздухоочистительные |

## EXECISE 1

Найдите эквиваленты в тексте: различать оказываемое влияние, различные формы загрязнения, предполагается, весьма распространенные, значительное уменьшение, увеличение эффективности потребления энергии, полностью овладеть умами людей, ограничить выброс серы, рассмотреть позднее, оказаться разумными, намного больше.

**EXECISE 2**

Составьте список мер, принятых в защиту окружающей среды. Подтвердите словами из текста, насколько они оказались эффективными.

**EXECISE 3**

Составьте список источников загрязнения воздуха.

**EXECISE 4**

Ответьте на вопросы: 1. When have we understood how dangerous air pollution is? 2. What two main problems do we have today? 3. Where do air particles come from? 4. What measures have been taken recently to reduce particle levels? 5. Did these reduction efforts turn out to be efficient?

**EXECISE 5**

Согласны ли вы с кратким выводом по содержанию предыдущего текста: Air pollution is not a new problem getting worse, but an old problem getting ever better.

**VOCABULARY 2:**

| | | | |
|---|---|---|---|
| Area | Район | Crucial | Ключевой |
| Reduction | Уменьшение | Noteworthy effect | Заслуживающий внимания эффект |
| Cause | Причина | Mandate control | Полномочный контроль |
| A move away | Перемещение | To overshadow | Омрачать |
| Coke oven | Коксовая печь | To emphasize | Подчеркивать |
| Dependence | Зависимость | Consequently | Вследствие |
| Catalytic converter | Каталитический дожигатель | Benefit | Преимущество, польза |

| | | | |
|---|---|---|---|
| Diesel vehicle | Дизельные машины | Stem | Происходить |
| Gasoline car | Машины, использующие бензин | Unambiguously | Недвусмысленно |
| Emission | Выделение | Substantial | Основной, главный |
| Decline | Упадок | Drastically | Радикально |
| legislation | Законодательство | conclusion | Заключение |

**EXECISE 1**

Найдите эквиваленты в тексте: быть вызванным рядом других причин, исторически сложиться, отказ от дальнейшего использования, система местного отопления, не быть больше зависимым настолько, система централизованного отопления, дизельное топливо с низким содержанием серы, отмеченный рост, замедлить снижение выброса частиц, специальная литература, изобиловать спорами, степень значительности законодательства, не быть в состоянии зафиксировать, было бы справедливо отметить.

**EXECISE 2**

Перечислите другие меры, повлекшие снижение уровня частиц в атмосфере.

**EXECISE 3**

Изложите свое мнение об эффективности роли законодательства и правительства, используя слова текста. Насколько эффективно внедрение и осуществление полномочного обязательного регулярного контроля за уровнем загрязнения окружающей среды? Что же является решающим фактором в борьбе за экологию ?

**EXECISE 4**

Составьте фразы, соответствующие содержанию текста.

| | | |
|---|---|---|
| | three | |
| 1. There are have been | two | main problems of air pollution. |
| | one | |

| | | |
|---|---|---|
| | small | |
| 2.The | large | air pollution comes from dust, mechanical wear and tear. |
| | slightly large | |

| | | |
|---|---|---|
| | lower | |
| 3. The use of | taller | smokestacks was the cause of pollution reduction. |
| | medium-size | |

| | | |
|---|---|---|
| | | natural gas heating. |
| 4. The cleanest type of heating is | | oil central heating. |
| | | district heating. |

| | |
|---|---|
| | gasoline cars. |
| 5.The cleanest cars are | diesel cars. |
| | low-sulfur diesel cars. |

| | |
|---|---|
| The technological factor | |
| 6. The mandated pollution control | plays a major role in pollution reduction. |
| The legislation | |