

# **Economic Effects of the EU Chemi- cals Policy on the German Textile Industry**

**Report of the BMWA  
Research Project  
(Short Version)**

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### **„Economic Effects of the EU Chemicals Policy on the German Textile Industry“**

#### **Situation**

With its White Paper „Strategy for a Future Chemicals Policy“ the European Commission outlined the foundations for the new chemicals policy in Europe. With this new policy, the target of a sustainable development in Europe shall be promoted. Several conditions have been set by the commission, for example improvement of protection of the human health and the environment, increased transparency as well as maintenance or even improvement of the competitiveness of the chemical industry of the EU.

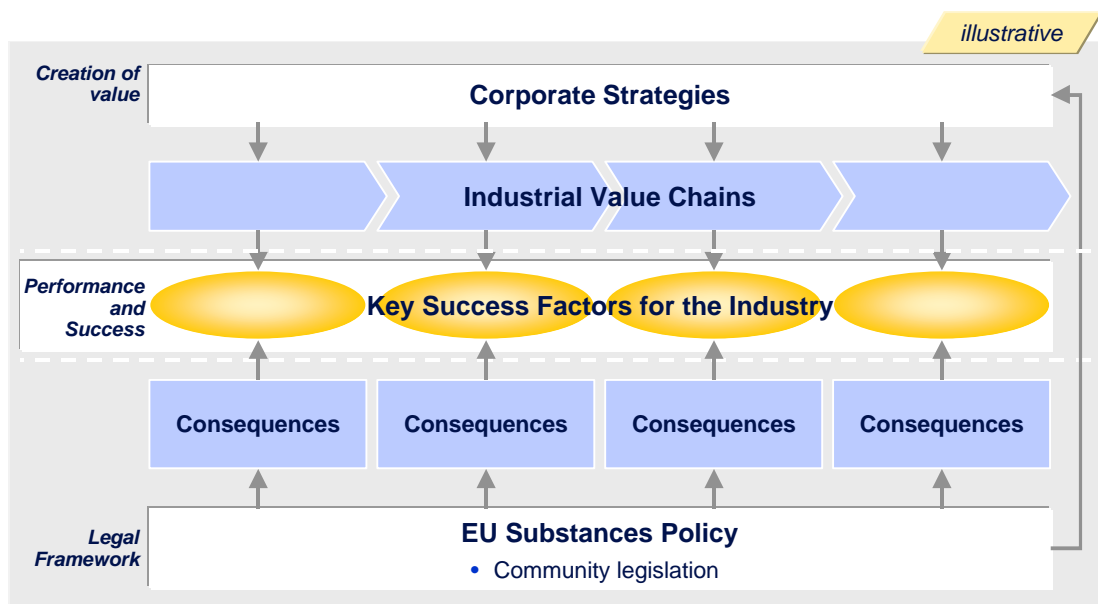
The core element of this policy is the REACH system, a system for **R**egistration, **E**valuation and **A**uthorisation of **C**hemicals marketed in the EU. The system requires the industry to supply and evaluate specific data. The extent of data required for a specific chemical predominantly depends on the amount produced. For chemicals produced in larger amounts, the system also demands an evaluation by the relevant authorities. Specific chemicals of very high concern require authorisation; i.e. the use of these chemicals needs to be authorised by the authorities.

However, so far the comments of both the chemical industry and of downstream users have been rather critical. Among others, there have been worries that the EU chemicals policy may lead to significant economic disadvantages particularly for the German manufacturing industry.

In order to obtain clarity on the consequences of the White Paper and to proactively present a practical design for the EU chemicals policy, the Bundesverband der Deutschen Industrie (BDI – Federal Association of German Industry) commissioned the management consultancy company Arthur D Little GmbH to carry out a study. The objective of the study was to quantify the consequences of EU chemicals policy on the German economy including the effects on smaller and medium-sized enterprises as a function of the concrete design of the chemicals policy. Based on a number of analyses and interviews with experts from various industries, Arthur D. Little developed a model that allows the consequences of the EU chemicals policy on the German economy to be quantified. In a subproject commissioned by the Bundesministerium für Wirtschaft und Arbeit (BMWA), the specific consequences on the German textile industry were to be quantified. Specifically, four value chains have been analysed for each of the two sectors man-made fibres and the manufacturing/finishing of textiles.

## Approach

The starting point of the study was the determination of the key success factors for the individual value chains within the relevant competitive markets. Following up on this, the possible economic effects of the EU chemicals policy on these key success factors were examined, in order to determine the key to the success of a particular industry. On the basis of these relationships (fig. A), different designs of the future EU legislation could be tested in different scenarios. The economic consequences on each of the value chains could be analysed. To feed the model, industry characteristics and data of the relevant value chains have been analysed such as cost of chemicals, intensity of competitiveness, necessity to be near the client, innovation cycles etc.



Tab.A: Relationship between key success factors and the EU legislation

In parallel, it was examined which basic conditions can be considered to remain constant for the estimations and thus form the basis of each possible scenario. Likewise, it was determined which parameters can only be specified by the future EU legislation presumably having clear effects on the German industry. These parameters thus form the variables. The determination of the values defines the scenarios.

On the basis of the results obtained in the workshops (industrial data, scenario facts and scenario variables) an empirical model was developed, which allows calculating production changes for the individual value chains and industries as a function of the different specifications of the scenario variables.

## Relevant Parameters

As a result of the workshops, it was found that the potential effects of the EU chemicals policy might be described using four parameters, which depend directly on the design of the future legislation:

- The parameter **costs** takes into account all costs or cost savings caused by the EU chemicals policy (e.g. registration costs of chemicals)
- The parameter **time** takes into account time effects influencing the use of chemicals and preparations (e.g. time delay caused by the registration procedure)
- The parameter **authorisation** takes into account restrictions in the use of specific chemicals of very high concern
- The parameter **transparency** takes into account effects derived from the goal of the EU chemicals policy to disclose data regarding chemicals and their uses.

Each of these parameters may in principle have positive or negative effects on the economy. The direction of the effect depends on the scenario variables (fig. B).

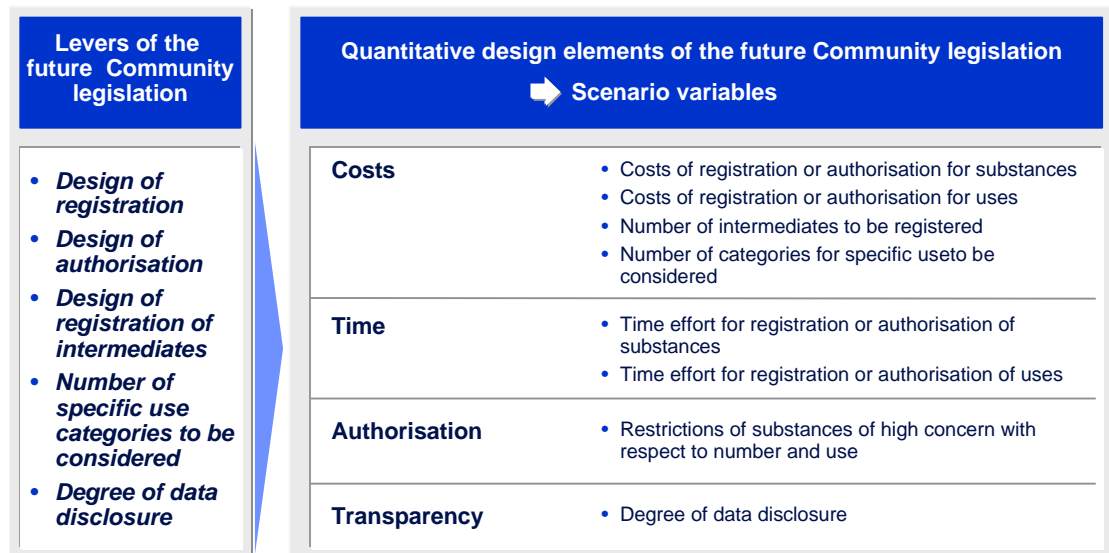


Fig. B: Levers and scenario variables of the EU chemicals policy

## Major Influence Factors

The model calculation shows that some of the identified scenario variables exert a significant influence on the estimated loss of production of the two sectors man-made fibres and the manufacturing/finishing of textiles.

Two of the three most important factors are **registration costs** (depending on the expenses required by the industry and the authorities) and the **design of registration for intermediates**. These two scenario variables significantly effect the cost position of the German textile industry and thus may lead to substantial losses in production. Furthermore, the amount of **time** required by the REACH system is highly relevant. This scenario variable particularly effects innovative industries where even relatively short delays in entering the markets may already

lead to a decisive competitive disadvantage. Further significant losses may follow depending on the design of the **disclosure requirements**. There is the danger that under certain conditions manufacturers and importers may prefer to stop supplying European customers rather than having to reveal know-how that is essential for their companies success.

Another important scenario variable is the number of **registrations of specific uses** required additionally. This variable depends, e.g. on the number of defined exposure categories and directly effects the costs. Similarly, the number of **parallel registrations of one chemical by different companies** also has a strong impact on costs as it may lead to a significant increase of the number of required registrations of chemicals.

Additional variables of less wide-scale importance are the **costs of authorisation**, the number of **parallel authorisations** and the costs for the **maintenance** of the current registrations.

Finally, the design of **authorisation requirements** for chemicals of very high concern has a strong influence on production loss, as some value chains cannot be upheld without the use of these chemicals.

## Scenario Effects

The White Paper only presents guidelines but no detailed regulations for the EU chemicals policy. However, a reliable estimation of the consequences can only be made once the exact design of the chemicals policy is known. Therefore in order to be able to make relevant statements now, three scenarios were developed. All three scenarios are based on the EU White Paper; however, they differ in terms of the design of the precise legislation.

The scenario „clouds“ assumes implementation of the White Paper´s goals in the most practical way. In the scenario „storm“ scenario variables are chosen as suggested by the White Paper, e.g. for the assumed costs of the registration of chemicals. For variables without clear indications in the White Paper, variables are selected based on the stated intentions of the White Paper as assumed by the authors of this study. The scenario „hurricane“ is based on assumptions and experiences of industry, chemical trade and authorities with the current practice in the regulation of chemicals (fig.C).

Scenario	"Clouds"	"Storm"	"Hurricane"
<b>Description</b>	based on the <b>demands of the industry</b> to follow a practical way of legislation	based on the <b>assumptions of the White Paper</b> ; variables not being specified are assumed in terms of the White Paper	based on the <b>experiences of the industry, trade and authorities</b>
<b>Major Variables</b>			
<i>Costs of registration</i>	• Low	• Medium	• High
<i>Consortia formation</i>	• Comprehensive	• Comprehensive	• Limited
<i>Time effort</i>	• Low	• Medium	• High
<i>Number of specific use categories</i>	• Low	• Medium	• High
<i>Registration of intermediates</i>	• None	• Yes	• Yes
<i>Degree of data disclosure</i>	• Business and company know-how well protected	• Depending on the decision of the authorities	• Depending on the decision of the authorities

Fig. C: Scenario overview

Depending on the chosen scenario, the model calculation results in the following production losses for the two sectors man-made fibres and the manufacturing/finishing of textiles. For the scenario „clouds“ the loss is in the range from 5-15%. For the scenario „storm“ the loss rises to 30-50%. For the least favourable scenario, the scenario „hurricane“, a production loss of more than 50% is to be expected.

In the case of the man-made fibres industry the production loss is between 0,5-5% for scenario „clouds“ and increases to a level of 30-50% for the scenario „storm“. In the case of „hurricane“ scenario the estimated production loss will be above 50%.

The correlation between production changes and the number of working places allows estimating the changes in working places for each of the value chains.

Yet, the scenario „clouds“ leads to significant losses in working places (man-made fibres representing a number of about 15,000 employees: loss of up to 750 employees; manufacturing/finishing of textiles representing a number of 115,000 employees: loss of up to 17,000 employees).

In the case of scenario „hurricane“ the losses increase dramatically (man-made fibres: loss of more than 7,500 employees; manufacturing/finishing of textiles: loss of higher than 57,000 employees). The degree of loss in working places indicates that a significant transfer of the industries into countries outside Europe will take place.

In summary, the value chains of man-made fibres and the manufacturing/finishing of textiles are highly sensitive towards the design of the EU chemicals policy and thus is one of the most affected industries.

## Recommendations

According to the model calculation, specific designs of the EU chemicals policy may have a dramatic impact on the German man-made fibres and textile industry, leading to substantial socio-economic problems such as far-reaching relocation of production and large job losses. On the other hand, different designs offer an opportunity to achieve the core goals of the White Paper while reducing the adverse effects on the industry.

The fundamental goal of the German electronics and electrical engineering industry has to be a workable design for the EU chemicals policy. Among other things, this means to keep the expenses and costs of the procedure to a minimum in order to limit the burden on industry. At the same time, the goals of the White Paper should not be lost sight of. For example, it is desirable to reduce the number of specific uses requiring registration, e.g. by the introduction of exposure categories. Furthermore, testing and evaluation of chemicals should be orientated at concrete risks and not at intrinsic properties of chemicals. Intermediates and polymers should be exempted from registration and authorisation. Finally, process and product know-how of companies has to be fully protected despite the reasonable demand of the White Paper to create transparency about chemicals. After all, in a country with high production costs such as Germany, know-how often is the critical competitive advantage for the electronic and electrical engineering industry.

Apart from these aspects regarding the implementation of the White Paper, it is essential to guarantee security of planning and legal security. Among other things this means efficient specification of the cornerstones of the White Paper, with regard to both content and to the time frame. Furthermore, once taken, decisions should be retained in a consistent manner. Authorisations of chemicals should be given without any time limitations. The authorities must meet binding requirements for the time required for the registration procedure. Contradictions with other regulations need to be avoided. All this is of high importance, as long-term investments will only be taken in Germany if the prevailing conditions make it likely that these investments will pay off.