SF 24: Enforcement of sustainable behavior and investment by regulations, e.g. thresholds

Fr	B	C	NY	S	T	Total
8	7	8	0		8	31

Example:
Since 2003, **Tokyo** has had a regulation governing diesel vehicles ({Rutherford 2008 #2}) to reduce emissions and improve air quality. Freiburg – along with many other German cities – has the low emission zone to reduce excessive particulate matter and nitrogen dioxide pollution in the air. Here, too, diesel vehicles without particle filters are banned in the city centres ({BMU 2012 #21}).

Further examples of regulations:
- In **Copenhagen**, there is an obligation to connect to the existing district heating network.
- In **Freiburg**, high energy standards for new buildings are mandatory for town planning.

1. Differentiated description of the key field

Regulations are the most powerful means cities have to influence the behaviour of its inhabitants. Municipalities are entitled to regulate their affairs by statutes within their sphere of influence. Taking into account the legal requirements of the county and state, cities have a variety of options available to get their local population to shift to sustainable behaviour through regulative specifications.

The range of regulations is huge – from the obligation to disclose information to the complete ban on certain behaviours (use of vehicles with red badges in the inner city) via the enactment of limit values and obligations (low emission zones, building standards, etc.) or the creation of an emissions trading system.

({Eigerman 2010 #3}) gives a good overview of sustainability regulations in the United States. For more information about the regulations at the local level, see ({Rat der nachhaltigen Entwicklung 2011 #22} and {Difu 2011 #23}).

Regulations are ineffective without any sanctioning of non-compliance. That is why the effectiveness or success of the regulations depends on whether cities also adopt standards for monitoring and sanctioning. Fines are only one variant: „blame and shame" measures, such as those carried out, for example, by the Tokyo Metropolitan Government in the event of a breach of the obligations of the cap-and-trade system, are often a more effective option.

A major part of the municipal regulations in Germany relates to building codes. The Federal Building Code and the building regulations of the Länder provide the framework for municipalities; cities, however, specify the land use plans and, above all, the development plans themselves.

Besides the building sector, the following areas are incumbent upon the expertise of the city:

- Protection and management of waters and water supply planning
- Protection and restoration of soil functions
- Investigation and remediation of contaminated sites and the recycling potentially contaminated areas
- Waste management planning and permits relating to waste legislation
- Green planning and nature conservation
- Air and water pollution control planning and appropriate approval and monitoring tasks
- The energy supply planning, climate protection and energy policy. Promotion of environmental awareness and sustainable development ({Ministry of Urban Development and Environment 2013 # 24}).

In these areas, limit values are therefore conceivable.

Regulation by local authorities is usually controversial in the formative stages and requires regular monitoring and surveillance. Especially in the field of sustainability, resorting to municipal regulation is necessary, however, since a local authority has to ensure action that is in the interests of the long-term common good and often against vested interests (keyword: „not in my backyard" (NIMBY)).

2. Reference to sustainability:

Regulations mitigate or prevent negative behaviour with regard to sustainability. Emissions can be avoided or energy conservation promoted this way. Regulation also provides the municipalities with a tool to effect sustainable behaviour, where a necessary change in the behaviour of the residents cannot be achieved through incentive systems. It is thus an essential element in the design of a sustainable city. However, regulations in a particular area (e.g. environmental regulations) have to be reviewed with regard to their impact on business and society.

Risk if ignored:
If regulation crucial for influencing behaviour is foregone, the city would lack an important lever for implementing sustainability goals.

On the whole, limit values and regulation are important control instruments which the city can use to achieve its sustainability goals, since the negative behaviour of residents or visitors will be sanctioned.

3. Relevance to industrial sectors?

Mobility:	High
Energy:	Medium
Production & logistics:	Medium
Security:	Low
ICT:	Medium
Water infrastructure:	Medium
Buildings:	High
Governance:	High

Brief description of the high level of importance:
To date, regulations and limit value requirements have so far most frequently been imposed in the transport and the building sector in particular. Both sectors play a large role with regard to local authority autonomy.

4. Impact:

Positive:
- Emissions savings (improved health of citizens, etc.) or energy saving
- „Educating" the public with regard to sustainable behaviour
- Positive image factor for the city
- Stronger regulation of car traffic in favour of cycling/higher quality of public open spaces allow more intensive use of the same ...

Negative:
- Risk of „leaking" – industry could drift away, which would threaten economic growth because of a slump in sales, (negative location for businesses, possibly distortion of competition)
- Curtailment of citizens' liberty
- Disadvantage for the socially deprived

5. Implementation measures:

- Monitoring of observance of certain rules and sanctioning of non-compliance

6. Actors: Who can shape things? With whom?

The political sphere (Mayor) introduces new regulations or at least makes an active contribution towards them. The city council makes the decision to introduce new regulations. In the process, it should seek the advice of the scientific community and the enterprises and associations concerned.

The city administration is responsible for implementation (monitoring, sanctioning).

7. Prerequisites:

Regulations often go hand in hand with economic burdens (e.g. environmental badge). Social compensatory measures or exceptions may have to be established.

Monitoring and sanctions must be able to be exercised by the city.

8. Obstacles/barriers:

- Conflict of interest of regulation versus economic growth
- Dealing with exceptions (e.g. Germany's low emission zone has many exceptions: classic cars, army vehicles, etc.)
- Sociological criticism: it is assumed that individuals behave opportunistically and only act sustainably due to through incentives and sanctions

9. Indicators:

- Is there a duty for businesses to disclose environmental information (y/n)?
- Is there a duty for building owners to disclose environmental data (y/n)?
- Are the data randomly monitored by the municipality?
- Are violations sanctioned (y/n)?
- Are there emission limits for vehicles at the municipality level (y/n)?
- Are there emission limits for buildings on the community level (y/n)?
- Is a violation of the limit values sanctioned (y/n)?
- Do other environmental regulations (recycling/water consumption/energy efficiency?) exist (y/n)

10. Special features/remarks: