

Section 12: Integrated environmental management system

12 A. Current situation

1. Vision, strategy

Essen's vision of the future is one of a prosperous, economically sustainable major city, which is resistant to climate change, and which offers its population opportunities to develop in a healthy environment. Essen promotes green infrastructure with high water quality and parks with high recreational value, innovative and environmentally friendly businesses¹ (Green Economy), integrative education and sustainable mobility concepts.

Essen has already come a long way down the road away from air pollution to spa resort climate in some areas, and away from roaring noise to peaceful living spaces. As a result of the illnesses caused by the bad air, Germany's first environmental initiative was created in 1962 [1], initiated by doctors from Essen [2], [3] Strategies, guidelines and visions have developed on the path to a resilient city (see timeline).

In the last decade, the strategies have been made more specific, particularly by the corporate objective of environmental protection, with its 10 strategic targets [4], the urban development process "Essen urban development perspectives 2015+" (STEP 2015+)² [5], and the Integrated Energy and Climate Concept (IECC) [6].

The harmonisation of culture and environment in the Capital of Culture 2010 [7] is continued by the Federal Government research project "Climate Initiative Essen – Living in a new cultural climate"³ [8] Since 2010, the Ruhr Metropolis has been developing regional environmental quality targets, with the intention of applying for recognition as European Green Capital [9] On the basis of these, a regional contract is currently being drawn up between cities, administrative districts, and the RVR.

The flagship project for networked, sustainable activities is the programme "Open space creates city space – ESSEN.New ways to the water"⁴ [10] This aims at the development of open space structures and climate adaptation, and is simultaneously a development programme for the long-term unemployed.

The International Building Exhibition at Emscher Park (1989 – 1999) and the conversion of the Emscher⁵ from an open sewer system into a renaturalised water body (by 2020) are further examples of regional cooperation.

The entry in the competition "InnovationCity Ruhr" [11] aimed to halve the CO₂ emissions of a typical Ruhr area pilot district with a population of over 60,000. Essen was recognised as a "finalist" by the Initiativkreis Ruhr (Ruhr Initiative Group) [12].



¹ Green Economy can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

² STEP 2015+ can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

³ Climate Initiative Essen, Climate Agency and klima|werk|stadt|essen can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

⁴ ESSEN.New ways to the water can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

⁵ Emscher conversion can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

The strategy process Essen.2030⁶ [13] integrates all municipal management systems and ensures central control. It supports targets 6-8 of the 7th Environmental Action Programme (EAP).

All visions, strategies and implementation programmes are supported by resolutions of the Council, and financed with municipal funds and subsidy programmes (EU, State, Federal Government). [14]

2. Administration, monitoring and evaluation:

An example for the participation and involvement of the public is the "Runder Tisch Essener Umweltverbände und Umweltinitiativen" (RUTE; Round Table of Essen Environmental Associations and Initiatives) ([15]), which brings initiatives against pollution together with environmental associations such as Nature and Biodiversity Conservation Union, Friends of the Earth Germany, Greenpeace and the German Cyclists Association.

Essen also participates in the regional "Mobilität~Werk~Stadt" union⁷ [16] an initiative composed of interested members of the public, politicians, associations and administration bodies, and which develops strategy proposals for environmentally friendly mobility in the Ruhr Area.

The exemplary online tool for the Noise Action Plan is described in section 6. [17]

The strategy process "Essen.2030" also utilises various options for involving the public. [18]

Since 1997, Essen has bundled environmental matters in a department that combines efficient preventive and executive authorities.

Alongside the hierarchical structure [19], task-oriented project structures are utilised (see: klima|werk|stadt|essen [20, 21]).

The University of Duisburg-Essen, the House of Technology [23] and the Training Centre for Waste Disposal and Water Resource Management (BEW) [24] are top-class education and training facilities for environmental protection, and are supplemented by EU-recognised Studieninstitut Essen training centre, [25] which teaches competencies relating to the environment, administration and European law [26], [27].

All energy, climate protection and adaptation measures taken by the administration, group subsidiaries and the urban community are controlled under the aegis of klima|werk|stadt|essen (Figure 12.1). Head of the overall project: Lord Mayor.

Controlling tools for the continuous improvement process are CO₂ monitoring, [28] European Energy Award (eea) audits, the Sustainable Energy Action Plan (SEAP) of the Covenant of Mayors, and the annual IECC balance report [29]⁸.



⁶ Essen.2030 strategy can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

⁷ Mobility can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

⁸ CO₂ monitoring, eea, SEAP, CoM and IECC can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

Monitoring measures on the basis of environmental authorities are documented, and made available to European authorities and the public. The multiple-media environmental inspection is performed in accordance with the "Industrial Emissions Directive".

3. Management

Essen

- has been a pioneer since 1982 in the **purchasing of environmentally friendly products** (e.g. 2011: in-house seminar "Buy Smart - Green Procurement")
- is a **Fairtrade Town**.
- boycotts products made with exploitative child labour. The Town Hall restaurant buys Fairtrade products wherever possible. [30]

Flagship projects:

Fairtrade Rainbow School [31] and FaireKITA St. Suitbert child daycare [32]

- Multiple winner in the competition "**Most Recycled-Paper-Friendly City in Germany**". [33]
- buys vehicles with natural gas engines

KAKTUS⁹(Municipal Action Programme for the Environment and Sport) is a key project for the cooperation of the Environmental and Sport Authority with the Essen Sports Association and Grün & Gruga [34], [35]

Environmentally friendly sporting activities are promoted; conflicts between environmental protection, nature conservation, horticulture, forestry and sportspersons are resolved.

In order to help companies reduce their energy and resource consumption, **ÖKOPROFIT**^{®10} [36] was introduced 12 years ago.

Thus far, 91 companies have saved 39,000 tonnes of CO₂ and 94 GWh of energy per year. City organisations and companies have saved over € 1 million per year.



⁹ KAKTUS = Kommunales Aktionsprogramm Umwelt und Sport (municipal action programme for environment and sport)

¹⁰ ÖKOPROFIT can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

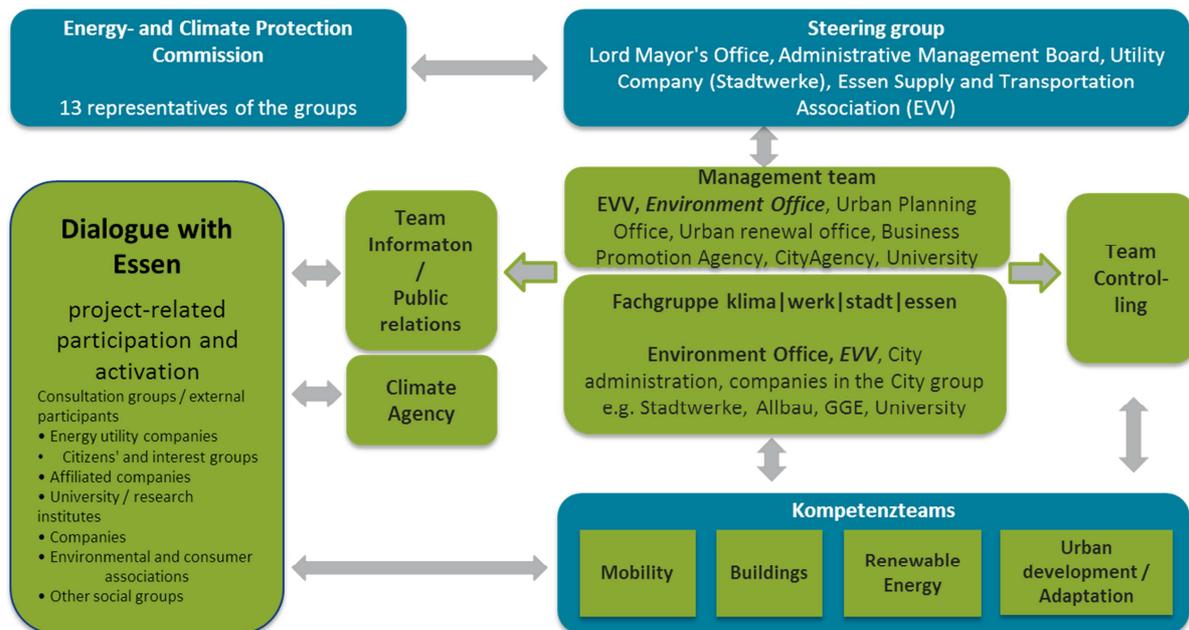


Fig. 12.1: Organisational structure of klima|werk|stadt|essen (source: City of Essen)

With the introduction of environmental management, Essen is consistently pursuing this path.

Given the polycentric structure of the Ruhr Metropolis, the Siedlungsverband Ruhrgebiet (Ruhr Metropolis Municipal Association) was founded in 1920, which has been fulfilling marketing and regional planning tasks through partnership, under the name **Regionalverband Ruhr** (RVR) [37] since 2004.

The **Emschergenossenschaft** [38] (since 1899) and **Ruhrverband** [39] (since 1913) are organisations the City of Essen has long been cooperating.

As part of the "Ruhr Municipal Region 2030" alliance, Essen played a leading role in the development of the Regional Land Use Plan [40], which is today the central control tool in matters of land use planning. Essen cooperates e.g. with the German Meteorological Service on climate change issues.

The Institute of Cultural Science (KWI) and the University of Duisburg-Essen (with the interdisciplinary focus on "urban systems") are part of the "Science Action Plan" for strengthening the Green Economy, directly supporting targets 2 and 5 of the 7th EAP. Together with the City, they are committed to developing strategies for using space, and together with the Climate Agency they are working to establish a new climate culture.

As a member of the Climate Alliance, Essen uses the European CO₂ monitoring tool ECORegion.

Essen is represented at the Covenant of Mayors by the Lord Mayor; membership of MayorsAdapt is also planned soon.

In EUROCITIES, Essen participates in forums and working groups.

The membership of **ICLEI** is an example of well functioning regional cooperation. RVR represents 53 member cities here.

In 2013, the **Europe Direct Office** was opened (State recognition as Active Municipality in Europe [41]) The opening ceremony was an example of successful communication, with

international school children entering into intensive dialogue with the city administration, and with local, national, and European politicians.

The City of Essen, Essen-based initiatives and businesses, have thus far participated in 172 EU projects. [42] [43]

Essen is located in one of the largest urban agglomerations in Europe; this means very high traffic volumes, together with the associated pollution.

Coal and steel defined the face of the city and region for a long period. After these industries declined in importance, the process of structural change led to a services and energy sector. The past has nevertheless left its mark in the form of disused industrial land and soil contamination problems, together with very heterogeneous and socioeconomically varied district areas.

12 B. Implementation

Essen is a "blueprint" for European cities that can achieve great things under tight budget conditions. The efficient application of European funding has made the "Green Revolution" possible in Essen, and we can impressively demonstrate this to the visitors in 2017.

The city administration is organised as a corporation. The administrative management board consists of the Lord Mayor and the management boards of selected departments, selected by the Council; subordinate to them are the management of the technical departments and facilities.

Business distribution plan of the administrative management board of the City of Essen Allocation of technical departments, municipal undertakings and institutes as from June 2014						
Department 1A Department of the Lord Mayor Lord Mayor Mr Paß 1st representative Mr Best 2nd representative Mr Bomheuer	Department 1B Human Resources, Organisation, Public Order, Fire Brigade Deputy Mr Kromberg 1st representative Mr Paß for the departments 10, 11 Mr Klieve for the departments 01-05, 01-06, 32, 37, ESH 2nd representative Ms Raskob	Department 2 Finances City treasurer Mr Klieve 1st representative Mr Kromberg 2nd representative Mr Renzel	Department 4 Culture, Integration and Sport Deputy Mr Bomheuer 1st representative Mr Renzel 2nd representative Mr Best	Department 5 Young People, Education, Social Affairs Deputy Mr Renzel 1st representative Mr Bomheuer 2nd representative Mr Kromberg	Department 6A Environment and Construction Deputy Ms Raskob 1st representative Mr Best 2nd representative Mr Klieve	Department 6B Planning City manager Mr Best 1st representative Ms Raskob 2nd representative Mr Bomheuer
Lord Mayor Office	Department office 1B	Department office 2	Department office 4	Department office 5	Department office 6A	Department office 6B
Technical departments	Technical departments	Technical departments	Technical departments	Technical departments	Technical departments	Technical departments
01-11 Equality Rights 01-15 Press and Communication Office	01-05 Occupational Safety in Essen 01-06 Business Consultation Office	02-01 Waste Management / Fee Management 02-02 Interest Management	04-01 Intercultural orientation / Essen Municipal Integration Centre	40 School 50 Office for Social Affairs and Accommodation	06-01 Local Public Transport System Management 59 Environmental Office	61 Office for Urban Planning and Construction Regulations

01-16 Urban Development Office	10 Organisation and Human Resources Management	20 City Treasury	41 Culture Office	51 Youth Office	59-6 Veterinary and Food Monitoring Office	61-8 Institute for Monument Conservation and Maintenance
12 Office for Statistics, Urban Research and Elections	11 Central Service Office	21 Financial Accounting and City Tax Office	41-2 Borbeck Palace Cultural Office	53 Health Office	60 Real Estate Industry of the City of Essen	62 Office of Geo- Information, Surveying and Land Registry
14 Auditing Office	32 Regulatory Office		41-3 Municipal Archive – House of Essen's History	56 Job Centre Essen	66 Office for Road and Traffic	68 Office for Urban Renewal and Land Management
15 Office for Council Matters and Representation	37 Fire Brigade		41-4 Old Synagogue – House of Jewish Culture		69 Water Management	
30 Legal Office			42 Municipal Library			
33 Residential Registry Office			43 Adult Education Centre			
			44 Folkwang Music School			
			45 Museums of the City of Essen			
	Municipal undertaking		Municipal undertaking		Municipal undertaking	
	Essen System House		Essen Sporting and Swimming Facilities		Green and GRUGA Essen	

Fig. 12.2: Business distribution plan of the administrative management board of the City of Essen
(source: City of Essen)

Municipal affiliated companies also perform a wide range of tasks in the environmental sector, [44] and are incorporated into the implementation of environmental strategies through klima|werk|stadt|essen.

The Council [45] has set up a committee for matters relating to environmental and consumer protection.

Controlling the decision-making process is the responsibility of the Lord Mayor. The ecological visions are pursued together with the departments of "Environment and Construction" and "Planning" and the affiliated companies.

The annual budget of the City of Essen for 2015 / 2016 is around € 2.7 billion.

The city administration, municipal facilities and affiliated companies invest large sums in environmental protection measures.

The following Figure 12.3 gives an overview of important projects:

Environmental sectors	Activity		Total costs in million €		Remarks
	Start	End	2008 - 2012	2013 - 2017	
Climate protection / adaptation to climate change / sustainable urban development					
Climate protection measure subsidy project	2010	2013	2.25	0.75	Subsidy from the Federal Ministry of the Environment for climate protection measures
Funds for Climate Agency (Essen Climate Initiative project)	2011	2016	1.67	3.33	Project partners: City of Essen, University of Duisburg-Essen, municipal companies
"Economic Stimulus Package II" (energy-efficient building renovation)	2009	2011	64.4		For details, see closing report "ESP II - Future investments"
Energy-efficient renovation and construction of new schools/kindergartens/sports halls	ongoing			51.9	Currently being planned: starting in 2015, construction of one new primary school per year with the highest energy-efficiency standard (under current plans, 20 new schools to be built in total) Examples of current measures: Energy-efficient renovation of Bockmühle comprehensive school, Gustav-Heinemann comprehensive school, Nord-Ost grammar school, Heinrich Nixdorff vocational college
Investment Pact for energy-efficient modernisation of social infrastructure (Laurentius school, Traugott-Weise school, school in Bergmannsfeld)	2007	2012	4		Subsidy programme of the Federal Government (total subsidy € 3.3 million). Theoretical heating energy savings approx. 65%
Energy-efficient renovation of residential buildings by Allbau	2010	2013	66.86	18.86	3% renovation rate achieved.
Council document for Green Electricity purchasing	ongoing			0.665	since 1 January 2013 100% green electricity, approx. 95 million kWh/year the additional costs for green electricity are shown
Energy saving / cooling contracting for Town Hall	2013	ongoing		0.9	Town Hall's old system replaced with a new system on a contracting basis (ppp). Energy consumption reduced by 63%
Gruga biomass heating plant	2012	2012	4.4		1650 kW wood, 4000 kW gas
Conversion of a coal boiler into a biomethane cogeneration plant	2013	2013		4.4	4.4 MWel / 4.1 MWth, CO2 savings approx. 25000 tpa
Street lighting replacement; mushroom-style lamps	2009	2013	4	0.8	Replacement of 18,000 mushroom-style lamps; energy consumption reduced by 15 million kWh/year
Replacement of large street lights on main roads	2009	ongoing	0.3	0.4	CO2 emissions reduced by approx. 3000 tpa
LED technology: Retrofitting of traffic signals and park lighting (Gruga Park) with LED technology	2003	2014	3	0.6	Savings thus far: 3390 MW/h/a, 2500 t CO2/a
Local traffic					
Road construction of main roads and cycle paths	2011	2013	1	0.5	
Cycle path construction for 'Essen.New ways to the water'	2006	2015	8	8	Employment scheme and qualification programme, largely building cycle paths.
Subsidy requirements for local public transport	ongoing		390	412.5	

Fig. 12.3 Part 1: Overview of major environmental and climate protection tasks (source: City of Essen)

Environmental sectors	Activity		Total costs in million €		Remarks
	Beginning	End	2008 - 2012	2013 - 2017	
FFH zone Heisingen Ruhr meadows (Natura 2000 zone)	2002	2010	1.5		total € 5.5 million; Use of funds from the Ruhr Association for compensation measures, subsidies and budget funds from the City
"Green" investments	2007	2013	34	16.1	Examples:
					€ 9.5 million, ESSEN. New ways to the water (employment and qualification schemes)
					€ 12 million, Rhine Rail green connection (RVR)
					€ 4.3 million, Nordsternweg (RVR)
					€ 3.5 million, Lake Niederfeld (proportional, dept. 68)
					€ 6.6 million, University district
					€ 6.1 million, Krupp Park (North)
					€ 1.2 million, Emscher path system (EG)
					€ 0.6 million, renewal of paths (GGE)
					€ 1.2 million, developments in inventory (GGE)
					further projects for the year 2015 and after, e.g. Krupp Park South, Borbeck Palace Gardens etc. are being planned
					€ 3 million, playground renewal (GGE)
"Economic Stimulus Package II" (playground renovation)			2.4		
Ambient air / acoustic environment					
"Economic Stimulus Package II" (noise reduction)			3.21		Noise protection windows programme, noise-optimised asphalt
Installation of noise-optimised asphalt		ongoing		12	Noise-optimised asphalt is installed on noisy roads as standard
Water/sewage/soil/waste					
Waste management system			18.5	21.5	Investments of Essen Waste Disposal Organisations in waste bins, vehicles, buildings, etc.
Funds for cleanup of contaminated soil			3.5	9.9	Major cleanups of contaminated soil in last 10 years (€ 2.3 million Schönebecker Schlucht, € 4.9 million Alte Mühlenemscher)
Sewer infrastructure				173	Investments of SWE under Wastewater Disposal Concept 2014/2019 (total investments by 2019 € 212 million)
Sewer infrastructure			141		Between 2003 and 2013, total € 274 million
Investments by Ruhr Association (restructuring of wastewater purification in South Essen)			45	45	Total over 20 years: € 180 million
Infiltration water problems in Karnap pilot zone Emscher genossenschaft/RAG				8	Proportion of public investments
Groundwater problems: investment requirement in Essen			10	10	Investments will total up to € 96 million, depending on technical solution, central/decentralised, including private investments in the case of decentralised variant.
Renaturalisation of the Emscher within Essen metropolitan area			245	245	
New construction of Überruhr waterworks				55	
Totals (in million €)			1053.99	1099.10	
Damage caused by Hurricane Ela on 9th June 2014:				61,5	
During the storm, 15 - 20% of the trees in Essen's streets, parks, and municipal woodlands were destroyed or severely damaged. These trees will be replaced over the coming years.					

Fig. 12.3 Part 2: Overview of major environmental and climate protection tasks (source: City of Essen)

Current projects have been financed, and the environmental budget has increased over recent years.

Essen is utilising the potential of **online participation processes**: for the Noise Action Plan¹¹ (and the search for potential savings in the municipal budget [46] Essen took advantage of the potential for public involvement through online participation.

The "**Points of Single Contact**" [47] as per the European Services Directive, was set up as an innovative and regional partnership project between the cities (Essen / Mülheim / Oberhausen / Duisburg).

Environmental data are available on the **internet**. In addition to the klima|werk|stadt|essen portal, many projects offer opportunities to get involved:



Fig. 12.4: Examples of special participation projects **Idea and Cooperation Exchange** [21], **Climate Ambassadors** [48], **Children and the Environment newspaper**[49], "Your city. Your climate" [50], Climate Heroes[51]¹² [52] (source: City of Essen / EVAG)

Innovative financing models are the backbone of many environmental projects in Essen: Civic Solar Associations, public funding models, contracting to achieve energy savings, project financing by the Essen-based Mercator Foundation. [53]

The "Economic Stimulus Package II" from the Federal Government [54] made it possible to survive the financial crisis of 2009, and to implement many energy-saving measures that would not otherwise have been feasible. European and national programmes of subsidies (European Regional Development Fund / ERDF, AltBauNeu, European Energy Award / eea and ÖKOPROFIT State subsidies, Climate Initiative and others) are being used successfully. (Figure 12.3, Town Hall refrigeration contracting etc.).

Just as Capital of Culture 2010 [55] and mobility ("Still-Life A40"), the aim is to make interdisciplinary use of diversity, and to recognise both voluntary commitment and professional execution of tasks on an equal footing.

¹¹ **Noise Action Plan / public participation** can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

¹² **City Cycling** can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

To optimally spread awareness of current developments, the City of Essen uses its central Facebook and Twitter accounts. The content will be reused on the European Green Capital blog. The combination of these channels invites both specialists and citizens to engage in dialogue.



Fig. 12.5: Social Media Workshop (source: City of Essen / Sinn)

The Climate Agency serves as a connecting link between the various stakeholders in the urban community.

The "Essen.2030"¹³ strategy consolidates the wide range of management tools (Corporate Objective for Environmental Protection, IECC, eea, SEAP, ESSEN.New ways to the water) to create integrated management system.

¹³ The Essen.2030 strategy is described in more detail in section 12 C

12 C. Future plans

1. The commitments of the City of Essen¹⁴:

Targets of the Climate Alliance:

- Reduction of CO₂ emissions by 10% every 5 years,
- Halving per-capita emissions by 2030 at the latest (base year 1990),
- Protection of tropical rainforests and commitment not to use tropical timber

The targets of the Covenant of Mayors and of the EU

- As signatory to the "Covenant of Mayors", Essen undertakes to exceed the "20/20/20 by 2020" target of the European Union.
- Essen voluntarily accepts the target of the Energy Efficiency Directive, to achieve a renovation quotient of 2.5-3% for public buildings, which applies to central governments.
- Consideration of energy efficiency factors in public procurement
- With its target of all new public buildings being built in passive house standard, Essen exceeds the requirements of the Buildings Directive

Targets of the Federal Government

Essen adopts the German climate targets for the

- Reduction of CO₂ emissions (base year 1990) by 40% by 2020, 55% by 2030, 70% by 2040 and 95% by 2050, and
- Primary energy savings of -20% by 2020 and -50% by 2050 (base year 1990), and adds to these the target of -30% by 2030.

Targets of the State Government (Climate Protection Law of North Rhine-Westphalia dated 23 January 2013 / first in Germany)

- The Climate Protection Law makes climate protection a statutory task (preparation of climate plans)
- Essen wishes to exceed the state-level target: CO₂ savings of 25% by 2020 (base year 1990)
- Essen accepts the target of a 25% proportion of electricity cogeneration by 2020

Fig. 12.6: The climate protection targets the City of Essen committed to (source: City of Essen)

The objectives of Essen are pursued by the project structure for klima|werk|stadt|essen, described above. The controlling tools "eea, SEAP and CO₂ monitoring" are available, and ensure success.

2. Essen.2030 strategy

The Essen.2030 strategy was developed with the participation of the public, and of experts in economics, science, politics and associations, and describes the urban development targets for the coming years. The business and technical departments integrate their departmental objectives into this strategy, and implement these by means of activities and projects. These are controlled on central and decentralised levels through an integrative management system (Fig. 12.7 and 12.8).

¹⁴ CO₂ can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

Examples of the cooperation of departmental strategies under

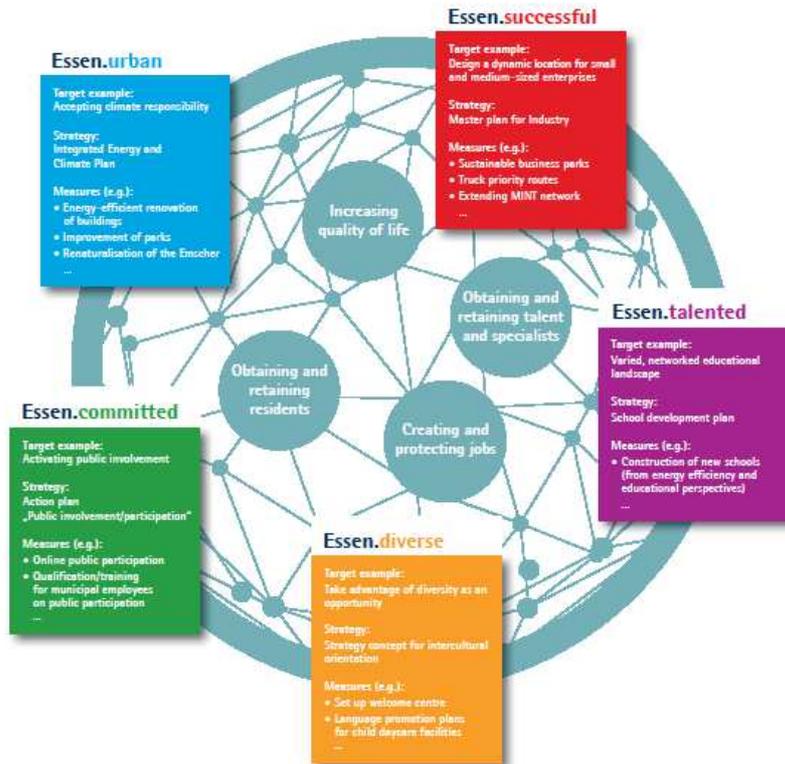


Fig. 12.7: Cooperation of departmental strategies under EsSEN.2030 (source: City of Essen)

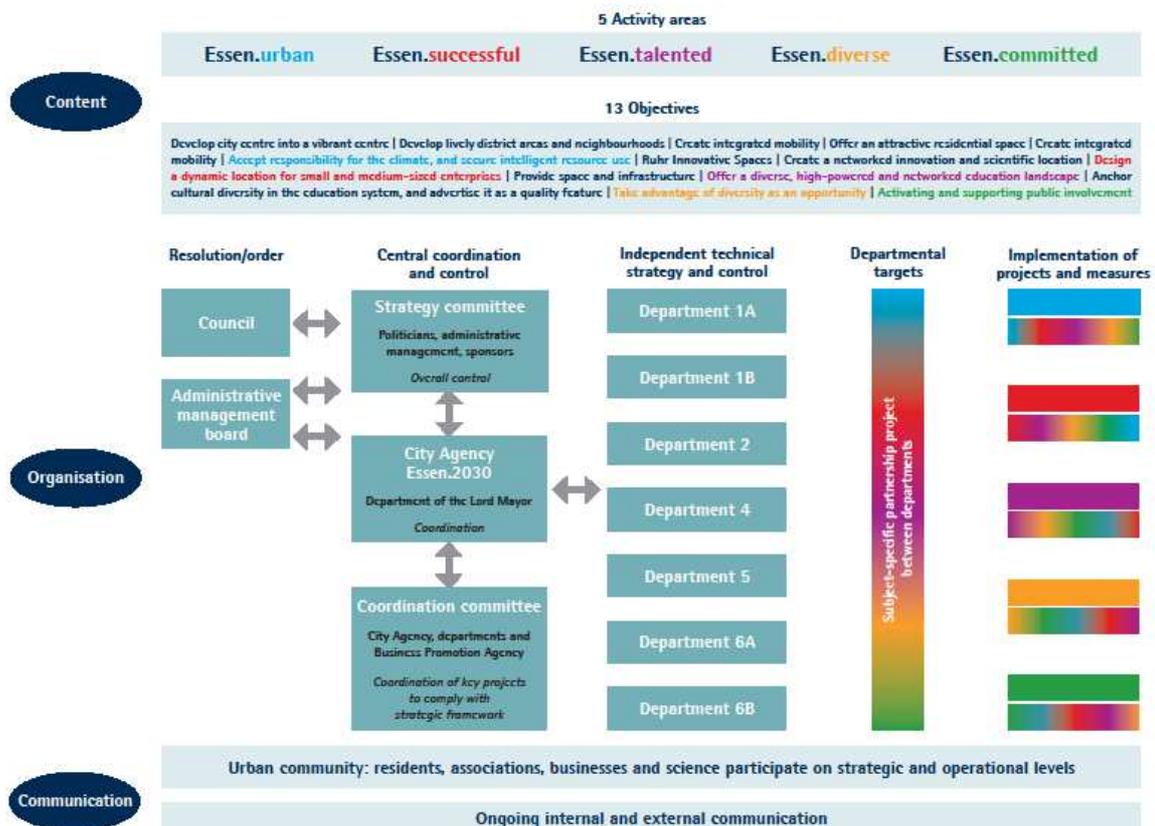


Fig. 12.8: Structure of the organisation of the strategy process EsSEN.2030 (source: City of Essen)

3. Flagship projects:

Essen Climate Agency

Setting up the Climate Agency established the main operational unit of klima|werk|stadt|essen, bringing together the diverse activities relating to energy and climate. Results are documented and made available in a network, with the objective of anchoring a new climate culture in the urban community. The Climate Agency creates, subsidises and communicates innovative technologies in a comprehensible and neutral manner. Its objective is to stimulate market activity by strengthening the supply and demand of and for energy services.

Intermodal mobility

The "Intermodal mobility" serves to network and further develop urban mobility services. The local public transport system establishes basic mobility, and is expanded by modules relating to car sharing (station-based and freeflow models), bike sharing, and facilities for walking and cycling. The existing systems will be developed further, new model approaches will be included, and the target is a networking of stakeholders.

Municipal buildings

Municipal buildings will in future be assessed and optimised in a holistic manner. School buildings play an important role here. After the "House of Learning" in Haarzopf (passive house) and the "Überruhr grammar school" (energy-plus house) [56] passive house design is the minimum energy standard for buildings. Structural, energy efficiency and educational factors are all taken into consideration. The school is becoming an innovative and modern municipal educational campus, from early childhood up to the end of high school.

ESSEN.New ways to the water

The programme promotes urban development, creating new quality of life, including through the use of job market tools. Continuing the key project "ESSEN.New ways to the water", and in conjunction with the residential construction project of Allbau AG, it is being shown at Niederfeld Lake how a district can be redesigned and upgraded.

A lake was created here with parks and high residential value, connected to a continuous green system of paths along the interregional "Rhine Rail" cycle path trail.



Fig. 12.9: Niederfeld Lake (source: City of Essen / Sinn)

Altendorf district renewal

One special highlight is the ongoing urban renewal process in Altendorf [57], in which a number of promotion tools (e.g. ERDF – Social City and Federal Government research funds for experimental housing construction /ExWoST) are interlinked to create a holistic approach to urban renewal.

The objective was the "reinvention" of an entire district area, while retaining the existing resident structure. At the same time, this district area would serve as an example of urban structures adapting to climate change.

Regional cooperation is a decisive factor for the success of the Ruhr Metropolis. Under the Slogan "Cooperation and Independence", 11 cities have joined forces as "Ruhr Municipal Region 2030" [58] to initiate space planning concepts such as the Regional Land Use Plan. The partnership project "Ruhr Concept" [59] 11 cities and 3 administrative districts, which see the "transition as an opportunity" to accelerate the reorientation of the Ruhr Metropolis into a prospering, environmentally friendly services region, through 442 projects (investment volume mobilised € 2 billion, with anticipated follow-up investments of over € 6 billion).

Essen will also play an important role in the "**KlimaExpo.NRW**" of the State of North Rhine-Westphalia, planned for 2022, as well as in the application for the International Gardening Exhibition in 2027.

Application for the title of European Green Capital

The aforementioned activities culminate in the present repeat application for the title of "European Green Capital". In the course of the application, potential for optimisation has been identified, and the continuous improvement process has been supported. The City Council approved this comprehensive key project on 20 March 2013, and confirmed it on 02 July 2014 [60].

Essen continues to run **Information Days** (e.g. "Essen KlimaMobil" in July 2013) and **technical conferences** (Climate Initiative Essen). The experts from the city administration will in the future be involved in the Klima-Bündnis e.V. (Climate Alliance), EUROCITIES and ICLEI.

Early introduction to environmental issues is a future task of the **educational culture**: Climate Ambassadors, the children's and environmental newspaper, agenda schools, and Fairtrade schools are being expanded.

Decisions are generally made in a broad consultation process. Examples include **online participation** in financial issues and the Noise Action Plan. In order to protect nature reserves, solutions are developed in **on-site workshops**. (Kamptal [61], and the same applies to transportation issues (Essen-Werden Transportation Concept).

As a result of the catastrophic damage to Essen's woodlands, the old maintenance plan (FSC-certified recreational woodland)¹⁵, which was developed 2004 with a broad public consensus, has been abandoned. Before the end of this year, and following the tradition of the previous participation process, the **development of a new ecological maintenance plan** will begin. The aim will be to achieve even greater resilience to the consequences of climate change in our woodlands. The **public and all nature conservation associations** will be involved. Renewed **FSC certification** will naturally be standard here.

¹⁵ FSC certification can also be found in sections 1|2|3|4|5|6|7|8|9|10|11|12

With Capital of Culture RUHR.2010, we have shown that we believe in the transformative power of culture.

Culture is a major factor in sustainability, and in the "Climate Initiative Essen – Living in a new cultural climate", as well as in many sustainability projects (agenda schools, FaireKITA child daycare facilities), and is part of the process of raising awareness.

As such, ongoing cultural development is sustainably woven into the future strategies of the City of Essen.

12 D. References

- [1] „Der Arbeitskreis Ökologie war ein Essener Arbeitskreis, der sich innerhalb weniger Jahre auf Landes- und Bundesebene weiterentwickelte und heute international unter HCWH aktiv ist.“ http://www.bvv-dellwig.de/cnt/wordpress/?page_id=77.
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12 E. Good practice

klima|werk|stadt|essen



Fig. 12.10: Opening the new office of the Essen Climate Agency (source: City of Essen)

The klima|werk|stadt|essen is good practice for multi-level governance. All energy, climate protection and adaptation measures taken by the administration, group subsidiaries and the urban community are controlled under the aegis of klima|werk|stadt|essen. With its annual report (IEMS), klima|werk|stadt|essen is an optimal means of including the political decision-makers in particular, for structured prioritisation and secure financing of currently 133 projects. The Reference Framework for Sustainable Cities (RFSC) has been followed by the Environmental Office and Urban Planning Office for some considerable time.

Strategic environmental quality targets of the Ruhr Metropolis



Fig. 12.11: Environmental quality target workshop (source: RVR/Beckröge)

Since 2010, a regional working group has been pursuing the development and implementation of binding regional environmental quality targets at the highest political level. Essen is the driving force here, together with a number of other cities and the Regionalverband Ruhr. The Wuppertal Institute prepared an extensive expert report. An innovative and wide-ranging collection of data was created, crossing all city boundaries. The region's first environmental quality targets were developed over the course of eight workshops. These are currently being developed further in the form of a regional contract, for use as a management system for the Ruhr Metropolis, on the same basis as the 2007 Integrated Environmental Management System Guidance [62].