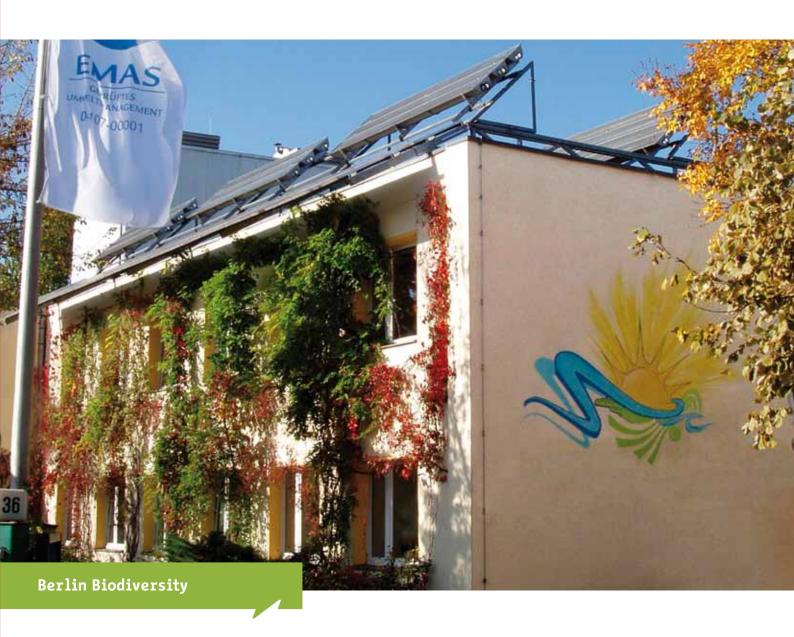
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## **Business in Berlin Supports Biodiversity** Recommendations for Action - A Guide

## **Business in Berlin Supports Biodiversity**

Recommendations for Action – A Guide

#### **Publisher**

Senate Department for Urban Development and the Environment

Senate Department for Urban Development and the Environment



## In Cooperation with

Chamber of Commerce and Industry of Berlin



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Being proactive about environmental protection has become the norm for most us. Our businesses also know how important it is to manage their affairs in an environmentally friendly and sustainable manner as more and more consumers come to expect such standards. They want products that do not leave them with a bad conscience but rather the opposite – products that are ecologically sustainable and spare environmental resources. Including strategies to preserve biodiversity into these socially responsible corporate policies is a relatively new development, however.

Biodiversity is all the more important because our urban environment is also the habitat for more than 20,000 species of plant and animal life. They are all part of what we value most about our city, making it an exciting and comfortable place to live. Tree-lined streets create canopies of shade; parks and urban forests provide clean air; birds and bats keep insect populations at bay; and small gardens and flowing water enrich our recreational activities. Ecosystem services is the scientific term for conceptualizing what nature provides us.

Habitats, ecosystems, animal and plant species and their genetic resources should be preserved in balance with the city's expansion and development. Distinguished as a "Green Metropolis", Berlin needs to preserve its biodiversity as it is an important factor for where companies choose to locate.

Everyone, including businesses, can contribute to the protection of biodiversity. Whether it be constructing ecological habitats on company grounds, supporting targeted projects, or voluntarily complying with higher environmental standards, businesses can make a valuable contribution to preserving biodiversity.

The Berlin Senate has taken responsibility for promoting biodiversity preservation in the city and has developed a strategy ("Berliner Strategie zur Biologischen Vielfalt") to meet this goal in the spring of 2012. We know that it is not always easy for companies to adjust to constantly growing expectations, but their efforts are worth it as the end results benefit everyone: the environment, the consumer, and the company's improved image, which leads to increased sales and market share. In order to preserve our city's biodiversity, we need the support of all stakeholders involved. The business community in Berlin can provide immense support for these efforts.

This guide provides you with various possibilities for participation. In addition to providing numerous actionable measures you can implement in your business, this guide also offers various contacts, tips, and suggestions. Every company that increases its involvement or brings new participants on board takes us an important step closer to successfully preserving biodiversity.

I am excited by your interest in this important topic and the possibility of collaborating with you to protect the city we love, making Berlin a more attractive place to live every day.

Michael Müller

Senator for Urban Development and the Environment

Berlin occupies a leading role in sustainable business. As the "Green Economy" grows, innovative companies in the sectors of environmental technology and energy characterize the image of this location. People in Berlin can also see that sustainable business management has become a theme. Energy efficiency, climate change mitigation, and resource-use-efficiency are the main catchphrases. Increasingly, the issue of biodiversity preservation has been coming into the spotlight. What was earlier a niche-theme confined to marginal measures such as adding a little bit of "green" to a company's grounds, is becoming more and more a global mega-theme that includes business and industry.

It remains a fact that economic production and consumption together with limited resources and demand for a high standard of living can easily come into conflict with environmental protection goals. At the same time, changing climate conditions have initiated the global loss of an uncountable number of plant and animal species. The loss of biodiversity has long since ceased being a problem confined to the ecosystem - it is impacting business in Berlin as well. Given our globally connected economy, disruptions to intricate supply chains - including specialized agricultural products - have consequences felt by local companies. Many companies are more dependent on biodiversity than one might think. The production of their products require functional ecosystem services and the preservation of biodiversity to provide the resources and inputs they need. An internationally renowned study on "The Economics of Ecosystems and Biodiversity" has already proven the economic value and importance of biodiversity, which is among the many reasons why the Chamber of Commerce and Industry of Berlin is supporting the "Business and Biodiversity 2020" campaign in concert with their parent organization, the Association of German Chambers of Commerce and Industry. The German Federal State of Berlin has responded with and started making inroads with their Strategy for Biodiversity Preservation ("Strategie zur Biologischen Vielfalt"). Small, medium, and large enterprises are important partners as in many cases initial actionable measures can be implemented at a company's headquarters, offering important contributions to our work.

Companies in Berlin can make a leap in this field by protecting the environment, mitigating climate change, and improving their working conditions, thereby securing for themselves a sustainably competitive position in the market. These things often go together better than we would suspect. Let us take advantage of the opportunity.

Dr. Eric Schweitzer President of the Chamber of Commerce and Industry of Berlin



## Berlin Business and Biodiversity

- **■** Economic
- **■** Ecological
- Social

This guide is separated into four parts:

- 1. Development of Biodiversity on Company Premises
- 2. Together for Berlin's Biodiversity
- 3. Anchoring Biodiversity in Core Business Operations
- 4. Information for Alterations in Business

Supporting microhabitats for endangered species such as the Silver-washed Fritillary is possible for We are all concerned about the effects economic activity has on biodiversity and try to preserve it as much as possible. In the past, businesses have often engaged in financially supporting local, regional, and international projects for nature conservation. The goal of integrating biodiversity preservation into business management practices is new. It is, however, being adopted by more and more businesses as an important component of their overall management strategies.

## Arguments for Preserving Biodiversity

There are many reasons besides purely altruistic motives that convincingly draw attention to the importance of preserving biodiversity. Legal conflicts, ecological damage, and social conflicts continue to present certain risks to the supply chains of German companies. Scandals involving contaminated meat or produce containing pesticides are unfortunate examples of these disruptions. Compliance with environmental regulations in countries of origin and higher product standards in Germany are cornerstones for effective biodiversity preservation.



The guaranteed availability of bioresources - such as organic surfactants used in cosmetics and detergents, or natural bio-oils for lubricating machine parts – is a determinant factor in many branches of industry. Because of overuse and changing climate conditions, regional scarcities have already started to occasionally disrupt supply chains. Often raw materials from overseas can be replaced by other ingredients whose availability varies less than others. Some processing industries and large enterprises require their supplies uphold certain standards through sustainability certifications. Biodiversity is integrated as a measurable criterion in these certifications. For many companies in Berlin, biodiversity is therefore already a "Business Case" that is gaining more importance.

## Where Lies Risk, Also Lies Opportunit

There are many opportunities for biodiversity engagement. Companies that engage with this issue are resiliently prepared for possible changes to their supply chains or increasing expectations from their customers. A good image is becoming an increasingly important factor in a labor market where well educated employees are competing for work in companies that share their values. Linkages with civil society, ethical business practices, and a communications strategy that highlights their good performance significantly increase a company's marketability.

The proper communications strategy is an advantage for a company's public image. Having a good image plays a more important role in marketing than testimonials of a company's technical adeptness – something often taken as a given by its customers. That's why small businesses support conservation efforts and environmental education.

## Four "Aces" for Companies Engaged in Preserving and Promoting Biodiversity:

## 1 | Without ecosystem services, no industry can function...

...because businesses such as those in food production, pharmaceuticals, or the tourist industry require healthy and abundant biodiversity to provide and manufacture the goods and services they offer.

#### 2 | Cost savings...

...because a range of businesses, from hotels to waste disposal, can save money on energy, logistics, and maintenance when they integrate certain co-beneficial biodiversity measures.

...because larger companies like auto and machine manufactures can favorably position themselves to receive grants and credits by complying with biodiversity preservation criteria.

## 3 | Developing or securing markets...

...because businesses such as wood processers can clearly state the contribution they are making to preserving biodiversity when relying upon sustainably certified lumber suppliers.

...because companies and service providers that value and preserve biodiversity can secure and gain market advantages for themselves

...because businesses whose products and services receive extra scrutiny by their costumers – such as those in the in the beverage, cosmetic, and recreational industries – gain extra trust by demonstrating their responsibility to biodiversity.

...because the growing willingness to pay a premium for products that have a reduced impact on the environment is leading to market advantages vis-à-vis competitors who do not implement such measures.

## 4 | Promote corporate culture and innovation...

...because a stronger identity to the company improves the working climate and productivity while reducing fluctuations in employee staffing and making the company more attractive for highly qualified applicants.

...because company staff, management, and incumbents demand the development and integration of biodiversity preservation in the corporate philosophy.



Green corridors are desperately needed in Berlin for grasshoppers and other small animals.

# The Berlin Strategy for Biodiversity – A Challenge

#### **Biodiversity encompasses:**

- Diversity within a species (genetic diversity)
- Diversity between species (species diversity)
- Diversity of habitats and ecosystems

In March 2012, the Berlin Senate created and adopted the Berlin Strategy for Biodiversity Preservation. This strategy provides the foundations for fulfilling Berlin's part in the global responsibility to preserving biodiversity. Berlin-based businesses have the chance to play a special role and make value contributions to help achieve this important goal. By providing examples of certain activities and measures that a company can take and implement, this guide gives Berlin-based businesses the tools they need to courageously participate in preserving biodiversity.

## Why is Biodiversity Important and Why Do We Need a Strategy for Berlin?

In Berlin, 31% of native plant and animal species are endangered; 13% have already disappeared or are considered to have died out. The global picture does not look any better. Of 71,000 known plant and animal species, around 30% are endangered.\* According to estimates, up to 130 animal species go extinct every day, many of which, however, are still unknown. The causes for extinction are usually attributable to hu-

man activity that causes changes to habitats or habitat destruction. Biodiversity loss and habitat destruction also threatens the livelihoods of people as our survival is dependant on the ecosystem services they provide.

This was recognized as a global problem with the signing of the international Convention on Biological Diversity (CBD) during the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro. To date, 193 states and the European Union have all signed the treaty as members of the convention. Accordingly, Germany's government developed a national strategy for biodiversity preservation, upon which Berlin's strategy is based. In the "Berlin Strategy for Biodiversity Preservation", themes and goals are defined for how biodiversity can be best preserved and expanded in a modern metropolis. In order to implement these goals, new actors and participants need to be gained throughout the city. This includes improvements to local ecological systems achieved by greening company grounds and operations. A focus is placed on international economic connections.



| Endangered Species in Berlin  |                      |   |                                     |  |  |
|-------------------------------|----------------------|---|-------------------------------------|--|--|
| Example Group                 | Number<br>of Species | Number<br>of Species<br>on the Red List | Percent<br>of Endangered<br>Species |  |  |
| Algae                         | 27                   | 24                                      | 89 %                                |  |  |
| Vascular Plants               | 1.393                | 665                                     | 48 %                                |  |  |
| Mammals                       | 59                   | 26                                      | 44 %                                |  |  |
| Birds                         | 178                  | 71                                      | 40 %                                |  |  |
| Amphibians and Reptiles       | 21                   | 15                                      | 76 %                                |  |  |
| Beetles                       | 2.622                | 992                                     | 36 %                                |  |  |
| Butterflies                   | 983                  | 567                                     | 58 %                                |  |  |
| Bees and Wasps                | 664                  | 276                                     | 42 %                                |  |  |
| Dragonflies                   | 58                   | 30                                      | 52 %                                |  |  |
| Totals                        | 9.237                | 4.064                                   | 44 %                                |  |  |
| as of 2005 (next update 2015) |                      |   |                                     |  |  |

<sup>\*</sup> Source: International Union for Conservation of Nature and Natural Resources (IUNC)

By importing and investing abroad, Berlinbased companies influence the ecosystems, living conditions, and beloved natural spaces for people in regions throughout the world.





## Themes and Goals in the "Berlin Strategy for Biodiversity"

#### **Species and Habitats**

- Species diversity and responsibility for certain species
- Foreign species
- NATURE 2000-Habitats
- Preservation and development of habitats (goals 4 - 13)

## **Genetic Diversity**

- Regional diversity
- Preservation through use
- Regional plants
- Genetically modified organisms

## Left: The Common Red-start was found in abunstart was found in abundance around manufacturing and business centers 30 years ago, but is now highly endangered.

Right: Arid and semi-arid set-aside areas found around many manufac-turing locations are the perfects habitats for Eichium or blueweed. Standorte für den Nat-ternkopf.

#### **Urban Diversity**

- Typical urban species
- Urban wilderness development
- Urban gardens
- Green spaces
- Private gardens
- Biodiversity on Company Premises (goal 23)
- Street trees and landscaping
- Urban open spaces

#### Society

- Public building and procurement pro-
- Legal rules and planning frameworks
- Environmental education
- Research
- Nature experience
- **Economic Engagement** (goal 34 + 35)
- **Global Responsibility** (goal 36 + 37)
- Social engagement

The "Berlin Strategy for Biodiversity" identifies four thematic fields with 38 strategic goals.

To better understand the goals most relevant for Berlin-based businesses, please continue reading.

## Direct Goals of the "Berlin Strategy for Biodiversity"

## Goal 23: Biodiversity on Company Grounds

"In cooperation with local businesses, Berlin is creating incentives for increasing biodiversity on company grounds and buildings."

## Goal 34: Economic Engagement – Promoting Protection and Research

"Berlin-based companies are becoming increasingly involved in the promotion of projects for research and conservation of biodiversity in Berlin."

## Goal 35: Economic Engagement – Certification and Accounting

"In statements from Berlin-based companies contained in environment/sustainability reports, EMAS (Eco-Management and

Audit Scheme) certifications, and other established assessments/certifications (i.e. ISO 14001), the impacts that manufacturing and production techniques have on biodiversity are examined across a product's entire life-cycle."

## Goal 36: Global Responsibility - Foreign Investments.

"Berlin-based companies and credit institutions guarantee compliance with German and international environmental standards while also taking account of social standards."

## Goal 37: Global Responsibility – Environmentally and Socially Responsible Imports

"To help protect biodiversity in countriesof-origin, Berlin seeks to increase its share of imported goods and natural resources from socially and environmentally responsible sources."

Berlin is known for being a green metropolis and seeks to use its global reputation to help preserve biodiversity. View above Friedrichshain.



# Development of Biodiversity on Company Premises













## Greening of Company Premises – It's Worth It!

Plants should be selected with care and be fitting for the desired location.

Experiencing nature does not have to be limited to vacations and free time. It is possible to incorporate recreating natural spaces in the landscaping and construction of company grounds. This benefits biodiversity just as much as people – especially in congested areas such as Berlin. As the rule of thumb in marketing goes: the first impression sticks! By representing themselves with biodiverse, green company grounds, a company can exploit many opportunities that potentially add up to economic advantages.

## A Field of Indigenous Flowers in Place of an "English Lawn"

Fields of blooming flowers can add color to a company's grounds from spring into late summer. The conversion of a portion of lawn into a field with native plants does mean an initial investment, but this more than pays for itself after a few years through savings on maintenance costs and benefits to biodiversity. Even so little as native flower boards around walkways can be a magnet for butterflies and an attractive landscaping feature for customers and employees. Native wildflowers should be

primarily chosen for these site-specific projects as only they can provide the valuable biodiversity habitats sought by bees, butterflies, and other insects.

#### Trees for Birds and Squirrels

Throughout the year, trees offer a pleasant aesthetic, provide shade, and are the habitat and food source for numerous species. Birds use trees for their nests and perches. Other animals such as squirrels and bats also visit frequently. With careful arrangement, large green spaces can be nicely divided by rows of trees, providing employees and guests structured natural spaces where they can relax outdoors.

## Living Hedges Instead of Green Walls

Free-growing hedges from native wild shrubs offer ecological and financial advantages as opposed to manicured hedgerows. While the typical squared-off garden hedge needs to be pruned once to twice a year to keep it under control, a wild hedge only requires a snip every 10 to 20 years. Additionally, native plants are cheaper to plant and thrive in their native climates,

Wildflowers instead of lawns. Even small strips of nature provide food for bees and butterflies.



The installation of a biodiverse field of flowers costs comparatively same as that of a lawn: around  $8 ext{ € /m}^2$ . Considering the maintenance costs of cutting a lawn 10 times a year at  $2.50 ext{ € /m}^2$  to that of a field needing cutting only twice a year at  $0.60 ext{ € /m}^2$ , the installation costs of a field of native flowers will have paid for itself in around four years while saving the company a annual of  $1.90 ext{ € /m}^2$  (figures obtained from landscaping firms). For butterflies, bees, and bumblebees, the investment reaps benefits in the first year.



- Measures
- Installation of dry stone walls
- Plant native trees
- Plant wild shrubs
- Seed fields of wildflowers

limiting maintenance and the need for renewal. This obviously saves time and energy, and from an ecological perspective, free-growing hedges offer many benefits.

- They offer a complex habitat for a variety of animal species.
- They provide a shield from the wind and a visual screen.
- Aesthetic value from added landscape color with flowers in spring and bright leaves in the fall.
- Hedges filter dust, dirt, and harmful emissions from the air.

Hedges created with native shrubs therefore provide a huge plus for biodiversity where there is sufficient space for them. For areas with limited space, there are also native shrubs available that do not grow as tall as others and require less clipping. Yew and privet trees are such shrubs, and although they only growing to a height of 1 to 1.5 meters (3 to 5 feet), they still offer plenty of places for birds to perch or hide from predators.

## **Dry Stone Walls**

Walls constructed out of loose stone without the use of mortar can enrich the greening of any company's grounds. These walls can support a ledge or a mound and also differentiate or section off large open spaces. Ideally, dry walls should be constructed facing the south, that way the gaps and openings in between the stones can provide habitats for a diverse array of succulent plants and rare animals such as the slowworm and sand lizard.



Above: Large campuses can be developed into valuable natural habitats that are more cost effective than traditional landscaping techniques.

Below: Squirrels indicate the presence of natural structures around company grounds.

## Greeted with a Green Smile

- Measures
- Greening of entryways
- Inform visitors of green measures

An accommodating reception and green entryways can act as a welcoming advertisement for many companies. Converting these areas into natural spaces supports the image of a company that voluntarily takes responsibility in matters beyond its core function. The company thereby actively engages in preserving biodiversity while awakening interest in the environment and sustainable management. Information placards are one way of highlighting the green features of the company grounds and the services they provide. Having positioned itself in such a way, a company can serve as a role model for others and more easily integrate in its surroundings.

Green entryways to buildings offer visitors a friendly impression in both the summer and In the driveways and around entryways, it is important to carefully select landscaping features that will look appealing throughout all seasons.



- For limited spaces, a green or "living wall" can make a strong first impression.
- For narrow entryways, a mixture of perennials can be planted that bloom throughout the spring and summer. Combined with a dry stone wall constructed without mortar, these offer habitats for a variety of small animal life.
- Ponds are an eye catcher all year round because aquatic plants like purple loosestrife and water lilies stay alive and green even in the winter. Dragonflies and other insects are frequently observable visitors from March to November.
- Large empty spaces can be seeded with native wildflower varieties that can be found for any location. Many different small animals find a cozy habitat in these fields which maintain their appealing green structure even in the winter months. Butterflies, bees, and others find comfort here into the late fall.
- Green islands with flowering, fruit bearing native shrubs are visually pleasing and serve as important habitats and food sources for many insects and their larva. Birds enjoy a harvest of berries in the winter.
- Fruit trees are attractive for the same reasons: they canvas the visual field with bright booming flowers in spring and yield delicious fruit in the summer and fall. Orchards occupy an important role as habitats for a large number of animals that include the green woodpecker.

Many landscape and gardening companies have therefore started implementing these ecoscaping, naturescaping, or nature sensitive techniques. A list of native plants can be found in this guide under the "Plants for Berlin" section.

## Parking Lots – Attractive for Visitors

Private asphalt entryways and parking lots often cover large sections of a company's grounds. To the advantage of conserving water and providing new open spaces to plants and small animals, parking lots can be slightly changed by partially exposing certain sections of them.

Outside of Berlin's water protection zone, it is possible to undergo a complete or partial resurfacing of parking lots, converting them into green spaces.

- With new or converted parking lots, materials such as water permeable pavement and cobblestones allow rainfall to trickle down to underground water tables instead of running off into the municipal drainage system.
- Light traffic areas such as pathways are unbound (i.e. constructed without the use of mortar or joint sealers) and marked with lawn stones or grass.
- Unused areas of the parking lot that are sealed with pavement should be completely exposed, landscaped with native plants, and ideally constructed at an angle to allow rain runoff from the parking lot to water the vegetation and trickle into subterranean water tables.

#### A Green Canopy for Cool Cars

Exposed spaces around parking lots can be planted with trees for shade, making cars more comfortable in hot months and the appearance of the parking lot more appealing. Trees can reduce solar radiation up to 90%, providing a significantly more comfortable climate under the shade of their protective leaves. To be effective, a tree should have a space of at least 4 square meters (13 square feet). The area under the canopy can be planted with appealing wildflowers and perennials, offer-

## Native Trees Suitable for Parking Lots

- Beech (Fagus sylvatica)
- Field Maple (Acer campestre)
- Hornbeam (Carpinus betulus)
- English or French Oak (Quercus robur)
- Elm (Ulmus glabra)

Linden trees and birch are not fitting as shade trees in parking lots as they cause significant organic messes during certain seasons. Observe the instructions for using native species.

ing additional splashes of natural color to the visual spectrum of visitors and passersby. Butterflies and other insects are also pleased to find sources of food here.

- **✓** *Measures*
- Expose surfaces of concrete parking lots and ecoscape
- Install rainwater catchment systems
- Canopy parking lots with trees

Parking lots that vary in design are visually rel axing, provide microhabitats for insects, and aid with stormwater management.



## Native Plants for Butterflies and many Others



Use native plants for open spaces



Sloes and native plants are food sources for bees and other insects.

In the design and restructuring of open spaces, native plants should be preferred because they play an important role in the food chain while also providing many small animals with a habitat. Native trees and shrubs are adapted to the climate and rugged enough to withstand even harsh winters. They do not require fertilizers or pesticides and are therefore easy to clean and affordable to maintain. However, you do need to pay attention to eventual size, shape, and habitat requirements of the plants you chose.

#### **Better Native Than Exotic**

The flora and fauna in Berlin have jointly developed and adapted to each other.



Up to 25 different species of butterflies set their eggs on sloes, hawthorn, and blackberry bushes. The caterpillars that eventually hatch are dependent upon these habitats. There is an additional 100 species of moths that survive the same way. Non-native trees and shrubs can provide flowers and nectar for most adult butterflies. The calyxes of some exotic flowering plants are too deep for native butterflies, depriving peacock butterflies and others of their nectar. The fruits of non-native plants feed only about four species of birds while native woody plants provide food sources for over twenty different species.

Trees and shrubs with red or bright yellow foliage may be interesting from a landscape design perspective, but are not suitable for insects. Small organisms do not recognize them as food because of their unusual color and the green camouflage used by caterpillar cocoons is ineffective against red and yellow backgrounds, making them easy prey for birds. Under no circumstances should fast-propagating plants be used such as the Canada goldenrod, Japanese knotweed, or giant hogweed. They are invasive species that displace native plants. As the situation currently stands, their spread is already almost impossible to prevent.

Exceptions prove the rule as there are a also a few non-native plants that can be used without causing negative affects. Quite the opposite: lavender and summer lilac or butterfly-bush attract swarms of biodiversity in the summer months.

#### **Plant List**

In the guide "Plants for Berlin - Using Native Species", a complete catalogue of plants is provided according to regional suitability and recommends for suggested uses.

#### Suggested Plants:

#### Small to Medium Sized Trees:

- Field maple (Acer campestre)
- Mountain ash (Sorbus aucuparia)
- Willow (Salix caprea)

### Large Trees:

- Hornbeam (Carpinus betulus)
- Small-leaved linden (Tilia cordata)
- Wych elm or Scots elm (Ulmus glabra)
- Silver birch or warty birch (Betula pendula)
- Beech (Fagus sylvatica)
- English or French oak (Quercus robur)
- Sessile oak (Quercus petraea)
- Black alder (Alnus glutinosa)
- Scots pine (Pinus sylvestris)

#### **Bushes:**

- Blackthorn or sloe (Prunus spinosa)
- Elderberry (Sambucus niger)
- Guelder rose (Viburnum opulus)

- Common spindle (Euonymus europaea)
- Common dogwood (Cornus sanguinea)
- Common hazel (Corylus avellana)
- Buckthorn (Rhamnus cathartica)
- Alder buckthorn (Frangula alnus)
- Dog rose (Rosa canina)

## Shrubs and Ground Cover:

- Yarrow (Achillea millefolium)
- Marsh bedstraw (Geranium palustre)
- Thimbleweed (Anemone nemorosa)
- Lily of the valley (Convallaria majalis)
- Meadow sage (Salvia pratensis)
- Vetch (Vinca cracca)
- Maiden pink (Dianthus deltoides)

#### "Wallflowers":

- Mossy stonecrop (Sedum acre)
- Orphan John (Sedum maximum)
- Lemon Thyme (Thymus pulegioides)
- Creeping thyme (Thymus serpyllum)
- Blueweed (Echium vulgare)



Perennials such as the Viper's Bugloss attract many butterflies and other insects.

# Fire-Bellied Toads and Sand Lizards in the Urban Jungle

Berlin supports a diversity of habitats both inside and outside of the city center. Many of these green and open spaces are interconnected, but some still remain isolated islands in densely populated urban areas. Linking these habitats – or the "biotope network" – is important to prevent animals from being isolated and to help plants thrive. This means connecting the city center with natural habitats on its outskirts.

Only sufficiently large populations of the same plant or animal species can survive with any sort of guarantee, which is why breeding pairs must be able to locate each other. Existing open spaces are therefore being connected to form a habitat network. Green premises can be prepared by taking small measures to support this network system. Animals and plants should be able to reach these areas without problems.

#### Berlin's Green Infrastructure

In their requirements to adapt the biotope network as part of the city's "green infrastructure" in the coming years, Berlin has included 34 species of plant and animal life – representing most of the biodiversity found within the city limits. Species such as the red-bellied toad regularly move between spawning grounds and terrestrial habitats in the spring and autumn. Walls and gravel areas serve as the habitats for sand lizards that use railway embankments as migratory pathways.

Small openings in these enclosures are already helping animals access their habitats. Even small scale natural structures such as hedges, ditches, or strips of wild flowers are easily incorporated in the planning of commercial and industrial areas and can connect isolated habitats as corridors or step-stones. Placing shrubs along





property boundaries, sowing wild herbs and flowers around recreational areas, and allowing rainwater to collect in low lying areas are all techniques that help provided habitats for a variety of species.

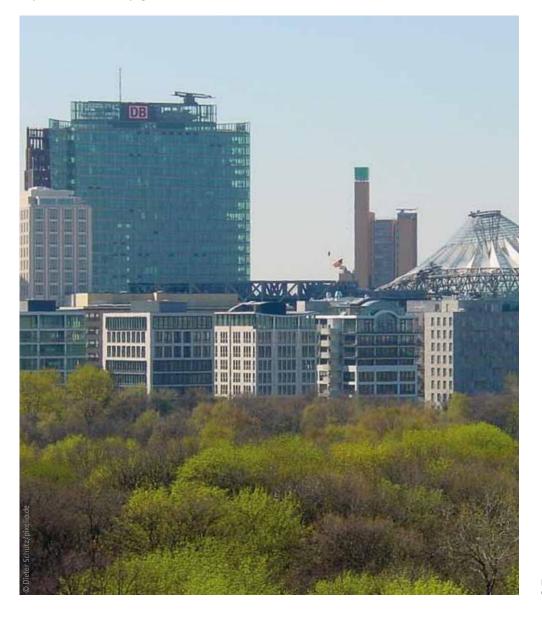
## Together for the Biotope Network of Open Spaces

Dry areas that are kept open offer a particularly good habitat for many animals and plants in the big city. They can take advantage of the higher temperatures in the city. There are many good chances to cre-

ate valuable habitats around little-used areas of corporate and manufacturing campuses. The Berlin Senate Department for Urban Development and Environment offers extensive pragmatic planning aids. A look at biotope type mapping enables the recognition of nearby habitats and protected areas, creating targeted operational measure that adapt to species in the biotope network. Through the joint activities of several companies within a commercial zone, a green network of ecological and aesthetic value can be created.



- Adapt measures to targetspecies in the biotope network
- Reduce over-maintenance of open spaces
- Construct passageways or corridors for small animals in walls and embankments
- Add native shrubs and hedges to edges
- Plant wild flowers in open spaces
- Enable the collection of water in seasonal ponds



Berlin's Tiergarten is part of its biotope network

## Living Space for Animals

## Measures

- Construct habitats for insects
- Set up birdhouses
- Install bat boxes
- Leave leaf piles for winter shelters
- Build up stone piles
- Leave fallen/dead trees in place



Be sure that old trees do not endanger traffic.

Insect hotels are nice features and important breeding grounds for many small animals.

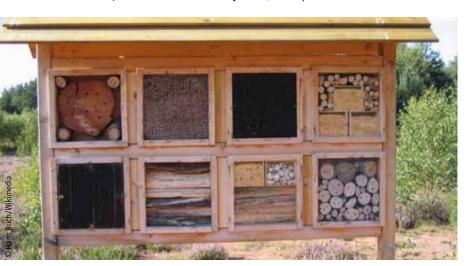
Biodiversity thrives in the presence of diverse habitats and biotopes that include microhabitats and niches which provide homes for animals. Unfortunately, such habitats tend to be scarce in cities, but with a little money and effort, attractive living spaces for insects, lizards, Carabid beetles, and small animals can be created on company grounds. There is almost always space for the construction of these habitats.

## Stone Piles and Walls as Microhabitats

Small animals usually have low demands for habitat sizes. Living spaces for wildlife can therefore be constructed with little effort by piling up old bricks, rocks, or neatly stacking sandstone and granite blocks, as done at Berlin's Nordbahnhof. These structures can be used when designing an outdoor area to develop a relief. Handcrafted multifunctional objects act as a focal point at entryways. Such structures serve as valuable habitats for small mammals, lizards, and beetles which nestle in these ecologically upgraded areas.

## "Shelter" for Insects and Other Small Animals

Wild bees are the peaceful relatives of honey bees, 243 species of which live in Berlin.



The cracks and holes of "insect hotels" are used by solitary bee species for rearing their young and winter hibernation. These bees can be observed with the first rays of sunshine in March. Depending on their preference, companies can decide upon constructing a multi-storey insect paradise, insect-friendly sculptures, or simple wooden blocks with holes. The wild bees themselves do not have much of a preference and take advantage of any such structure. A small sign with information about the otherwise neglected animals in addition to the insect-friendly facilities opens the employees' visibility to these new miniature worlds. The ideal location for constructing these new wild bee habitats is a sunny spot that is sheltered from the wind and rain. These are important considerations when constructing safe habitats for bees to raise their young.

#### **Nesting Boxes for Every Situation**

There are many various nesting boxes, bat boxes, and hedgehog houses available for purchase in stores and on the internet. There are do-it-yourself options for constructing nesting boxes as well, with many designs available online. In ideal cases, doing "nothing" can be one of the best actions as old bark and dead trees that are left to naturally decompose offer many insects a habitat while providing woodpeckers and other bird species an abundant and essential food source. Other bird species use tree groves and decaying trees as nesting grounds while hedgehogs like to nestle under piles of leaves for their winter hibernation. Without disrupting visual aesthetics, these fallen trees and piles of leaves can be kept in out-of-sight locations while still providing animals with peaceful winter quarters.

# Nature Also Enjoys Healing at the Hospital Queen Elisabeth Herzberge

The Protestant Queen Elisabeth Herzberg Hospital (KEH) lies in the middle of the Herzberg Public Park in Berlin-Lichtenberg. Roughly 80% of this nearly 100 hectares (250 acres) large park is used and maintained by the hospital. Six natural pastures, a forested biotope, and two glades all connect to form a living mosaic. With this background, the park applied for status as a protected landscape in 2013.

The KEH integrates biodiversity as part of their business model because the medical staff there understand the important role green trees and chirping birds play in their patients' healing processes. The doctors and management have been preserving its natural surroundings throughout the hospital's variable 120 year long history. Without any public support, the hospital in Berlin's eastern Lichtenberg district was a natural jewel since its opening in 1893. Wetlands covered the grounds with valuable aquatic habitats that supported sensitive amphibians such as the crested newt and green toad. In the woody areas, hawfinches, short-toed treecreepers, and nightingales found ideal breeding grounds. Five birds of prey species can be seen during the breeding season: the common buzzard, goshawk, sparrowhawk, kestrel, and peregrine falcon.

For years, applied ecology has been an integral part of education in the nursing profession at the KEH. The program includes lectures and guided tours around the natural areas. Trainees receive information on the ecological landscaping of the area and how this is important for preserving biodiversity. The city district authority in which the KEH is located supports this activity with various improvements to the landscape and its natural systems that include uncovering paved areas, canal restoration, relocation of subterranean heating pipes,

and the creation of pastureland for sheep. Trainees learn about the ecological framework of the KEH during these guided tours, creating an interest among the next generation of staff and administration to continue practicing biodiversity management.



www.keh-berlin.de www.edke.de

"Since we've been incorporating our staff into biodiversity activities, they've all participated enthusiastically."

Dr. Henry Hahnke, Office of Green IT ⊕ Ecology, Queen Elisabeth Hospital

Two nature conservation projects were implemented by the hospital:

- Around 70 birdhouses and nesting compartments were constructed for various native bird and bat species. Some of these are directly visible to patients, visitors, and staff, providing them the relaxing opportunity to watch and listen to the sounds of nature.
- During a survey of the area's approximate 5,000 trees, the ages and species of roughly 3,500 of them were recorded. The project will finish its survey in the future. A special feature of this project is the availability of all data on an interactive website accessible here: www.edke.de.

Dozens of birdhouses and enclaves in the walls are the nurseries for blackbirds and others.



## Ponds – Good for Nature and Stormwater Management

Detailed information on the greening of buildings and passive cooling systems are provided by the Senate Department for Urban Development and the Environment in an additional guide.



Heavily vegetated ponds provide habitats in densely populated areas.

Ponds and aquatic features have an important ecological role to play in addition to improving the visual aesthetics of a company's grounds. Depending on their size, they can also be integrated into a sustainable rainwater management system and stormwater control.

## Elegant Solution: Aquatic Biotopes and Water Systems

Rainwater management has changed significantly in the past few years. As opposed to channeling rainwater into canals and storm drains as quickly as possible, today processes that integrate sustainable stormwater management are being preferred. Stormwater management means rainwater storage and use, green roofs, decentralized processes, and the integration of these systems into recreational areas. Naturally constructed ponds with bounties of aquatic and shore vegetation thereby play a dual role for biodiversity and people who enjoy these relaxing spots. Aquatic areas create many new habitats for plants

and animals. As rainwater retention basins, ponds relieve the hydraulic burden on storm drains and reduce leaching of harmful substances into canals that feed into larger bodies of natural water such as rivers, lakes, and oceans. They also provide flood protection and reduce the cost of maintaining central water drainage systems.

#### Lots of Life with a Little Water

The effect bodies of water have on biodiversity significantly increases with their size. However, even small eight square meter (26 square feet) ponds with a minimum depth of half a meter (1.5 feet) are sufficient to create a stable biodiversity community. Dragonflies hover over the mini-wetland while amphibians and water beetles move around the water. Fish and countless aquatic invertebrates inhabit the water. Birds come to the pond to drink and feed on the small insects there. Last but not least, company staff and visitors will enjoy this green oasis as well.



## **Tips for Planning a Pond:**

- Deciduous trees should be kept away from the pond. When their leaves fall in the water, they can cause nutrient spikes and algae blooms. Sunlight, moreover, is good for aquatic life.
- Naturally constructed ponds should be preferred over concrete-lined basins. Existing concrete ponds can be easily converted and ecologically enhanced.
- Aquatic plants can be densely placed around the pond's rim, broken up occasionally with small stone-lined entryways for animals to access the water. If necessary, the shore's edges can be stabilized with natural-looking stone gabions.
- Stocking the pond with goldfish and carp usually has negative effects on biodiversity as these species decimate dragonfly larvae and tadpole populations. The Berlin Fisheries Office (Fischereiamt) can offer advice on alternative fish species if desired.



#### **Reduce Costs of Rainwater:**

Sustainable rainwater management saves your company operating costs. Even during strong storms, rainwater that falls on the company's premises or surface areas (e.g. rooftops) will be naturally captured, used, evaporated, or allowed to seep into water tables wherever possible. The living layer of soil in constructed ponds containing reeds and cattails functions as a natural filter for the water.



- Construct ponds and aquatic habitats
- Create relaxing recreational
- Enable diverse uses for rainwater



Above: The presence of dragonflies indicates a healthy pond.

Below: Stormwater man-agement at Potsdamer Platz.

## Rainwater Management -**Lowering Operational Costs**

## **▼** Measures

- Create plans for possible rainwater management systems
- Consider rainwater management systems while developing construction plans or renovations

Please note water quality recommendations given by the Berliner Wasserbetriebe (Berlins water authority) before repurposing rainwater.

drained base. (BWB, ABE 12/2013)

Fewer sealed surface areas and localized rainwater retention are important principles in sustainable green building. Old construction techniques implemented the use of many impermeable surface areas, channeling rainwater into storm drains. This practice ultimately upsets ecological balances and water cycles, prohibits the recharging of underground water tables, and reduces the evaporative cooling effect on the city's microclimate. During strong rains, aquatic plant and animal life in rivers, lakes, and other natural bodies of water can be severely compromised by the city's chemical runoff.

Depending upon local conditions, there are workable solutions for reducing this runoff by unsealing concrete surfaces, reducing the burden on centralized stormwater management infrastructure, and implementing ecologically-friendly solutions for retaining and repurposing rainwater.

### **Retaining Rainwater and Creating** Microhabitats

Rainwater from roofs and paved surfaces is allowed to seep into the living soil in many commercial areas outside of Berlin's water protection zone. Areas where rainwater is allowed to percolate into the soil provide

Areas paved or cobbled with lawn paving blocks or special types of materials, [...] are areas not included in the calculation of the rainwater disposal fee. With green roofs, 50% of the surface area is deducted in calculating the fee for rainwater disposal. The stormwater fee is currently € 1.825/m<sup>2</sup> of the ideal living conditions to biodiversity. The following methods are suggested for implementation:

- Surface Infiltration: Large, natural green areas where rainwater is allowed to percolate on a long-term basis. Such areas are ecologically enhanced and develop into seasonal wetlands. They offer habitats to rare migratory species throughout the year. Surface infiltration is recommended for areas with well draining soil.
- Trench Seepage: Large fields not permitting, rainwater can be collected in naturally constructed trenches where aguatic and semi-aguatic plants can help soak up the water during rainy seasons while also providing microhabitats for many insects.
- Trench-Swale-Seepage: When the soil structure does not permit water seepage, water absorbing swale is constructed under the trench. Swales are constructed out of rock particles and buried under the soil. The trenches are landscaped the same as with trench seepage systems.

### Repurpose Rainwater for Commercial Use

Rain water is collected in tanks and used for different applications. Buffer tanks are commonly used for water storage cisterns. Uncontaminated rainwater can be used for irrigating gardens and green spaces. Rainwater has no dissolved calcium and is therefore "soft water". As such, it can be used in commercial production, for cleaning applications, in building cooling systems, or as grey water for toilets.



## IGG Malzfabrik mbH – An Industrial Monument Goes Green

The Malzfabrik in Berlin-Schöneberg is an industrial monument characterized by creativity, culture, and sustainability. The IGG Malzfabrik mbH is a real estate development company with a sustainable development strategy that transformed this place into a vibrant green island in which sustainable events find their home in the old offices, studios, and manufacturing areas that distinguish this historical urban industrial site.

The restoration and conversion of 15,000 m² of industrial wasteland, that includes the creation of a wetland, has increased CO₂ capturing and storage capacity while providing habitats for regional biodiversity. The area is covered with native and partially endangered species of plants, thus creating a space to experience nature within the city. The 900 m²-large roof of the NEXT building has an extensive green roof that cleans dust and pollutants out of the air, improves the energy balance of the building, and offers a habitat for plants and small animals as an ecological buffer zone.

These measures are two of the many "green steps" the company has taken as part of its plans for the future. In its mission to construct a sustainable and environmentally friendly and energy efficient

office and living space for its tenants and business partners, the company seeks to harmonize ecological, economic, and social factors. As part of these plans, their rainwater management system will be optimized to the benefit of natural and economic considerations. In the future, rainwater from 27,000 m² of roof and paved surface area will be collected in retention ponds that also serve as valuable aquatic habitats.

## nnalzfabrik

www.malzfabrik.de

"Our mission is to convert the company grounds using sustainable and environmentally-friendly construction techniques. This impacts not only the daily operations in our office space with improved energy efficiently but also influences our tenants and partners who we actively advise in such matters."

Frank Sippel, Head Manager, IGG Malzfabrik mbH



The commitment is worth it!
The Malzfabrik won the 2011
"Berlin Environmental Prize",
provided by Friends of the
Earth Berlin (BUND Berlin),
for its sustainable real estate
development strategy and the
2012 "Location Award" for its
innovation in sustainability.

stone for the integrated rainwater management strategy at the IGG Malzfahrik mbH.



## On the Roofs of Berlin

Because of their favorable effect on water, soil, microclimates and biodiversity, green roofs are recognized as fundamental compensatory measures for conserving nature in developed areas. Green roofs have advantages for rainwater retention, city microclimates, aesthetic values, and air filtration/purification. Green roofs enhance the visual effect of a building while providing space for recreational activity and relaxation. They also have an economic advantage by lowering energy requirements for cooling and prolonging the life and limiting the maintenance requirements of the roof. Above all, they provide ideal habitats for over 100 plant and animal species.

## Green Roofs for Office Buildings, Industrial Hangers, and Shopping Centers

Conventional flat roofs can be converted into green roofs, thereby lowing long-term maintenance costs. Slanted roofs can be tested for suitability of a green roof conversion. The construction of a green roof consists of an insulating layer, a waterproofing membrane, a root barrier, and water storage capacities, topped off with the placement of a substrate layer. The construction is handled by an experienced company. Materials and construction methods have been developing and improving throughout the 40-year history of green roofs. In Berlin alone, 65,000 m² of green roofs have been constructed between 1983 and 1996.

An extensive green roof can also be combined with a solar installation. The evaporative cooling effect of the green roof lowers the temperature of solar modules and improves their efficiency.



Depending on the construction and planned use of the space, one can prefer extensive or intensive green roofs. Intensive green roofs have a substrate layer of 20 to 40 cm (8 to 15 in) and can be turned into significant gardens, supporting larger plants like perennials, shrubs, and bushes. Depending on the amount of vegetation, intensive green roofs also have to be watered and maintained accordingly. The care is worth it, however, as intensive green roofs have the extra advantage of being accessible to company staff who want to enjoy of their recreational qualities or relax on benches during breaks.

## Less Maintenance Required for Green Roofs

Most green roofs in Berlin are extensive green roofs, which means they have the advantage of not needing to be irrigated or watered. It is becoming common practice to water visible areas of the roof with collected rainwater. The 6 to 20 cm (2 to 8 in) thick substrate layer is planted and seeded with drought resistant grasses, herbs, and succulents. The roof should be inspected twice a year to make sure that tree seeds transported by the wind or birds have not sprouted into saplings that could damage the roof's root barrier as they grow. Biodiversity benefits greatly from the presence of extensive green roofs which, function like natural calcareous grasslands (dry and nutrient-poor regions in the countryside).

## Biodiversity on Various Types of Flat Roofs\*

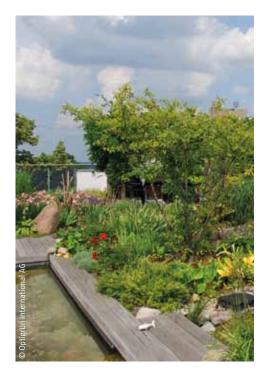
|                       | Plant<br>Types | Animal<br>Types |
|-----------------------|----------------|-----------------|
| Gravel Roof           | 12             | 7               |
| Extensive Green Roof  | 53             | 36              |
| Intensive Green Roof  | 43-57          | 30              |
| * see Zimmermann 1987 |                |                 |

### **Advantages of Green Roofs**

- Conventional roof surfaces experience temperature fluxes up to 50°C (122°F), contend with UV rays, and are subject to mechanical troubles. Green roofs protect against this, prolonging the life of the roof.
- Green roofs have an insulation efficiency of up to 10%. With this additional insulation, energy costs can be noticeably reduced.
- Green roofs dampen noise in the city, absorbing sound, reducing echoes, and making it quieter inside the building.
- Under a green roof, summer temperatures fluctuate by only 10°C (50°F), lowering the heat load for cooling the building by up to 60%.
- Green roofs can host a variety of functions to include roof-top restaurants and recreational activities.
- Depending on the construction of the substrate, 50-90% of rainwater is retained, evaporates, or slowly runs off the roof surface.
- Green roofs lower the temperature of a city's microclimate in the summer by evaporation and solar absorption.
- Plants sustainably improve air quality by filtering dust and pollutants. Nitrates and other damaging particles are absorbed and converted by the plants.
- Green roofs and parking garages add value to the cityscape, harmonizing its skyline with the natural landscape.

#### **Green Roofs are a Money Saver**

Converting a conventional gravel roof into a green or living roof provides an immediate benefit to nature and a long-term financial benefit to the investor. The German Green Roof Association (Deutsche Dachgärtner Verband) precisely calculated these cost savings in their "Leitfaden Dachbegrünung für Kommunen" guide. The table below summarizes these cost-savings. For a 100 m<sup>2</sup> (330 ft<sup>2</sup>) extensive green roof, savings of up to 15% can be attained.



## **✓** *Measures*

- Convert gravel roofs to green roofs
- Integrate green roofs into reconstruction plans

The stormwater fee in Berlin is € 1,825/m² of drained surface. For green roof areas, only 50% of the respective base is included in the calculation of the fee for the rainwater disposal. (BWB ABE Stand 12/2013)

Intensive green roofs such as this one at the Wiegmann Clinic's on the Westend-Area are eyecatching spots to relax and provide valuable habitats for many animals in urban spaces

#### **Cost Comparison of Various Flat Roofs Extensive Green Gravel Roof** Roof **Upfront Cost** Construction 3.000 € 1.000 € (10 €/m<sup>2</sup>) (30 €/m<sup>2</sup>) Completion Care 100€ Restoration after 20 Years\* 2.500 € Restoration after 40 Years\* 1.700 € 1.100 € **Total Upfront Cost** 4.800€ 4.600 € **Yearly Costs** Maintenance and Upkeep 1.100 € 600€ (0,50 €/m<sup>2</sup>) (0,25 €/m<sup>2</sup>) Rainwater Taxes 2.100 € 4.200 € (1,84 €/m<sup>2</sup>) $(0,92 \in /m^2)$ Sum of Yearly Costs 3.200€ 4.800€ **Total Costs** 8.000€ 9.400€ \* with discount factor

## Green Facades - More Habitats for City Birds

The plant systems should be carefully considered in the initial planning phases.

Modern and Ecological: A trellised green facade at the Humboldt University in Aldershof. In the congested city, there are often only a few possibilities for dual-purposing commercial spaces for ecological uses. The lack of open spaces and the high price of real estate leave little room for urban nature spaces. Even trees suffer from cramped conditions on many streets. Green facades, however, offer alternative "horizontal green spaces" that improve living conditions in the city in addition to providing safe habitats for many birds and small animals, increasing a building's energy efficiency, and creating a valuable marketing image for a company.

#### **State of the Art: Living Walls**

Trellised buildings with planter filled balconies and outcropping architectural features were "en vogue" in the 1980's. A current architectural trend becoming popular in modern buildings and cities are green walls that contain dozens of niches where

plants can grow. Filled with a growth medium for supporting plants, when planned correctly, these living walls can provide habitats for a bounty of biodiversity. Living walls need to be maintained to keep up their image, providing people an improved quality of life in return.

### Keep cool with green walls

Lush green facades provide habitats for numerous bird species. Blackbirds, robins, wrens, black redstarts, and finches feel at home here. Nesting boxes can be added to the facade greenery for titmice. The facade vegetation also has a cooling effect on the microclimate in and around the buildings and helps mitigate the effects of seasonal temperature variations. When the leaves fall in autumn, the sun heats the compartments behind the wall. In summer, the foliage shades the facade, and evaporative cooling reduces the heat in the rooms be-



hind the wall. Air conditioning is rarely needed, adding up to energy savings for the building.

#### **Plants for Every Wall**

Facades can be greened with climbing plants that are rooted in the ground. For a

Native plants are ecologically more valuable than imported plants because they benefit a wider variety of species. In Germany, native species grow naturally in the forest and enjoy partial shade (east or north side), making them unsuitable for sunny southern facing facades. These surfaces therefore require the use of non-native plants. Ivy and Virginia creeper are climbers that grow without trellises, but must be trimmed regularly. All other species require trellises.

#### **Native Species**

Common Honeysuckle
(Lonicera periclymenum/L. xylosteum)
Old Man's Beard (Clematis vitalba)
English Ivy (Hedera helix)
Hop (Humulus lupus)
Common Grape
(Vitis vinifera subsp. sylvestris)

#### **Non-Native Plants**

Virginia Creeper (Parthenocissus spp.)
Pipevine (Aristolochia macrophylla)
Clematis (verschiedene Zuchtformen)
Russian Vine or Bukhara Fleeceflower
(Polygonum aubertii)
Japanese Wisteria (Wisteria floribunda)
Climbing Hydrangea
(Hydrangea petiolaris)
Trumpet Vine (Campsis radicans)
Japanese Rose (Rosa multiflora)
Grape Vine (Vitis vinifera)
Honeysuckle (Lonicera spp.)

living wall, sufficient root space and a reliable water supply are required. Some plants require permanent trellises. Depending on the plant, ropes, rods, grids, or networks constructed from different materials can be used. Stainless steel is usually chosen, but structural steel can also provide visually interesting effects after a layer of red rust forms over the surface. It is important to keep the structure at a sufficient distance from the building wall as some plants develop strong woody stems after several years. Newly developed systems are gaining a strong presence in the market and can be integrated as architectural elements.



Measures

- Convert facade to living wall
- Incorporate green walls in construction plans

A green wall addition can be integrated into existing plans without much effort. Inquire with your horticultural farm or landscaping firm about suitable plants for your building and request a maintenance plan.





# Making Glass Windows and Facades Bird-Friendly

## **✓** *Measures*

- Use bird-friendly construction and architecture
- Avoid woody vegetation in the vicinity of (big) glass windows
- Refit glass facades and windows bird-friendly

The Ornithological guide from Sempach, Switzerland, offers valuable tips.

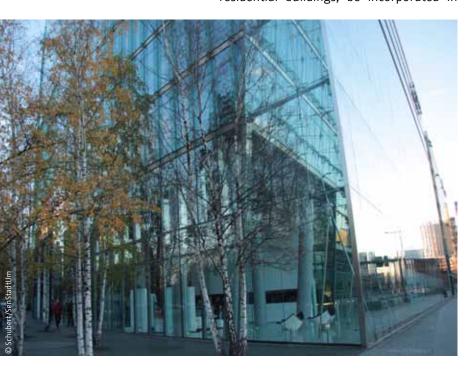


Glass facades dominate the skylines of modern cities. The Sony Center and various other buildings in Berlin also try to integrate transparency into their grass structures, avoiding the look of a concrete jungle. Unfortunately, birds can not perceive these huge glass facades as obstacles, and just as they do with windows, birds fly into them, usually resulting in death.

Glass facades and glass panes near areas of vegetation (trees, shrubs, flowers) are the biggest traps. Especially in urban areas, birds frequently collide with windows. In Berlin, along with common species of birds, rare birds such as the kingfisher, woodcock, and hawks also have deadly accidents. The building or facility management should seek advice concerning whether bird collisions are a problem in their location.

## Preventive Architecture with Bird-Friendly Measures

Bird-friendly architecture should, as with residential buildings, be incorporated in



the initial planning of commercial buildings, making obstacles visible to birds and preventing collisions. Glass connecting structures between buildings, glass corner constructions, reflective or transparent facades in vegetated areas, and freestanding glass walls are particularly dangerous. The glass industry offers a wide variety of patterns that can be factory-printed on windows, making these surfaces visible and avoidable for birds.

## Protecting Birds with Subsequent Measures

The expensive and complex process of retrofitting buildings to make them bird-friendly can be avoided with good planning. The widespread use of black stickers in the shapes of birds of prey is a completely ineffective solution, however. It is important to make the critical glass panes visible as obstacles. Possible solutions include:

- Vertical stripes 1-2 cm, with a max. 10 cm (horizontal, up to 5 cm.) space between one another are attached to the outside surface of the glass, acting as an optical grid for the birds.
- Bright blinds, roller shutters, curtains, cord tapes, foil, tape, strip curtains, and louvers can reduce window transparency and slightly reduce reflections.
- Colored decorations or colorful water soluble children's finger paintings combine bird protection with creativity.
- Company logos, window decorations, decorative sprays, and window colors transform glass panes into advertising space.
- Grilles, mosquito nets, coarse mesh, thick grids, and perforated plates are optical barriers.

Reflective glass facades near trees are dangerous for birds.

# Save Insects and Cut Costs – The Proper Lighting

Berlin shines with bright colors even in the night. The lighting of buildings and outdoor areas has become an essential means to present a business to the public and ensure a friendly environment for customers and staff. Adhering to legal safety standards is also a consideration. Consequently, our cities have become so bright that many people miss the darkness. The theme of light pollution has become a topic of discussion among scientists and experts on the matter.

#### **Traps for Nocturnal Insects**

There are many various nocturnal flying insects. These include mayflies, stoneflies, caddisflies and nocturnal butterflies. They all represent important links in the food chain, serving as meals for birds and bats.

Insects see differently than people. Many insects are particularly sensitive to the blue/ultraviolet color spectrum. Thus, they are irresistibly attracted to common lighting features that intensely emit light in this spectrum. These include mercury and halogen metal vapor lamps. Anyone who has

#### **Easily Implementable Measures:**

- Select lights with the lowest possible blue and ultraviolet spectrums.
- Only use as much lighting as is required.
- Dim lighting as much as possible, control it with motion sensors, or shut them off at late hours in the evening.
- Wherever permitting, point light so it shines directly downwards.
- Select the lowest possible light intensity.
- Chose enclosed lighting fixtures that keep insects away from the hot bulbs.

seen insects circling outdoor lighting on a warm summer night has observed this. Exterior lights are therefore a major cause of death for many nocturnal insects – in addition to the amount of routine cleaning they require to remove dead bugs and spider webs.

## Saving Energy for Nature Conservation

This can all be avoided with relative ease. For powerful outdoor lighting, modern sodium-vapor lamps are less dangerous to insects. The same is true for common energy-saving lamps. Among the best performers are energy efficient LED bulbs that attract very few insects. Warm white or yellowish colored lights are especially advantageous. Higher initial costs pay for themselves with lower energy bills and the possibility if eliminating the need for cleaning.

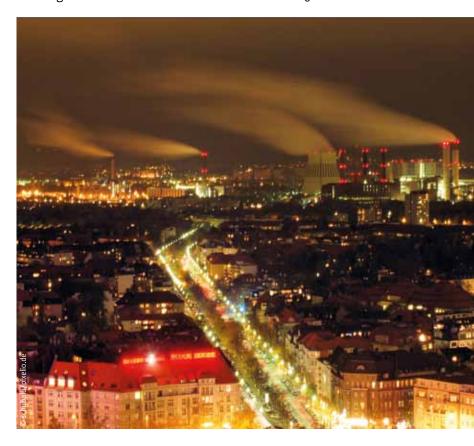


- Convert to insect-friendly lighting fixtures
- Consider protecting insects when planning lighting arrangements

## Our guide contains valuable information relevant to business.



Improper lighting attracts insects and raises cleaning costs.



## Green Gems around the Berlin Waterworks



www.bwb.de

The Berlin Waterworks (Berliner Wasserbetriebe) provides around 3.5 million people in the capital city and its environs with clean drinking water and handles sewage treatment for around 4.1 million. To accomplish this task, they operate an immense infrastructure that includes 19,000 km of piping and canals, fifteen treatment plants, and 164 pumping stations. This infrastructure is spread out among around 270 facilities, nine of which occupy particularly large natural areas that dually serve as conservation zones. Together with the water protection zone that covers nearly a fourth of the city, these natural areas are indispensible in providing habitats for countless plant and animal life. They also offer people many relaxing recreational opportunities and serve an important role in helping stabilize the city's microclimate.

Having committed themselves to biodiversity preservation, ecological issues play just as big a role for the Berlin Waterworks as economic and social considerations. Above all, this entails the sustainable management of water resources. Given that the city is supplied with water from its surroundings, it is vital to maintain high standards for sewage treatment and stormwater management.

Rare plant and animal life can find ecologically intact and healthy habitats around the property boundaries of the waterworks' facilities. Many species of birds and bats use

these areas for breeding and raising their young. Kingfisher, beaver, woodlark, fish otter, cranes, crested newt, red-backed shrike, narrow-mouthed whorl snails, red kite, marsh frog, black woodpecker, barred warbler, black tern, corncrake, red-bellied toad, spadefoot toad, and dwarf snaps can be found here.

By maintaining natural open spaces for many years, the Waterworks has been successful in balancing operational issues and costs with ecological interests such as biodiversity conservation and enhancement. This has allowed the establishment of many valuable habitats with a large number of rare and endangered "red list" species. Numerous plant target-species (including thrift, common vetch, hartman's sage, small meadowsweet, and eyebright) located in these areas give them an especially important meaning for the city in terms of nature conservation.

Nationally important bat caves and sleeping quarters located at the Waterworks facilities in Tegel and Friedrichshagen are registered in the EU Habitats Directive. Roughly 2,300 bats of various species hibernate here in the winter and include the greater mouse-eared bat, brown longeared bat, Daubenton's bat, and Natterer's bat. A contractual obligation of the company with the State of Berlin ensures the conservation of these obsolete structures as habitats for bats.

Left: The greater mouseeared bat feels at home at the waterworks in Berlin-Tegel.

Right: Solar panels on biodiverse meadows are an ideal combination for conserving nature and sparing the climate.





## Together for Berlin's Biodiversity













# Berlin Foundation for Nature Conservation – Partners With Your Company

Would you use your companies business trips to facilitate in the environmental restoration of local marshlands? Do you find the prospect of saving Berlin's local biodiversity in a group action with your colleagues interesting? Are you also seeking to sponsor a forward-thinking initiative to promote your company image?

## Supporting Each Other – Setting the Tone Together

Since its founding in 1981, the Berlin Foundation for Nature Conservation has supported over 1,000 environmental and nature conservation projects. By fostering service-oriented partnerships with the public sector, the foundation has made signature.

The "Long Day of Urban-Nature" is a flagship project of the Berlin Foundation for Nature Conservation.





nificant contributions to preserving and protecting Berlin's biodiversity. The foundation enjoys an impressive network with hundreds of experts and institutions, giving it the resources it needs to work on all kinds of specific concepts and cooperative projects for the continued preservation of nature and biodiversity in Berlin. The foundation's work is supported and made possible by the Berlin Senate.

#### **Our Projects - Your Opportunity**

Much of our cooperation is directly or indirectly targeted toward implementing the Berlin Strategy for Biodiversity. The spectrum of this work ranges from conservation programs supported by young volunteers that are targeted at protecting endangered species to official partnerships for large projects. There are numerous opportunities for companies seeking the perfect location to showcase their social and environmental responsibility right here in Berlin.

#### Climate Change Levy

Since 2009, all official government air travel conducted by representatives of the State of Berlin has been levied with a climate tax. The foundation is responsible for the collection of this levy for the Senate. The funds are solely used for supporting restoration projects for Berlin's marshes. These marshes provide benefits to biodiversity and the climate by serving as carbon sinks for greenhouse gases such as  $CO_2$  and also creating habitats for severely endangered species of plant and animal life.

### **Opportunities for You:**

Since November 2013, companies in Berlin are encouraged to voluntarily offset their carbon footprint by supporting this successful initiative.

### **Plant Conservation**

Threatened species of plants also find comfortable homes in Berlin. Conserving habitats for swamp sweetheart, military orchid, dune fescue, and around 240 other species of plants is an important task for Berlin's nature conservation. The Berlin Foundation for Natural Conservation's coordinating office for plant conservation organizes conservation measures for the Senate Department for Urban Development and the Environment.

### Opportunities for You:

- Maintenance operations with staff personnel
- Sponsorship of plants or habitats

### Long Day of UrbanNature

During the annual "Long Day of UrbanNature", the Berlin Foundation for Nature Conservation coordinates and organizes a program of around 500 biodiversity themed events and presentations that take place during a non-stop 26-hour timeframe. More nightingales live in Berlin, for example, than in many German states. On walks and bike tours, over 20,000 participants each year are surprised to learn about and discover wild animals like beavers, otters, cormorants, and herons living comfortably around the city.

### Opportunities for You:

- By becoming a sponsor, your name can be associated with this innovative event.
- Partnerships can be tailored to individual company abilities. This can also include the design or hosting of special events.

### **Berlin Environmental Calendar**

Whether a bird migration, photography workshop, or wilderness training, the Ber-

lin Foundation for Nature Conservation maintains a calendar of environmental and biodiversity themed events. There are around 400 hosted events that thousands of Berliners participate in and enjoy. To view the current user-friendly calendar, please visit the online portal at: www. umweltkalender-berlin.de.

### Opportunities for You:

- With advertising banners you can build your company's credibility and marketing imagine.
- A partnership demonstrates your company's commitment to supporting Berlin's natural environment and biodiversity.
- It is recommended to stay up-to-date on current presentations and corporate events by accessing the online calendar. This could be a valuable way of generating ideas for participating in nature conservation and environmental protection.



- Engage in common projects
- Participate in voluntary climate change levy
- Assume conservation sponsorship for native species
- Be a partner in The Long Day of UrbanNature
- Take part in the Berlin Environmental Calendar

Have we gained your interest? The Berlin Foundation for Nature Conservation is excited to hear from you.

Contact: Holger Wonneberg (Managing Director) Tel.: (030) 26 39 4 - 0 Email: mail@stiftung-naturschutz.de www.stiftung-naturschutz.de

The Berlin Environmental Calendar provides information on current environmentally-themed events and presentations.



### Donate Trees for Berlin

The Berlin Senate initiated its "Trees for Berlin" campaign in the fall of 2012. By the end of 2017, local citizens and businesses plan to plant an additional 10,000 trees along Berlin's streets. In addition to small gardens, cemeteries, and patches of urban forest, the 440,000 trees that already line the city's streets have long since established Berlin as a world renowned green metropolis.

Disease, pest infestations, root and bark damage, and the spreading of salt on the streets in winter are among the stresses that weaken and harm city trees. To keep people safe and limit property damage, many of these compromised trees have to be removed every year. The cost of planting and caring for one street tree within the first year of its planting is around € 1,200. The city regularly plants around

The donations are supplemented through the State's budget.



3,000 trees yearly, but in the last few years it has become financially unfeasible to replace all fallen trees, leading to an unfortunate decline in their number. The gaps of missing green throughout the cityscape are becoming visible. This overall reduction in green subsequently means an overall reduction in the many services that trees provide people and the environment.

## Why Is It Important to Have Trees in the City?

Trees increase well-being and quality of life and are of great use to people and animals as well.

- Trees are beneficial to biodiversity. Their trunks, branches, and leaves are the habitats for tiny critters like beetles, butterflies, and bees. These in turn serve as food for birds in the city, which also help control populations of invasive bugs like the horse-chestnut leaf miner.
- Tree-lined streets offer protection from the wind and rain. A 100 m long row of 20 m high trees can shield wind for 3 hectares of urban area – a noticeable effect that makes walking around town a lot more comfortable.
- Trees provide shade by reducing solar radiation up to 90%. Considering the implications of climate change, the cool shade trees provide can make increasingly hot summers more bearable.
- Through photosynthesis, trees lower the levels of CO<sub>2</sub> in the city while providing oxygen in return. In addition to this invaluable service, their leaves also filter other pollutants and fine particles out of the air that are damaging to peoples health.
- Tree-lined streets beautify the city and improve the quality of life for its citizens and visitors.

### New Trees for Berlin's Streets – An Opportunity for Berlin-Based Companies

This project offers companies many interesting opportunities for participation. The campaign is organized on the basis of a matching funds model: for every € 500 in total donations it receives, the Berlin Senate provides the rest for the funding needed for planting one new tree. Whoever donates a total minimum of € 500 can select the placement of their tree using a map or list indicating available locations around the city. The planted tree will also have a sign in commemoration of its funder. Lesser donations are collected together. People donating less than € 500 can designate in which city borough they would like the tree to be planted that they helped fund. They can alternatively designate their funds to go toward planting a tree in one of the many famous sites around Berlin. To date, the project has planted trees in four boroughs. Plantings take place early in the year and in the fall.

If you are renting space or do not have room on your own property for trees, participating in this project is the perfect opportunity for you to do something for the city's microclimate and Berlin's biodiversity.

- Complete Donation: entails € 500 for every tree.
- Partial Donation: donations are collected together until € 500 are reached for funding the planting of a tree.
- Employee Donations: colleagues can pool their donations together and request their company make up the difference to total the required € 500 to plant a tree.
- Costumer Donations: You can set up a donation container for your customers, announcing the campaign and its goals to attract more interest and participation.



Take part in the "Trees for Berlin" campaign through single or group donations from your company, employees, or customers.



Michael Müller, Senator for Urban Development and the Environment, opens the "Trees for Berlin" campaign.

Hotline "Trees for Berlin" Campaign: Tel.: 030/9025-1234 Mo-Wed: 9:00-17:00 & Thu: 12:00-18:00 E-Mail: stadtbaum@senstadtum.berlin.de

Further information on the "Trees for Berlin" campaign is available online at: www.berlin.de/stadtbaum

# Teamwork for Biodiversity: Getting Back to Nature

The Berlin Foundation for Nature Conservation offers its support to these efforts. Other Berlin-based conservation organizations also offer their advice and support. EUROPARC offers a German-wide "Marketplace for Nature" for companies. Do you want to add biodiversity as a central theme to your company's sustainable management plan and help make the topic accessible to your company's staff in order to gain increased support for the new environmental measures you are adopting? As part of a company excursion known as corporate volunteering or as part of a "nature action day" on the company grounds, colleagues and their families can come and enjoy the fun together.

For a Day of Fresh Air and Dirty Hands

Think of a different kind of corporate excursion: instead of a cultural program im-

Conservation workers building a habitat for kingfisher birds at airport lake.



agine a nature drive. There is a lot to do in the woods and meadows as many conservation areas need regular care to protect their biodiversity. Many protected biotopes have been created through extensive farming practices of earlier times. They are now becoming overgrown, and without our support, sensitive orchid species and many other plants are being lost.

- Nature conservation organizations and the Berlin Foundation for Nature Conservation help with the organization of an action day. On your company's trip, staff can help plant trees, mow fields, remove brush from dry grassland, and much more.
- Programs for departments or trainees can deliver content about biodiversity responsibility and include tangible experiences during multiple day-long retreats to nature camps under the leadership of conservation organizations.

## For the Company, Staff, and Biodiversity

Cooperative actions bring colleagues together by fostering a team environment, which delivers a direct benefit to the company by improving their work relationships. Using their own strength and competence to build habitats for animals during a nature action day located on your company's campus is a great way of engendering acceptance and awareness among your staff for the greening of your company's grounds.

By building bird houses, insect hotels, or bat boxes around the company's campus, family members can also join in, creating a stronger identification with their family member's employer. Individual departments can take over the role of specific projects such as building an insect hotel or nesting boxes.





- Implement nature action days located on the company campus
- Conduct nature protection company activities

### Suggested Nature Action Day Activities Located on the Company Campus:

- Construction of nesting boxes, insect hotels, and trellises for climbing plants
- Construction of dry stone walls and ponds
- Preparation and seeding of flower meadows
- Planting of trees and bushes

- Planning and layout of outdoor seating and overhead canopies that can serve as break areas
- Energy and climate themed photo competitions with a follow-up exhibition at the company office
- Fruit harvest
- Create environmental working groups according to the interests and hobbies of staff (i.e. company beekeepers or vegetable gardeners)

Above: Contractors can offer support when heavy machinery is needed as seen during the restoration at the Biesenhorster Sand in Berlin...

Below: ...or as seen with the construction of a bird field station during the "96 Hours" campaign action with local radio station, zibb RBB.



### Do Good and Talk About It

Public relations and customer service areas offer special opportunities for information sharing. This is your chance to comprehensively inform important stakeholders about your company's biodiversity management, answer questions about it, and find new partners for your projects.

Do you inform your staff and the public about the services your company provides for biodiversity, sustainability, and the environment? For many companies, adopting social responsibility is an integral part of their management philosophy. Many companies forfeit important opportunities by not openly publicizing their activities. Good internal communications strongly support company operations while a convincing external communications strategy promotes the overarching goal of preserving biodiversity.

### Factors for Successful Communications: Dialogue, Transparency, and Credibility

Credibility is the most important factor for successfully communicating a company's social responsibility. What the company says and does need to correspond; announcements must be followed with actions. As a company, you lead dialogues with involved partners, customers, and suppliers to exchange information on your engagement and strengthen the trust they have in your activities. A transparent explanation of opportunities, risks, decisions, and mistakes are all necessary components in these dialogues.

### **Get Staff Onboard with Biodiversity**

Staff and management are important diplomats for a company. They should therefore be integrated in the communications strategy at an early stage. If they are convinced of the quality of the company's products or services and are also firm believers in its social responsibility, they will take ownership in talking about the company in public, thereby building a desirable image for customers and potential employees. Routine internal communications practices can also be used to spread information about biodiversity measures taken by the company:

- Company information seminars during staff meetings
- Discuss the CSR concept in personal conversations and encounters
- Internal memos, emails, and newsletters reporting on current actions and measures
- Publish information on the blackboards or on internal brochures

### Small Steps for Biodiversity in the Office and Cafeteria Support Internal Communications

Numerous small company projects are accompanied with effective internal communications for biodiversity. Measures taken by the company unburden the environment, spare resources, and show employees that sustainable management and biodiversity preservation entail a multifaceted approach.

A company's commitment to biodiversity can be represented to specific customer groups at trade



Examples for Implementation:

### Measures for the Cafeteria

- Purchase local and seasonal organic products whenever possible
- Offer vegetarian options
- Source coffee, tea, and chocolate from fair trade/organic suppliers
- Offer beverages from regional distributers

### Measures for the Office

 Stock printer paper, envelopes, and other printed materials from recycled materials or FSC/PEFC certified sources

## Measures for Hygiene and Sanitation

- Paper towels/tissue from recycled materials
- Use biodegradable cleaning agents

## Your Public Relations Support Biodiversity!

External communications is responsible for presenting the company to the public and creating an image. How a company's biodiversity engagement is communicated is important for showing the public that all social stakeholders are actively working for its preservation and to encourage more members to join. Use common public relations techniques for drawing attention toward your company's biodiversity activity.

- Press conferences, ribbon cutting, and ground breaking ceremonies for announcing new projects
- Press releases, interviews, and tours to introduce new projects
- Publish information online about activities and projects
- Create a newsletter
- Issue project reports and updates

- **▼** *Measures*
- Integrate biodiversity into the company's internal communications
- Support internal and external communications with small actions

Left: Presentations or information in the lobby offer opportunities for public statement such as here at the Scandic Hotel in Berlin.

Right: Employees receiving information on internal company actions.





## WeiberWirtschaft eG - The Women's Business Center with Ecological Goals

WeiberWirtschaft eG



www.weiberwirtschaft.de

Inviting: The living roof and inner courtyard of the WeiberWirtschaft





Located in the center of Berlin, the Weiber-Wirtschaft eG has a reputation known far beyond the city limits as setting an example for women who start and lead their own companies. 1,800 women have memberships in this cooperative where they manage Europe's largest business startup center for women. In the early 1990s, an empty piece of real estate was purchased, fully renovated, and modernized. With "Green Building Blocks", an important contribution was made to biodiversity in a congested area.

That is how a this pilot project in Berlin was started, showing small businesses how they can do something together for preserving biodiversity. The WeiberWirtschaft eG follows clearly defined economic and ecological goals:

- Protection of natural resources i.e. through the use of environmentallyfriendly construction materials
- Reduction of environmentally damaging emissions through climate-friendly energy use
- Improvement of local microclimates and quality of life with green spaces and vegetation
- Reduction of business costs through energy and resource efficiently
- Make the connection between business and ecology visible
- Feature the adaptability of measures for other companies in communications strategy

### **Building Blocks for Diversity**

In a project supported by the State of Berlin, the founders have implemented their upgrades with six leading principles or "building blocks" - three of which are directly relevant to biodiversity:

- Elements of Water: Accumulated rainwater is evaporated through the green roof, slowly drained, or allowed to sink into water tables on unpaved surfaces. The rest is stored in 5,000l (1,320 gallon) tanks for reuse in the building.
- Elements of Green: Available open spaces are largely unpaved and landscaped with native plants. Roofs and walls are largely greened. Numerous nesting boxes and insect hotels are constructed for birds and bugs. Beekeepers take care of hives on the roof.
- Elements of Construction: To spare natural resources, standing buildings were left in place. Environmentally sustainable, regionally sourced, and reusable construction materials were chosen wherever possible.

Biodiversity is also an important consideration in purchasing. In the cafeteria and for presentations, attention is given to sourcing seasonal food from local organic producers. In general, the vast majority of purchased items come from local regional producers that have environmental and social certifications. Office operations function on a paperless strategy by using digital forms for internal communications. Necessary printouts are made using FSC certified or recycled paper.

60 small businesses of various branches including a child day care center, conference room, and two restaurants - use this 6,000 m<sup>2</sup> area. Their concept ensures affordable, long-term rental agreements in an efficient social infrastructure.

## Anchoring Biodiversity in Core Business Operations













# Biodiversity as a Part of Corporate Social Responsibility

Business gains to profit from actively engaging in biodiversity. This can easily be done in concert with other future-oriented activities such as resource and energy efficiency or climate change mitigation to create an all encompassing sustainable management plan. Adapting socially responsible business practices has come to be defined by the concept of Corporate Social Responsibility (CSR).

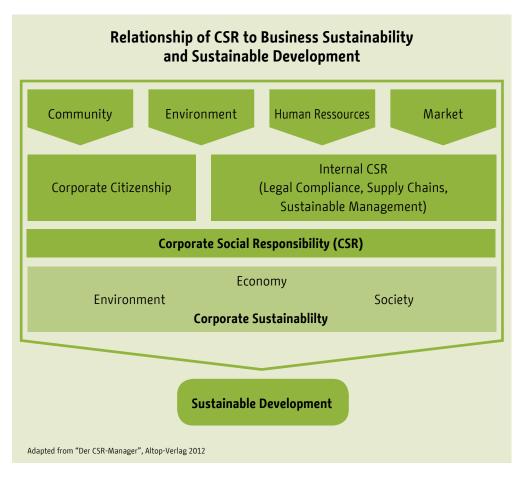
The Berlin Senate offers valuable information on the topic and voor CSR. Berlin-based companies at e su can access this information and other support online at: www. berlin.de.

Improvement of core business operations and voluntary actions beyond the immediate supply chain stand in the center of this approach. It is in the company's interest to include in these processes and dialogues as many stakeholders as possible beyond the management level – such as staff members, company personnel, advisory groups, customers, and suppliers.

### Reduce Costs, Minimize Risks - The Expense is Worth It

Large Berlin-based companies and enterprises have CSR or sustainability representatives that conduct stakeholder dialogues with political entities, interest groups, residents, etc. They develop sustainable strategies, define goals, establish management plans, lead projects, which exceed core business operations. Such activities can verify a company's commitment to social responsibility and help identify risks before they become unmanageable.

CRS is comprised of internal processes and external activities. The three pillars of sustainability – economy, environment, and society – are a part of business activity (see graphic below).



### What is CSR?

"CSR is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (EU Commission Green Paper). For businesses this means a cost that is worth making as company operations that follow the principles of sustainable management help identify risks and unexploited opportunities for increasing efficiencies.

### CSR for Small and Medium-Sized Enterprises

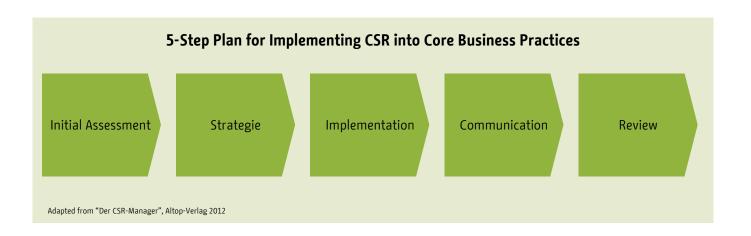
In small and medium-sized enterprises (SME), the company's activities are usually less complex, with a few managers in charge of most activities. Introducing and implementing CSR management into SMEs can therefore be rather simple. Five guiding points may be helpful in the decision-making process:

What is the status quo of the company? An analysis looks at the current mission statement, amount of engagement, and relevant stakeholders to determine the company's level of self-compliance.

- Where does the company want to go? Strategic decisions are met. Connections between the core business operations and engagement are envisioned. Risks, opportunities, and chances for social influence are examined. Company goals are agreed upon.
- What will be implemented? A plan of action is drafted that takes market, environmental, and employee concerns into consideration. Potential collaborators are identified and project timelines set.
- What is communicated? Contents for internal communications with staff and marketing materials for external publication are finalized. A decision is made considering which communications methods are available for use.
- What is achieved?
  Usually an evaluation of progress is conducted. Papers and CSR Reports can be issued according to set standards such as those provided by GRI. Successes, goals, and projects can be explained and future activities announced in these reports.



- Introduce biodiversity into CSR management
- Add activities for nature and the environment into CSR management



## Axel Springer SE - You get out what you put in.



The Axel Springer SE (Societas Europaea) has had an active influence on the supply chains involved in creating and delivering the printing paper used by the company. According to the company's philosophy, whoever works on the offensive in journalism must themselves be able to withstand sharp criticism. The company uses a combination of optimized wood production and the substitution of virgin fibers for recycled paper. Self-reporting is currently conducted along the newest GRI standards, and all company locations are EMAS certified.

"We highlight our special responsibility as a media publishing house [...] by assuring social and ecological standards along our supply chains for wood, pulp, paper, printing, and recycling. And the more we transfer our business to the internet and mobile devices in the future, the more important transparency of standards will become along our digital supply chain."

Dr. Mathias Döpfner, CEO, Axel Springer Publishing

Visit to southern Portugal: A WWF expert reports on ecological standards and the sustainability goals of the Axel Springer SE to an expert forester at the Portucel pulp producers. Portucel has certified 120,000 ha (296,525 acre) of eucalyptus plantations according to FSC and PEFC standards.



The Office of Sustainability of the Berlinbased company, examined 50 paper factories in fifteen countries in regards to their compliance with ecological and social standards. For transparency purposes, contact information for paper suppliers is available on the internet, making it possible to keep an eye on the entire supply chain. Visitors at the production sites are led around the premises by company guides and representatives from environmental organizations like the WWF and Greenpeace.

## Sustainable from the Tree to the Newsstand

The company takes responsibility for all the possible effects of its economic activity, starting with sustainable forestry, to environmental standards in paper production/printing, to vending at newsstands, and finally to the disposal/recycling of materials.

Only by sustainably managing pulp plantations can there be any assurance that the forest ecosystem will remain a valuable and reliable producer of natural resources. Therefore, six indicators are regarded during paper purchases: sustainability of wood harvesting, protection of forest biodiversity, wood purchasing controls at the pulp factories, proper training of forestry workers, consideration of native inhabitants, and communication of ecological problems.

There are many details to consider that makes this a complex task: newsprint for newspapers and magazines has to be resistant to tearing and is manufactured from long spruce and pine fibers that are usually supplied from Europe's evergreen forests. Other types of paper require short fibers from trees such as the eucalyptus. One example of a project is "From Russia with Transparency" that was implemented in 2005 and 2008 by the Axel Springer SE, Transparency International, and other partner organizations. The project focused on looking at how to best avoid corruption risks in the cross-boarder timber trade between the Russian Republic of Karelia and Finland, thereby helping to reduce the deforestation of old-growth trees in the boreal forests.

Through the invention of newsprint varieties that contain large proportions of recycled paper of up to 100%, the productivity of wood in the product life-cycle could be drastically increased – an advantage to biodiversity as well. 13,000 pages of newsprint can be manufactured from the virgin fibers of a single pine tree. By using 70% recycled material in the manufacturing process, the paper yielded from one tree can total over 37,000 pages. This reduces the resource strain placed on sustainably managed forests.

## Global Compact and GRI Support Biodiversity Management

Performance measurement, goal setting, and implementation of strategic changes in business operations are the goals of the Global Compact and Global Reporting Initiative. Both standards operate from a point of voluntary compliance and both organizations support companies in their shift to sustainability.

### **United Nations Global Compact**

The "United Nations Global Compact" is a strategic policy initiative between businesses and the UN with the goal of promoting social and ecological considerations in globalization while further serving internal business processes. The Global Compact serves as a forum for companies whose goal is to engage in socially responsible activities and are interested in networking and exchanging dialogues and information about corporate social responsibility. Global Compact was launched in 1999 with 260 Germany companies and 80 other organizations wishing to participate. The city of Berlin has been a member of the "UN Global Compact Cities Programme" since 2005. Member organization pledge themselves to ten principles, the compliance of which are examined by yearly progress reports.

In developing and emerging economies, environmental effects such as land degradation and the release of toxic chemicals are directly connected to negative impacts on biodiversity. Companies that embrace the Compact's environmental principles will accordingly help protect biodiversity. Reporting after the official GRI4 criteria is recommended after joining the Global Compact in order to confirm a company's commitment to biodiversity conservation.

### **Global Reporting Initiative**

The Global Reporting Initiative (GRI) is part of the United Nations Environment Programme and supports the integration of biodiversity measures into a company's management strategy. The GRI develops guidelines for conducting company sustainability reports. The reports contain information about economic, ecological, and social performance measures as well as information about the behavior of the company's leadership. It enables the continual gathering of relevant information and the transparent communication of positive and negative effects on sustainability.

Currently, 120 GRI indicators have been defined, 30 of which match ecological criteria such as material use, energy/water use, and emissions. Four indicators in the most recent GRI 4 relate specifically to biodiversity:

- N11: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside of protected areas
- EN12: Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity values outside protected areas
- EN13: Habitats protected or restored
- EN14: Total number of IUCN Red List species and National Conservation List species with habitats in areas affected by operations, by level of extinction risk

Participating companies voluntarily publish a report every two years that explains how they are complying to the indicators. Information and data on business operations are essential for the report, yet become more and more complex with the size of a company. The accuracy of these self-reports is not reviewed, and they therefore do not represent any form of certification. Companies that self-report openly communicate this and receive closer public attention.

### **★** Measures

- Conduct GRI self-reporting
- Become a UN Global Compact member





Three of the ten UN Global Compact Principles are directly relevant to biodiversity:

- Businesses should support a precautionary approach to environmental challenges
- Undertake initiatives to promote greater environmental responsibility
- Encourage the development and diffusion of environmentally friendly technologies

More information: www.globalcompact.com; www.globalreporting.org

# Sustainable Procurement and Supply Chains – You Can Always Ask...

The Berlin Senate has made it mandatory for its contractors to abide by sustainable procurement procedures. The standards for implementing regulatory procurement and environmental procedures serves as a guide for companies interested in sustainable procurement.



Monoculture or a thriving landscape – your demand influences the supply.

As a Berlin-based company you can avoid negative effects to biodiversity directly and indirectly through the proper procurement of raw materials and resources. Nearly all raw materials and semi-finished products purchased by a company are connected to biodiversity relevant aspects of the environment, especially when they originate from countries and regions with high levels of biodiversity or a significant status for nature conservation. Your demand for sustainably produced products will positively affect and change the supply.

### How Can You Take Biodiversity Preservation into Account by Your Purchasing Decisions?

Business consultancy firms have been taking up this question for years in addition to engaging in advising companies about projects for sustainable supply chains and bringing more reliable transparency about imported product origins. Many companies have already started gathering information on the origins of imported raw materials and products as part of their outward risk analysis to determine:



- Which materials and products are necessary for production, for further assembly, are routinely purchased for reselling, and which have known or possible effects on nature and the ecosystem?
- What information can suppliers and other business partners give concerning origin countries, regions, cultivation, and production conditions of corresponding raw materials?
- What ecological information is available in the internet concerning cultivation and production?

## Sustainable Procurement through Optimization and Substitution: Mangos from the Rain Forest

We can use a restaurant that is planning on serving a new dessert as an example. They want to create something with an exotic fruit such as the mango. From the wholesale market it is learned that mangos come from Brazil, but there is no information concerning their cultivation techniques. It is possible that intact virgin rain forests that provided habitats for numerous plants and animals had to be clear cut to make way for the mango plantations.

The restaurant is not just buying a tasty fruit. It is also assuming some responsibility for the environmental impacts of its purchase. To reduce these impacts, the restaurant can consciously purchase environmentally-friendly mangos from certified organic farms, thereby choosing the "optimization" strategy. The restaurant could alternatively decide not to use mangos, replacing them with fruit from Germany's Havelländer region – preferably certified organic. By using a "substituting" strategy and replacing an exotic product with regional one, the restaurant minimizes its impact on biodiversity. Further examples are:

The **optimizing strategy** is chosen in cases where no alternative materials or inputs – such as rare minerals – can be found locally or regionally to replace certain components or ingredients in manufacturing and production. In such cases, labels, certificates, and voluntary commitments play an important role.

- Large expanses of wetlands are destroyed in Eastern Europe to provide the peat soils and substrates used in gardening and landscaping. These can be replaced with compost.
- Pulp and paper from unknown origins are manufactured by clear cutting oldgrowth forests in Russia and Canada.
   These can be replaced with recycled paper and FSC certified wood and pulp.
- Rainforests are disappearing to manufacture windows and furniture from exotic woods. These can be replaced with native woods such as larch or black locust.
- The cultivation of palm oil products used in cosmetics contributes to the pollution of lakes and rivers. These can be replaced by oils made in Europe.
- Vast landscapes are torn apart while mining coal to run electric power plants. This form of energy can be replaced with renewable sources.

Companies do not have to completely exclude the use of certain products in their sustainable procurement activities. It is often the case that necessary imported products and inputs can not be replaced on short notice. In such cases, any gradual steps toward replacing unsustainably procured products can have a great impact on

The **substitution strategy** is usually preferred whenever possible because regional products from Germany and other European countries have to comply with reliable environmental legislation that ensures control over impacts to biodiversity. In general, these policies and regulations prevent or reduce negative effects from manufacturing.

reducing damage to biodiversity. The availability of sustainable products has been rising for years as their demand has increased.



Compost instead of peat. Apples in place of mangos. Are these options for





- Examine supply chains for biodiversity impacts
- Adjust procurement and manufacturing processes to be biodiversity-friendly

## Märkisches Landbrot – Our Daily Organic Bread



Please write or visit: info@landbrot.de www.landbrot.de

Regional, socially, and globally aware is how the medium-sized, Berlin-based baking company, Märkisches Landbrot, likes to make their products. Their organically produced grains originate from Demeter farms out of Brandenburg that have signed the Märkisch Trade Association's "fair & regional" Charter. Biodiversity preservation, production free of genetically engineered crops, and the promotion of organic farming are important themes in the company's strategy.

"Märkisches Landbrot contributes to the earth's recovery through ecological production techniques and the use of organic ingredients. Healthy products such as these also benefit the wellbeing of people."

Company Statement



"fair & regional, Bio Berlin-Brandenburg" stands for commitment and management on an equal footing in the organic food industry. www.fair-regional.de

> Biodiversity in the organic food industry is preserved with old varieties such as the variety "champagne rye".



With just 50 employees, the bakery and mill leave nothing to chance. In addition to sourcing their ingredients from Demeterquality producers, internal and external operations are checked according to their ecological footprint and goals. Among others, the EU-Eco-Regulation, the Eco Management and Audit Scheme, the Economy for the Common Good concepts (Gemeinwohlökonomie), and the Demeter standards for processing support an overall concept that benefits biodiversity. In addition to these standards, the company submits reports of the highest GRI level – which also includes biodiversity criteria.

### **Diversity through Organic Farming**

In cooperation with farmers around the Berlin area, the Märkisches Landbrot bakery supports reclamation and the cultivation of old, locally adapted grain varieties like the mountain and champagne ryes, which account for 12% of the rye grains used in their baking. A further 6% of total grains used is sourced from innovative, biodynamic cultivated varieties like light grain rye (Lichtkornroggen) and the Pirona barley

varieties. 1,600 tons of biodynamic produced grains are processed yearly, corresponding to approximately 700 ha of land. Large areas of fallow land are also brought into production as part of a crop rotation plan. On these organic fields, it is clear that many more animals and wild herbs thrive in contrast to their conventionally cultivated counterparts.

### CO<sub>2</sub>-Neutral Bread

As pioneers in their field, the Märkisches Landbrot bakery has been publishing Product Carbon Footprint reports for all of their baked productions. This is an integrated approach for analyzing and undertaking improvements to specific sources of carbon emissions along their supply chain and postproduction. The bakery in the Pankow Bakery Museum (Museum Bäckerei Pankow) is the first carbon-neutral bakery in Berlin.

- Environmental successes are actively communicated to encourage other companies to replicate their actions. The company wants to sustainably transform the food industry and accepts that this may reduce the unique position they now occupy.
- For the 2002 school year, the Märkisches Landbrot bakery distributed organic bread boxes to first graders. Since then, they have been engaged in nutritional education and teaching about organic farming. The campaign has inspired similar programs in 12 German States and in Austria.
- 10% of the company's annual profits are donated after taxes. During the "Angle Bread" sales, 30 cents from the price of every loaf goes to the "Frost Schutzengel" campaign to help people in need during the freezing winter months.

## Make Environmental Costs Visible – Positioning Companies for the Future

Natural resources and ecosystem services are free to use. Benefits enjoyed from ecosystem services are especially taken for granted and therefore not economically valued or calculated in the market prices of finished goods and services. External costs of this activity – such as resource depletion, the acceleration of climate change, and mass extinctions – are borne by all of society.

### **High Costs for Biodiversity**

An important step towards preserving biodiversity is to incorporate external costs or externalities into business accounting and decision-making. Businesses that adopt these practices today will be preparing themselves for the future. A well-known example of ecosystem services is the pollination done by bees for an agricultural industry worth up to € 150 billion per year. Estimates of external environmental costs for the largest publically traded US companies lie between \$ 2.15 and \$ 4.7 billion per year. Such costs are made clear for companies when one compares profits with and without natural capital: not one of the world's 20 largest industries would be profitable if external environmental costs were taken into consideration. The German sportswear manufacturer PUMA published calculations of their global environmental profit and loss balance. The external environmental costs were equivalent to 70% of the company's profits.

## Integrating Environmental Costs into Business Expenses

Berlin-based companies are also starting to measure and value environmental costs in order to prepare themselves for integrating these costs into their balance sheets. Some are using and testing guides designed for economically valuing natural capital. Other companies are studying the

effects of greenhouse gas emissions, waste disposal, and water/land-use. In these studies, the entire manufacturing supply chain is examined, starting at the point of resource extraction, onto the importation of half-finished goods, and ending with their disposal.

## Good Reasons for Ecological Accounting

In the wake of "The Economics of Ecosystems and Biodiversity" (TEEB) report that made data about ecosystem services available for companies, there has been an increasing social and political discussion to represent environmental costs in future budgeting activity. Some of the reasons companies give for their involvement in grappling with this issue include:

- An economic valuation and assessment of natural capital used in production leads to the improvement of internal processes and decisions. Environmental impacts and costs of different production technologies can be evaluated with a cost-benefit analysis.
- Making a list of natural capital costs and taking them into consideration can help business better manage and improve their environmental performance.
- Risks are analyzed along the supply chain to include resource extraction processes, helping predict supply chain shortages and avoiding losses.
- Ecological and social aspects of their business activities and associated products can be made transparent to customers, increasing a producer's competitive advantage.

**✓** *Measures* 

- Identify direct and indirect uses of ecosystem services
- Identify possible negative effects or environmental costs
- Create a management plan to reduce impacts

Ecosystem services are provisioning, such as the production of food; regulating, such as the control of climate; supporting, such as nutrient cycles; and cultural, such as recreational benefits

Natural capital is a collective term for describing the minerals, plants, and animals used in producing life-supporting elements like oxygen, genetic variation, and other natural services.

Pollination by bees has an annual economic value worth € 150 billion.



## Certifications Contribute to Economic Success

### **✓** *Measures*

- Adapt ISO 14001 or EMAS environmental management practices
- Certify products with the Blaue Engel or EU Ecolabel
- Switch to products certified with the Blaue Engel or EU Ecolabel

Standards, labels, and certifications offer proof of a product's or business's "sustainability" and help position your company favorably. For suppliers in some industries, certifications have become obligatory requirements for being listed. Berlin-based companies provide themselves with the competitive advantage given by effective environmental management, minimize negative environmental affects, and reduce their own operational costs with energy and resource efficiency.

### **EMAS** and Biodiversity

40 Berlin-based companies have already been certified through the EU Environmental Management and Audit Scheme (EMAS) and the ISO 14001 standards.

EMAS companies and organizations need to monitor and assess the impacts they have on biodiversity. If these belong to important environmental aspects of the company, goals and measures should be identified for integrating environmental policies and programs into business management. The European EMAS regulations have included biodiversity as one of six key indicators. Companies must submit statements

about the development of their land use to meet minimum requirements and are also supposed to prove they are continually reducing their impacts on biodiversity.

### Biodiversity in ISO 14001 and 26000

ISO 14001 is the international environmental management system for the International Organization for Standardization. ISO 14001 does not deal exclusively with biodiversity, but does indirectly by addressing issues of energy and resource efficiency. The ISO 26000 is a set of standards companies can use for managing corporate social

- Sustainability standards define a set of criteria that indicate good social and environmental practices of company and their manufacturing.
- Certification labels indicate the compliance of defined sustainability criteria for a product's manufacturing.
- Corporate certifications are available for companies and organizations undergoing certification.

The German Federal Environment Agency is the point of contact for information regarding the EMAS, ISO 14001, Blaue Engel, and the EU Ecolabel.







responsibility (CSR) reporting. The standards list the environment as one of seven main themes. Important spheres of activity include the preservation of biodiversity and ecosystem services. As a set of standards for voluntary self-reporting similar to the Global Compact and Global Reporting Initiative, the ISO 26000 is not an official certifying label. To implement the standards, the company's social responsibility must be recognized in addition to involving relevant stakeholders.

### The Sign of Environmentally-Friendly Products: Blaue Engel and the EU Ecolabel

The Blaue Engel indicates exceptional environmentally-friendly products and services within Germany. The EU Ecolabel (Regulation EWG 880/92) applies to products marketed and sold at the EU level. Companies can certify their products, helping raise the producer to a unique level in the market. A company's procurement methods can use Blaue Engel and EU Ecolabel standards when the production of hygienic products, computer equipment, technical devices, and other manufacturing materials shall be procured in a sustainable, low-emissions, low-impact manner.

### **Organic, Fair Trade, and FSC**

Other cross-industry certifications are the EU Organic label for the food industry and

Information for integrating biodiversity into business management practices can be found in the "Corporate Biodiversity Management Handbook". Additional information is also available on web portals such as the European Union's Business and Biodiversity Campaign and the Biodiversity in Good Company Initiative.



the Fair Trade label for products from less developed countries that are manufactured with a high regard for social standards. Both these labels also indicate a positive relationship to biodiversity preservation.

In addition to these, there are many industry-specific certifications such as FSC and PEFC that indicate sustainably harvested wood products or the BCI initiative for better cotton products. As a guide for sustainable procurement of various products, the Federal Government provides the "Kompass Nachhaltigkeit" for small and medium-sized businesses.

The Berlin Forest is certified according to the Forest Stewardship Council (FSC) and Naturland standards which include criteria that clearly benefit biodiversity preservation in sustainable forestry and logging.

## Biodiversity and Economic Activities Abroad

Credit institutions regard biodiversity criteria and factor these into their risk analysis when providing foreign credit services.

Large-scale open-surface mining has long-term destructive consequences for the habitats of plants and animals, making resource efficiency an attractive contribution to biodiversity preservation.

By using biodiversity criteria in their risk management, Berlin-based companies can prepare themselves for future foreign investment. This relates to service providers, suppliers, production facilities, business partners, engagement in infrastructure projects, or global investments that are controlled or organized in Berlin. Recipient countries should not benefit just from increased employment and infrastructure through these activities – protecting biodiversity and its sustainable use should also be part of these strategic investment plans.

## Standards for Responsible Foreign Investment: The Equator Principles

The Equator Principles of the International Finance Corporation (IFC) along with 80 notable international credit institutions are important guides for sustainable investments. The Equator Principles are a set of standards for voluntary compliance with environmental and social standards in project implementation. The Principles have been applied to projects totaling around \$10 million. They can also serve as guidelines for smaller investments and projects:

- Environmental and social dangers that can arise from a project's implementation are classified according to the magnitude and extent of their impact.
- A social and environmental impact analysis is suggested along with mitigation and management techniques.
- The review is based on IFC Performance Standards and the industry-specific environmental, health, and safety guidelines ("IFC EHS Guidelines").
- An environmental management plan must demonstrate how identified environmental and social risks will be mitigated, monitored, and managed for all major projects.

For the protection and sustainable use of biodiversity, the IFC has developed its own performance standards that can serve as a guide for integrating biodiversity into investment plans. The secretariat for the Equator Principles is leading various biodiversity projects with the banking sector and has an encompassing databank of known risks. Many of the companies involved have decided upon submitting GRI reports to highlight the steps they are taking to preserve biodiversity and other sustainable aspects of their activities.



### **Risk Management and Biodiversity**

The Germany-based Union for Environmental Management and Sustainability in Finance Institutions\* (VfU) has developed a set of biodiversity principles for managing credit risk in the financial sector, which includes banks, insurance agencies, asset managers, investors, and financial service providers. Biodiversity themes in risk management and the development of new areas of business have been playing an important role in the financial branch. Investors understand that the loss of biodiversity can carry considerable financial risks for their assets. They are already evaluating companies on whether the loss of biodiversity and the depletion of natural resources and ecosystem services represents a business risk and how these risks are calculated. Particularly affected are capital-needy companies from industries dependent on the various goods and services nature provides. If the loss of biodiversity continues to advance, bioresources and ecosystem services will become scarcer and thus more expensive in the long run.

\* Verein für Umweltmanagement und Nachhaltigkeit in Finanzinstituten



- Approve of internal company policies for foreign investments
- Evaluate company risks associated with biodiversity



## Possible Business Risks Caused by Damaged or Lost Ecosystem Services and Biodiversity

Risk Type **Risk Aspect** Physical/ resource scarcities, increasing commodity prices, disruptions Operational Risks to business activity because of supply shortages access limitations / restrictions / quotas for the use of bio-Legal/ Regulatory Risks resources, compensation and compensation payments for ecosystem impacts, liability for environmental damage Market Risks stricter consumer and business partner requirements for suitable products and processes Reputational Risks increasing campaigns by NGOs, reputational damage for brands and companies Financial Risks stricter requirements by financial investors, lenders, insurers, and rising capital costs

Exchange and discussion in expert circles are part of risk assessments, natural capital evaluation, and ecosystem services analysis.

## Gewürzkampagne – Startup with a Concept



www.gewuerzkampagne.de

The new Berlin-based company "Gewürz-kampagne" (Spice Campaign) integrates the objectives of biodiversity in their business concept. They borrow and extend the concept from a famous Berlin professor, Gunther Faltin – the founder of the Tee-kampagne (Tea Campaign). The Gewürz-kampagne has a main offering of nine freshly picked organic quality spices that are usually purchased directly from the producers.

"Our vision is to connect people through taste. We have opted for spices because they are a wonderful symbol of the diversity and individuality of life. We want to give everyone the best spices at a reasonable price and with our approach, contribute to making the world a more conscious place."

to customers.

Chris Goebel, Managing Director, Gewürzkampagne

goal. The paprika comes from Hungarian organic farmers. A farmer is south Tyrol is going to be cultivating oregano and thyme. However, mixed spices such as Indian curry – which consists of ten different ingredients – present a little more of a challenge for establishing direct links to producers. Transparent communication is therefore an important prerequisite for credibility. At the same time, transparent marketing allows the newly established direct purchase of a spice to be successfully communicated

Several of their spices are able to meet that

Left: Paprika is sourced and purchased directly from organic farmers.

Right: The Gewürzkampagne founders.



## Biodiversity, Healthy Food, Spare Resources

Clientele are supplied residue-free products of the highest quality. Even though they are certified organic, all spices are regularly double-checked in a laboratory to make sure that there are no chemical residues on the product. Test results are made public.

The Gewürzkampagne was able to achieve fair market prices by exclusively marketing large trade units that could meet the annual needs of a household. Thus, marketing costs are reduced by weight and save considerable packaging. Spices often have poor content to packaging ratio. The Gewürzkampagne therefore offers sealable containers for continuous kitchen use where small quantities can be kept and refilled for convenience from the year's supply. By establishing direct contact between suppliers, middlemen, and importers are avoided, which further reduces costs. Organic farming benefits biodiversity by sparing significant amounts of chemical fertilizers and pesticides that are usually used on spices and herbs. The future development of additional biodiversity criteria for suppliers is another step the company plans on taking. A fixed amount of sale earnings is remitted back to the growing regions for the creation of new habitat space for plants and animals.



# Information for Transformations in Businesses













## Business Network – "Biodiversity in Good Company"



Join "Biodiversity in Good Company"



The Federal Ministry for the Environment's "Biodiversity in Good Company" initiative was founded in 2008 in cooperation with various companies and became a charitable non-profit organization in 2011. They are welcome to new members.

The "Biodiversity in Good Company" website offers various up-to-date information about the initiative. The "Biodiversity in Good Company" initiative is an association established in 2008 with 24 companies that wanted to stand up for biodiversity preservation. The cross-industry initiative includes small, medium, and large companies from Germany and abroad. The initiative represents a contribution to the implementation of the International Convention on Biological Diversity (CBD) and the National Strategy on Biodiversity.

The top priority for membership in "Biodiversity in Good Company" is a commitment to take action within one's own company. The companies involved commit themselves to a "Mission Statement" and a "Leadership Declaration" to integrate the biodiversity conservation in their sustainability strategy/operational management and to regularly report on their progress. With a variety of activities and projects in a mixture of practice-oriented communication and stakeholder dialogues, the companies engage under the initiative's auspices for the common goals of:

- Exchange of experiences and skills development: two to three times a year representatives of member companies come together for two-day working meetings to which outside guests are invited.
- Practical and project work: participation in various projects to improve approaches to the integration of biodiversity and ecosystem services in entrepreneurial management, i.e. development of targeted information for specific sectors, working group "management indicators for biodiversity" together with consensus Forum for Sustainable Development of German Business.
- Internal and external communications, public relations: information service through Berlin business associations, presentation of engagement and examples of good member participation, information portal on the website, events, etc.
- Partner and coordinating body of "Companies for Biodiversity 2020\*"
- National and global networking: exchange and cooperation with national and international partners from politics, science, and society. Partner in the CBD Global Partnership on Business and Biodiversity.



\* Unternehmen Biologische Vielfalt 2020

### "Biodiversity in Good Company" Initiative e.V.

Carolin Boßmeyer, Managing Director Pariser Platz 6, 10117 Berlin Tel: 030 226050–10 Email: carolin.bossmeyer@businessand-biodiversity.de www.business-and-biodiversity.de

## EBBC – An Information Portal for Businesses

The European Business and Biodiversity Campaign (EBBC) was initiated in 2008 by companies and non-governmental organizations under the leadership of the Global Nature Fund (GNF). The campaign works on different aspects of biodiversity's economic importance and publishes its results online. With conferences and Biodiversity-Checks, the campaign supports business involvement for biodiversity conservation and the safeguarding of ecosystem services.

## The European Business & Biodiversity Campaign

- Provides information and practical examples of methods and tools for companies.
- Performs Biodiversity-Checks with interested companies.
- Promotes biodiversity partnerships between business, non-governmental organizations, and other stakeholders.
- Improves awareness and understanding among business decision-makers with respect to the risks and opportunities of business operations and the protection of biodiversity and ecosystem services.

## Current Information, Good Networks

An essential component of the European Business & Biodiversity Campaign is to provide business leaders with current, high-quality news, facts, and information on major trends in biodiversity preservation. The campaign's central tool is the Biodiversity-Check. The website contains media and online tools to promote the exchange of innovative experiences in biodiversity management and the creation of new biodiversity partnerships between business and non-governmental organizations while also supporting partnerships across national and international business sectors.

### **Contribute - Register for Free!**

If you want to join the campaign, you can post your profile and information on biodiversity projects and initiatives under the heading "Community." Information can be found on the website where you'll also find information about the Biodiversity-Check.

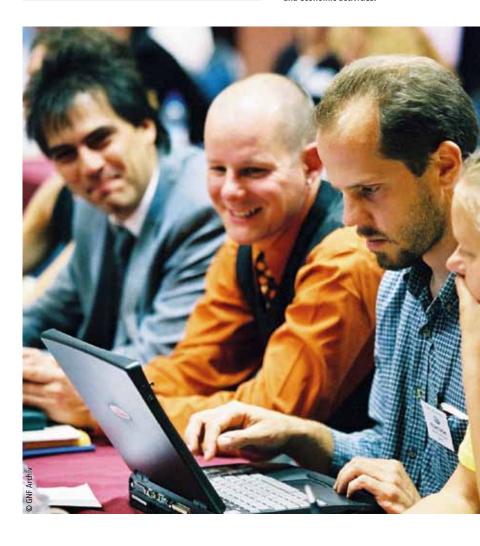
## European Business & Biodiversity Campaign

C/o Global Nature Fund (GNF) – International Foundation for Environment and Nature Fritz-Reichle-Ring 4, 78315 Radolfzell Tel: 07732 9995–80 www.business-biodiversity.eu

- **▼** Measures
- Register with the EBBC
- campaign
- Conduct a Biodiversity-Check



The EBBC works on cooperative solutions for more biodiversity in business and economic activities.



# Planning Individualized Measures for Biological Diversity

**✓** *Measures* 

Create a biodiversity measures plan

This guide lists over 60 measures you can implement as a Berlin-based company to protect Berlin's biodiversity. The table below is used to draw up a biodiversity action plan for your own operations.

Companies have different prerequisites and possibilities are dependent upon the company size. In the table you can indentify which actions or projects you would like to implement, provide a target date, delegate a person responsible for oversight, and verify implementation.

Contact information for seeking advice on implementing measures can be found on the following pages of this guide.

| Nr. | Page | Measure          | Timeframe | Contact         | Imple-<br>mented |
|-----|------|------------------|-----------|-----------------|------------------|
| 1   |      | Set up bat boxes | 2014      | Mr./Mrs. Muster | Yes              |
| 2   |      |                  |           |                 |                  |
| 3   |      |                  |           |                 |                  |
| 4   |      |                  |           |                 |                  |
| 5   |      |                  |           |                 |                  |
| 6   |      |                  |           |                 |                  |
| 7   |      |                  |           |                 |                  |
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| 10  |      |                  |           |                 |                  |
| 11  |      |                  |           |                 |                  |
| 12  |      |                  |           |                 |                  |
| 13  |      |                  |           |                 |                  |
| 14  |      |                  |           |                 |                  |
| 15  |      |                  |           |                 |                  |

#### **Addresses**

### Senate Department for Urban Development and the Environment

Ref. I E Naturschutz, Landschaftsplanung, Forstwesen Am Köllnischen Park 3, 10179 Berlin Tel: 030 90139–3030 Email: info@senstadtum.berlin.de www.stadtentwicklung.berlin.de

### Chamber of Commerce and Industry of Berlin

Fasanenstraße 85, 10623 Berlin Tel: 030 31510-0 Email: service@berlin.ihk.de

### Stiftung Naturschutz Berlin

Potsdamer Straße 68, 10785 Berlin Tel: 030 26394–0 Email: mail@stiftung-naturschutz.de www.stiftung-naturschutz.de

#### **Global Nature Fund**

Fritz-Reichle-Ring 4, 78315 Radolfzell Tel: 07732 9995-80
Email: info@globalnature.org

### **Provider Associations**

### Naturgartenverband e.V.

Kernerstraße 64, 74076 Heilbronn Tel: 07131 649999-6 Email: geschaeftsstelle@naturgarten.org www.naturgarten.org

### Bundesverband Garten-, Landschafts- und Sportplatzbau e.V.

Alexander-von-Humboldt-Straße 4, 53604 Bad Honnef Tel: 02224 7707-0 Email: info@galabau.de www.galabau.de

### Federation for German Landscape Architects

Köpenicker Straße 48/49, 10179 Berlin Tel: 030 278715-0 Email: info@bdla.de www.bdla.de

### Bund deutscher Baumschulen (BdB) e.V. – Hauptstadtbüro

Universitätsstraße 2–3a, 10117 Berlin Tel: 030 288807–16 Email: info@gruen-ist-leben.de www.gruen-ist-leben.de

### German Association for Rainwater Harvesting and Water Utilisation e.V.

Havelstraße 7 A, 64295 Darmstadt Tel: 06151 339257 Email: info@fbr.de www.fbr.de

### Association of German Wild Seed and Wild Plant Producers e. V. (VWW)

Wetzlarer Straße 11, 35581 Wetzlar-Münchholzhausen Tel: 06441 2093641 Email: info@natur-im-vww.de www.natur-im-vww.de

### Berliner Landesarbeitsgemeinschaft Naturschutz e.V.

Potsdamer Straße 68, 10785 Berlin Tel: 030 265508-64 oder -65 Email: bln\_berlin@t-online.de www.bln\_berlin.de

### FBB Professional Green Roof Association e.V.

Kanalstraße 2,66130 Saarbrücken Tel: 0681 9880570 Email: info@fbb.de www.fbb.de

#### **Campaigns and Networks**

### Stiftung Naturschutz Berlin

Potsdamer Straße 68, 10785 Berlin Tel: 030 26394-0 Email: mail@stiftung-naturschutz.de www.stiftung-naturschutz.de

## City Trees for Berlin (Senate Department for Urban Development and the Environment)

Am Köllnischen Park 3, 10179 Berlin

Tel: 030 9025-1234 Email: stadtbaum@senstadtum.berlin.de www.berlin.de/stadtbaum

### "Biodiversity in Good Company" Initiative e.V.

Carolin Boßmeyer, Geschäftsführerin Pariser Platz 6, 10117 Berlin Tel: 030 226050-10 Email: carolin.bossmeyer@ business-andbiodiversity.de www.business-and-biodiversity.de

### Europäische Business & Biodiversity Kampagne

c/o Global Nature Fund (GNF) – International Foundation for Environment and Nature

Fritz-Reichle-Ring 4, 78315 Radolfzell Tel: 07732 9995–80 www.business-biodiversity.eu

### **Example Companies**

## Evangelisches Krankenhaus Königin Elisabeth Herzberge gemeinnützige GmbH

Herzbergstraße 79, 10365 Berlin Tel: 030 5472-0 Email: keh@keh-berlin.de www.keh-berlin.de

#### IGG Malzfabrik mbH

Bessemerstraße 2-14, 12103 Berlin Tel: 030 7551248-00 Email: info@malzfabrik.de www.malzfabrik.de

### Berliner Wasserbetriebe

Postanschrift: Berliner Wasserbetriebe, 10864 Berlin Kundenzentrum: Neue Jüdenstraße 1, 10179 Berlin Tel: 0800 2927587 (toll-free) Email: service@bwb.de

### WeiberWirtschaft eG

www.bwb.de

Anklamer Straße 38, 10115 Berlin-Mitte Tel: 030 440223-0 Email: infos@weiberwirtschaft.de www.weiberwirtschaft.de

### **Axel Springer SE**

Axel-Springer-Straße 65, 10969 Berlin Tel: 030 25910 Email: contact form/homepage www.axelspringer.de

### MÄRKISCHES LANDBROT GmbH

Bergiusstraße 36, 12057 Berlin Tel: 030 6139120 Email: landbrot@landbrot.de www.landbrot.de

#### gewuerzkampagne UG

Schiffbauerdamm 15, 10117 Berlin Tel: 030 346491860 Email: service@gewuerzkampagne.de www.gewuerzkampagne.de

## Interesting Links to Help You

### Link to the Senate Department for Urban Development and Environment or PDF

### **Related Link**

### Page Link

### 8 The Berlin Strategy for Biodiversity - A Challenge

"Berlins Biologische Vielfalt" Guide:

www.stadtentwicklung.berlin.de/natur\_gruen/naturschutz/downloads/publikationen/biologische\_vielfalt\_strategie.pdf

www.biologischevielfalt.de

Video "Big Question: What is nature worth?": www.youtube.com/watch?v=TartoYpK1yl

Video "Pitch For Nature - Business & the value of nature": www.youtube.com/watch?v=IyL272Q1N0s

### 12 - 15 Greening of Company Grounds - It's Worth It!

Seed Suppliers:

NABU - Naturschutzbund Deutschland e.V.:

www.nabu.de/oekologischleben/balkonundgarten/gartenelemente/00592.html

Naturgarten e.V.: www.naturgarten.org

Bundesverband Garten- und Landschaftsbau: www.galabau.de

Bund Deutscher Landschaftsarchitekten: www.bdla.de

#### 16 - 17 Native Plants for Butterflies and Others

"Pflanzen für Berlin" Guide:

www.stadtentwicklung.berlin.de/natur\_gruen/lb\_naturschutz/download/publikationen/gebietseigene\_pflanzen.pdf

Verband deutscher Wildsamen- und Wildpflanzenproduzenten e. V. (VWW): www.natur-im-vww.de Bund deutscher Baumschulen (BdB) e.V. – Hauptstadtbüro: www.gruen-ist-leben.de

### 18 - 19 Fire-Bellied Toads and Sand Lizards in the Urban Jungle

www.stadtentwicklung.berlin.de/natur\_gruen/naturschutz/biotopschutz/de/biotopverbund/index.shtml "FFH" Guide:

www.stadtentwicklung.berlin.de/umwelt/landschaftsplanung/download/brosch ffh.pdf

### 20 - 21 Living Spaces for Animals

"Tiere als Nachbarn" Guide:

 $www.stadtentwicklung.berlin.de/natur\_gruen/naturschutz/artenschutz/download/freiland/tiere\_als\_nachbarn.pdf$ 

### 22 Ponds - Good for Nature and Stormwater Management

"Neuer Umgang mit Niederschlagswasser in Berlin" Guide:

www.stadtentwicklung.berlin.de/umwelt/wasser/wasserrecht/pdf/regenwasser.pdf

"Konzepte der Regenwasserbewirtschaftung" Guide:

www.stadtentwicklung.berlin.de/bauen/oekologisches\_bauen/download/ SenStadt Regenwasser dt bfrei final.pdf

### 24 Rainwater Management - Lowering Operational Costs

"Leitfaden für Wirtschaftlichkeitsuntersuchungen zur Auswertung von Maßnahmen der Regenwasserbewirtschaftung" PDF-Guide:

www.stadtentwicklung.berlin.de/service/rundschreiben/de/leitfaeden.shtml

Fachvereinigung Betriebs- und Regenwassernutzung e.V.: www.fbr.de

### 26 On the Roofs for Berlin

Deutscher Dachgärtnerverband: www.dachgaertnerverband.de

### 28 Green Facades - More Habitats for City Birds

Fachverband Bauwerksbegrünung: www.fbb.de

Abschlussbericht "Gebäude Begrünung Energie – Potentiale und Wechselwirkungen", Technische Universität Darmstadt, 31.08.2013: www.irbnet.de/daten/baufo/20128035673/Abschlussbericht\_F\_2881.pdf

| Page    | Link  |  |  |  |  |  |
|---------|---|--|--|--|--|--|
|         | Making Glass Windows and Facades Bird-Friendly  |  |  |  |  |  |
|         | "Vogelfreundliches Bauen mit Glas und Licht" Guide:   |  |  |  |  |  |
|         | www.stadtentwicklung.berlin.de/natur_gruen/naturschutz/artenschutz/download/freiland/               |  |  |  |  |  |
|         | VogelGlasLicht_2012Berlin.pdf   |  |  |  |  |  |
|         | "Stadtbild Berlin Lichtkonzept" Guide:  |  |  |  |  |  |
|         | www.stadtentwicklung.berlin.de/bauen/beleuchtung/download/Broschuere_Lichtkonzept.pdf               |  |  |  |  |  |
|         | www.stadtentwicklung.berlin.de/natur_gruen/naturschutz/artenschutz/de/freiland/                     |  |  |  |  |  |
|         | vogelschutz_glas_und_licht.shtml  |  |  |  |  |  |
| 34      | Berlin Foundation for Nature Conservation - Partners with Your Company                              |  |  |  |  |  |
|         | www.stiftung-naturschutz.de   |  |  |  |  |  |
|         | www.umweltkalender-berlin.de  |  |  |  |  |  |
|         | 2014.langertagderstadtnatur.de  |  |  |  |  |  |
| 36      | Donate Trees for Berlin   |  |  |  |  |  |
|         | www.stadtentwicklung.berlin.de/umwelt/stadtgruen/stadtbaeume/kampagne/index.shtml                   |  |  |  |  |  |
| 38 - 41 | Teamwork for Biodiversity – Getting Back to Nature  |  |  |  |  |  |
|         | Tips for collaborating with nature conservation organizations:                                      |  |  |  |  |  |
|         | www.duh.de/uploads/media/Protokoll_Unternehmenskooperation_20121212_01.pdf                          |  |  |  |  |  |
| 44      | Biodiversity as Part of Corporate Social Responsibility   |  |  |  |  |  |
|         | www.berlin.de/sen/wirtschaft/euro-inter/lez/csr.html  |  |  |  |  |  |
|         | CSR-Programm der Bundesregierung: www.csr-in-deutschland.de   |  |  |  |  |  |
|         | Deutsches CSR-Forum: http://www.csrforum.eu   |  |  |  |  |  |
|         | Bundesweiter Arbeitskreis für Umweltbewusstes Management: www.baumev.de                             |  |  |  |  |  |
|         | Verband für Nachhaltiges Umweltmanagement: www.vnu-ev.de  |  |  |  |  |  |
| 47      | Global Compact and GRI Support Biodiversity Management  |  |  |  |  |  |
|         | Global Reporting Initiative: www.globalreporting.org  |  |  |  |  |  |
|         | Deutsches Global Compact Netzwerk: www.globalcompact.de   |  |  |  |  |  |
| 48      | Sustainable Procurement and Supply Chains – You Can Always Ask                                      |  |  |  |  |  |
|         | "Handlungsleitfaden Nachhaltige Beschaffung" Guide:   |  |  |  |  |  |
|         | www.stadtentwicklung.berlin.de/service/gesetzestexte/de/download/beschaffung/Handlungsleitfaden.pdf |  |  |  |  |  |
| F4      | www.stadtentwicklung.berlin.de/service/gesetzestexte/de/beschaffung                                 |  |  |  |  |  |
| 51      | Make Environmental Costs Visible - Positioning Companies for the Future                             |  |  |  |  |  |
|         | Naturkapital Deutschland am UFZ: www.naturkapitalteeb.de  |  |  |  |  |  |
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| F2      | Naturkapital Bundesumweltamt: www.naturalcapitalmarkets.org   |  |  |  |  |  |
| 52      | Certifications Contribute to Economic Success   |  |  |  |  |  |
|         | Umweltbundesamt: www.umweltbundesamt.de   |  |  |  |  |  |
|         | EMAS: www.emas.de   |  |  |  |  |  |
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| 54      | Biodiversity and Economic Activities Abroad   |  |  |  |  |  |
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### What does this guide provide for your company?

The Berlin Strategy for Biodiversity provides the foundation for ensuring that Berlin can fulfill its responsibilities in local and global efforts to preserve our natural resources. Five goals that incorporate Berlin-based companies are defined in this strategy. This guide addresses those goals in its four chapters by providing you with various recommendations for action. As an entrepreneur, business owner, or manager, you can support Berlin's biodiversity in various aspects of your company's activity. In this guide you will find:

- Extensive information
- Proposed measures, some with economic assessments
- Examples from the Berlin economy
- Resources for learning more about the subject