

A standing desk with a light brown top and black legs is positioned in a snowy forest. The desk is the central focus, standing on a patch of green grass partially covered in snow. The background is a dense forest of tall, thin trees with snow on the ground and branches. The lighting is soft and diffused, typical of an overcast day in a forest.

**ConSet**

# Consideration and Quiet Change

**STANDING DESKS AND THE ENVIRONMENT**

# ConSet

## *Quality, stability and care*



At ConSet we produce height adjustable desks and have done so since 2000. The design philosophy has always been the same.

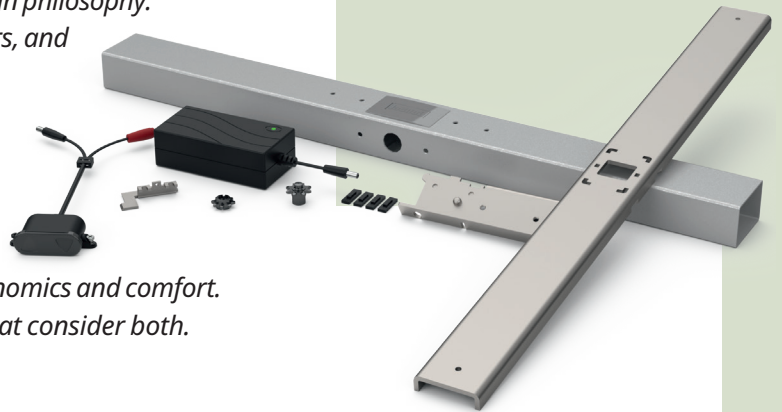
1. Choose the simplest construction.
2. Do not compromise on the choice of materials.
3. Test the products, test again and keep testing.

ConSet wants to make it easy to improve ergonomics. Height adjustable desks must be durable, stable, and easy to use.

*Climate change also existed in 2000 - but in now the world is different. We feel a shared responsibility to adapt, calculate and test so we can share with our customers exactly how a ConSet desk impacts the environment.*

*Luckily this is in complete accordance with the design philosophy. ConSet desks are constructed by ConSet for our customers, and we have complete control over the design. We decide what factors are most important - and to us the environment is central.*

*Scandinavia is widely known for prioritising "going green" - and the environment is important, but so is ergonomics and comfort. At ConSet we want to produce height adjustable desks that consider both.*



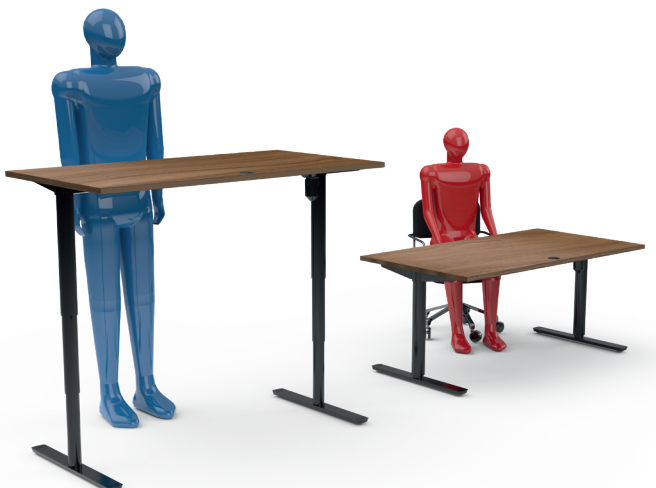
## A personal choice

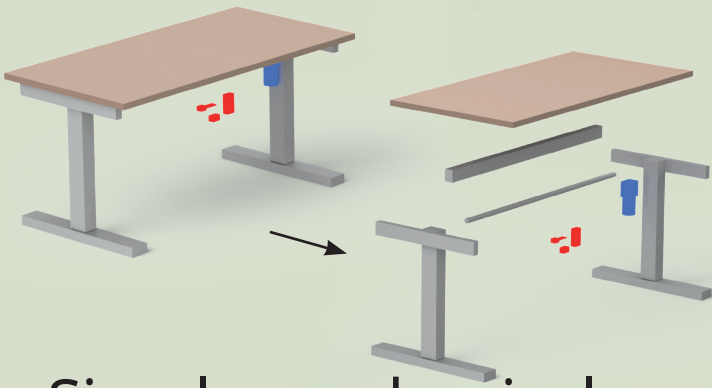
Naturally it requires more resources to produce an electric height adjustable desk than a traditional desk. However, the advantages of a height adjustable desk are undeniable. A study completed by the American CDC (Centers for disease control and prevention) shows that a height adjustable desk can reduce back and neck pain with up to 54 percent.

- Between 60 and 90 percent of people experience back pain several times in their life.
- In one year 50% of people will experience back pain.
- At any time between 8 and 12% of people will state that they are currently experiencing back pain.

So many of us experience back pain, and if a height adjustable desk can increase job satisfaction, overall health and potentially decrease sick days - then it is worth the increased use of resources.

We can prioritise both climate and working conditions, but the increased resource use must not be forgotten. ConSet has made minimizing CO2 emission a priority.





## Simple mechanical construction

The starting point for constructing a ConSet height adjustable desk is simple: Two legs, one motor.

This principle has been the same for 20 years, the 1-motor system breaks less often and little to no electronics are needed. The foundation for a ConSet desks is simple mechanics.

Complete desks and wear parts are frequently subjected to mechanical wear tests. Through the last 20 years of making height adjustable desks, ConSet has collected data and with feedback from customers, we have learned that the ConSet desks can last up to 20 years. Therefore, lifespan must be considered during construction - spare parts must be available and be easy to change — even when the warranty has expired.

The development in electronics is fast and products become old fashioned very quickly. ConSet minimizes the use of electronics so the desk will last longer. ConSet has also consciously chosen to make all "electronic" parts (Power supply, user panel) spare parts that can be changed easily.

It is also a factor that production of electronics and particularly the extraction of materials, has a very large environmental impact.

10 years use of a height adjustable desk is an effective "on" time of 42 hours. In 10 years, the desk is expected to use 18 kWh. This is equivalent to an oven's use over 7 hours, the energy in 2 litres of petrol or 4,19 kg CO<sub>2</sub>e. CO<sub>2</sub>e is the "carbon dioxide equivalent" and accounts for all greenhouse gasses and expresses them in CO<sub>2</sub>.

Product lifespan has always been important to ConSet, earlier it was professional pride and common sense, but through the lens of climate change and sustainability, it has even greater importance.

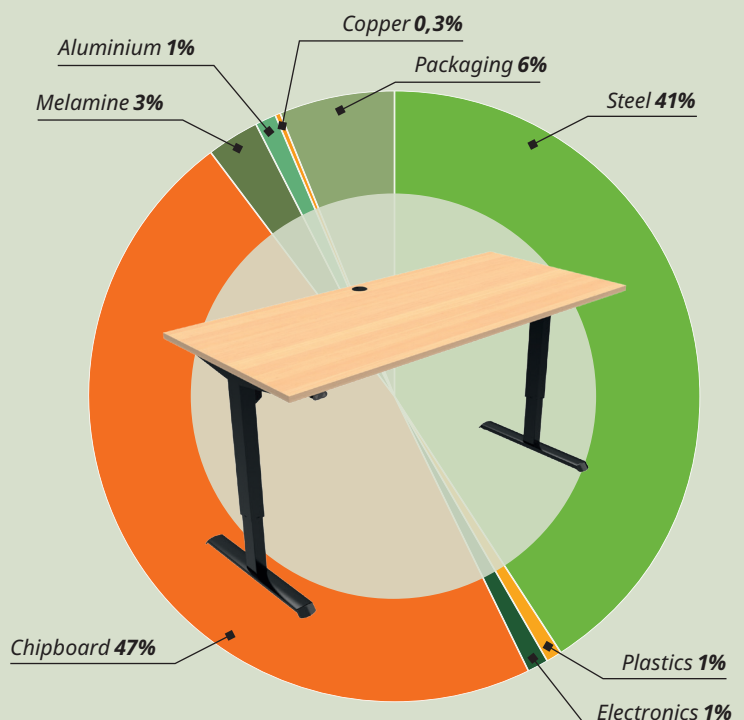
## Material composition

A ConSet desk consists of two main materials: Steel (40%) and particleboard (47%)

Particleboard is a wood material which is made by binding woodchips and resin under high pressure and temperature. The wood chips can be reused either from a consumer or scrap from factories. Particle board is environmentally friendly, simply; fewer trees are cut down. The material properties of particleboard are great, however it has poor water resistance. To make sure the surface is durable enough a melamine surface used. Particleboard can emit formaldehyde gasses, so all ConSet tabletops are in the category E0, in accordance with EN 717-1, 1998. E0 is the lowest category of formaldehyde emission. Overall, the tabletops are both durable and environmentally friendly.

Steel is the other large material component in a ConSet desk. Steel is the most reused material in the world and has great material properties to ensure strength and stability. Steel is 100% reusable and its material properties do not deteriorate with reuse, as is the case with plastic. Furthermore, the reuse cycle for steel is endless.

### Material composition ConSet desk 501-33 XX152 160-80S3 XX



# Results of Life Cycle Assessment(LCA)

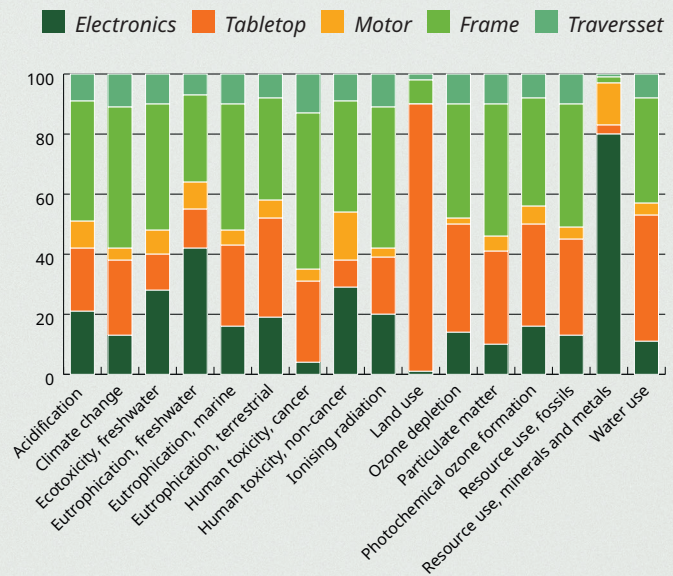
ConSet has performed a Life Cycle Assessment (LCA). The work has been carried out by an external consultant and TÜV has conducted critical review as third party. The standard basis is EN 14040, EN 14044 and EN 14071. It makes it possible to write a single number that summarizes the climate impact of a product, including production, transport, use, and disposal — in kg CO<sub>2</sub>e.

On the ConSet website, the climate impacts of all products are available.

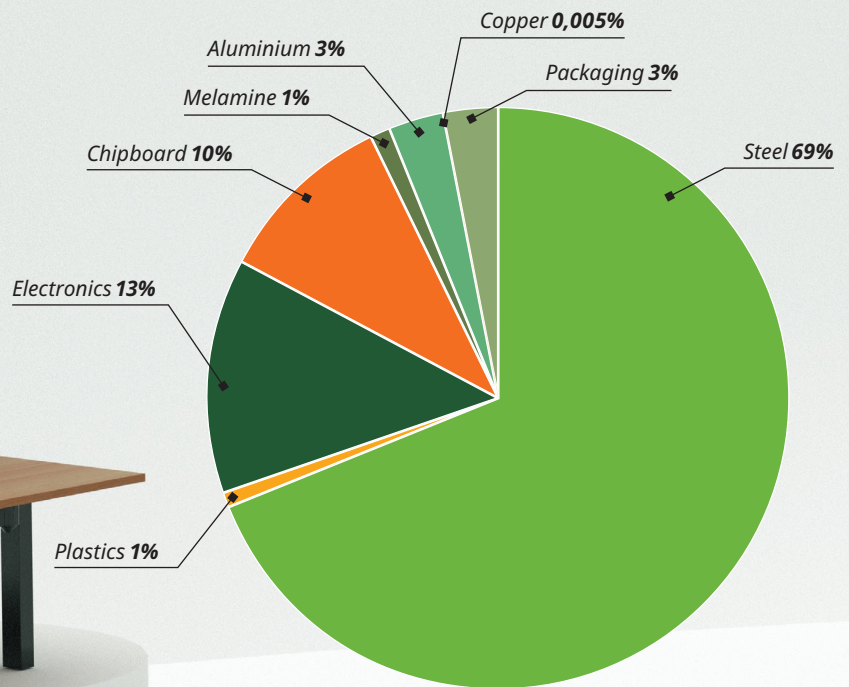
The LCA separates the desk components in five groups: Frame, tabletop, travers set, motor and 'electronics,. The impact of each group on 16 potential environmentally harmful categories (Impact categories), is evaluated. The figure shows that although 'electronics, makes up a very small percentage (1%) of the total product weight, its contribution to each impact category is large.

Both 'frame, and 'tabletop, also have a large contribution, as is expected due to weight.

**Contribution analysis – 501-33 XX152 160-80S3 XX**



**Distribution of KG CO<sub>2</sub> emission of ConSet Desk 501-33 XX152 160-80S3 XX**



**CO<sub>2</sub>e**  
501-88 160-80  
241 CO<sub>2</sub>e kg



**CO<sub>2</sub>e**  
501-37 120-80  
112 CO<sub>2</sub>e kg

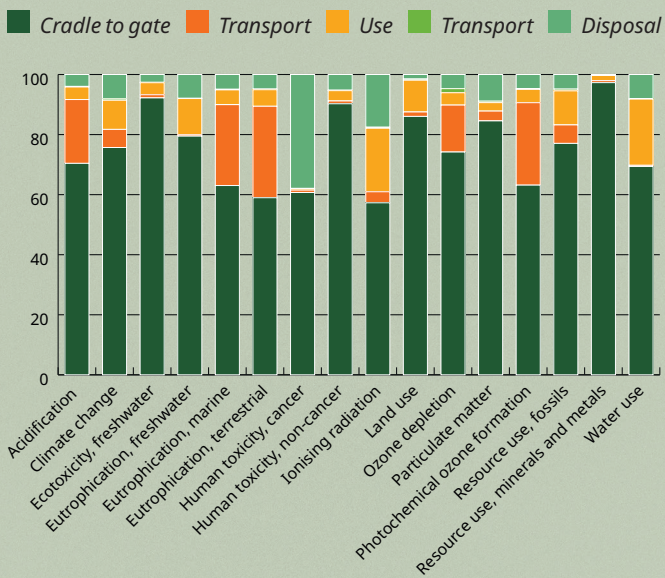


Production of a desk can be separated into three overall processes:

- Extraction of raw materials
- Transport
- Production at ConSet (Metal working etc.)

These processes are collectively called "Cradle to gate" — and the LCA showed that "Extraction of raw materials" was the biggest contributor to the impact categories.

### Contribution analysis - Denmark



The lifetime of a ConSet desk is also separated into categories:

- Cradle to gate
- Transport to customer
- Use
- Transport to recycling/disposal

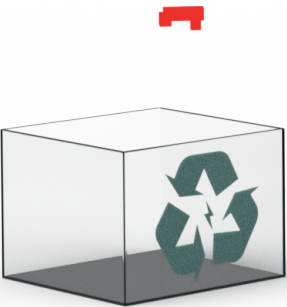
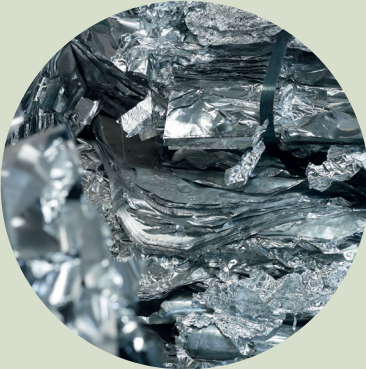
"Cradle to gate" is the largest contributor to climate impact of the product — Therefore, it is even more significant that ConSet constructs the desks with this in mind. The LCA has given a complete and precise picture of where we can adapt construction to make the desks, climate impact as little as possible, from the choice of materials to production method. The second largest contributor is transport, as a result ConSet tries to optimize packaging, both on size, weight, and the packaging materials used. The transport must be as efficient as possible.

ConSet has researched the climate effects of moving production from China to Eastern Europe. The study has limitations: It is only applicable when the primary warehouse is kept in Denmark. Note that the results only apply to this specific case and are not valid in other circumstances. The main transport would be by road, and road transport has a larger climate impact than sea freight. The potential decrease in CO<sub>2</sub> emission from moving production is removed by the increase in emission from transport. Another point is that ConSet sells all over the world. The result: a move to Eastern Europe will not have smaller climate impact, and production stays in China. We were very surprised by the result, and it shows that doing the math is better than making assumptions.



# Recycling and disposal

A ConSet desk can be taken apart using only a screwdriver and elbow grease. When a height adjustable ConSet desk has served its time, it is important to separate the materials to recycle as much as possible of the desk.

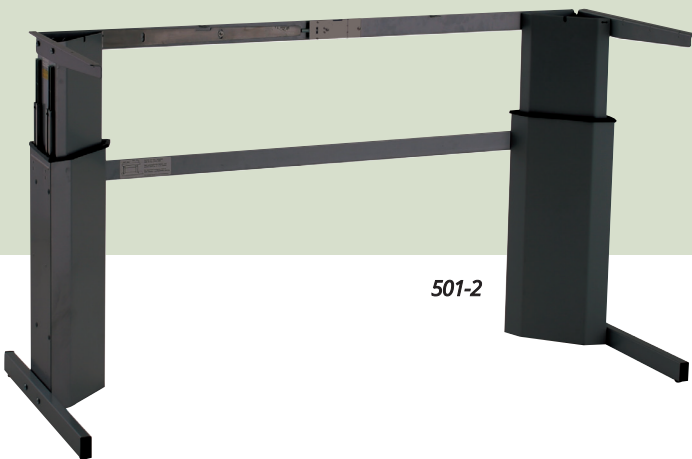


The desk is comprised of three recycling groups: Metal, wood, and electronics.

# The design philosophy of the past and the future go hand in hand

501-2 and 501-20 were constructed 20 years apart, same simplicity, stability, and philosophy.

501-20 is one of ConSet,s products that was made after the LCA assessment. ConSet has used all the information that the LCA revealed to make a desk that has a low climate impact but does not compromise the core principles of ConSet design.



501-2 has not been sold for many years, but ConSet has not forgotten it — although it was made in Skjern, Denmark 20 years ago. If a customer contacts ConSet with a worn part on a 20-year-old desk, we will always try our best to fix the problem and we are very proud to answer a call about a 20-year-old desk that just needs a tune up.

This is ConSet's approach to making height adjustable desks that take environmental impact into account — please feel free to write us at [conset@conset.com](mailto:conset@conset.com) with input or questions. All references and sources for this document will be sent upon request.





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