The HP printing system HP Color LaserJet Pro M452dn is awarded with the German environmental label Blue Angel (RAL-UZ 205, edition January 2017) for meeting altogether more than 100 strict certification criteria. In the following, essential environmental information on the device is summarised. Comprehensive information on the Blue Angel product requirements and detailed product specifications are available at www.blauer-engel.de.

**Printing paper**
This device is suitable for using recycled paper in accordance with EN 12281.

**Double sided printing**
The device is equipped with an automatic duplexer for double-sided printing. Furthermore, the device features the capability to printout several pages of a digital file on one single page.

**Longevity**
- Spare parts and exchange parts for the repair of this device model are still available at least five years after end of production.
- Cleaning, maintenance and disposal should only be performed by experts in accordance with the instructions in the product documentation.

**Information on post-consumer recycled plastic**
HP contributes to the conservation of resources by using post-consumer recycled plastic for production of new HP products. These plastics are recycled waste plastics stemming from private or commercial end-consumers. This HP device contains at least 0% of post-consumer recycled plastic.

**Return of equipment**
HP offers customers in Germany the opportunity to return used equipment. Information on the return of equipment is available at your local HP sales or customer-service centre or at http://www.hp.com/recycle.

**Return of consumables**
In Germany and many other countries, HP toner cartridges for this device as well as the waste toner container can be returned cost-free to HP as part of the return and recycling programme. The packaging of each new HP toner cartridge contains information on how to participate in this programme. Or visit our website: http://www.hp.com/recycle.
Yields of consumables
Determined according to ISO/IEC standard 19798 the HP toner cartridges shipped with the product have the following yields:
- HP LaserJet 410A black toner cartridge (CF410A): 2,300 pages
- HP LaserJet 410A cyan toner cartridge (CF411A): 2,300 pages
- HP LaserJet 410A magenta toner cartridge (CF413A): 2,300 pages
- HP LaserJet 410A yellow toner cartridge (CF412A): 2,300 pages


Information on handling of the toner modules
- Please leave HP LaserJet toner cartridge in its despatch packaging until you need it for use in your printer; when inserting the HP toner cartridge, please follow the information on handling.
- HP toner cartridges should never be opened by force. If toner dust escapes, e.g. as a result of inappropriate handling, inhalation of dust and skin contact are to be avoided as a precautionary measure.
- In case of skin contact wash affected areas thoroughly with soap and cold water. HP toner cartridges are to be kept out of the reach of children.

Air emissions
With original HP toners, the device passes the air emission test for monochrome and colour printing according to RAL-UZ 205. Since plastics of new electrical devices generally release small amounts of volatile substances into the room air, we recommend providing sufficient air exchange in rooms where new devices are set up.

Noise emissions
Declared sound power level for one-sided printing (LWA)
- In monochrome print mode 27 pages/minute: 6.15 Bels and 61.5 dB
- In colour print mode 27 pages/minute: 6.14 Bels and 61.4 dB

Energy
Energy information on HP Color LaserJet Pro M452dn
The consumption of electric power depends on its properties and on the way it is used. HP Color LaserJet Pro M452dn is designed and pre-set in a way to allow you to reduce electricity costs.

Directly after the last print job, HP Color LaserJet Pro M452dn with its instant-on fuser technology switches over to an electric power saving mode, from which it can quickly print again. If the device switches over to electric power saving modes, you can save electricity and operating costs. If the device is to print again, there can be a short delay – this is called return time. However, the device meets the strict Blue Angel requirements for a return time (http://www.blauer-engel.de).

You can save electricity costs by shortening the device’s activation times as it will switch over to an electric power saving mode more quickly. If you extend the activation time or deactivate the electric power saving mode, you should consider that consequently the device will consume more electric power and might no longer meet the maximum value for electric power consumption of the Blue Angel. We recommend not extending the activation times.

The device is so designed as to ensure that it can be switched to the Off-mode (standby) by pressing the on/off switch up to twice a day without suffering damage. This device does not have a switch by which it can be completely disconnected from the mains. When after having switched off the device you pull out the power plug, electric power consumption is completely stopped.

The table below lists the individual power consumption values as well as activation and return times (factory setting). With these values the device meets the Blue Angel requirements.
Overview of HP Color LaserJet Pro M452dn operating modes
Page throughput for A4 paper size (according to ISO/IEC 24734):

<table>
<thead>
<tr>
<th>Operation mode</th>
<th>Power consumption (watts)</th>
<th>Activation time (minutes)</th>
<th>Return time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In monochrome print mode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 pages/minute with a resolution of 1524 dpcm (600 dpi)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In colour print mode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 pages/minute with a resolution of 1524 dpcm (600 dpi)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(dpcm = dots per centimetre [Bildpunkte pro Zentimeter]; dpi = dots per inch [Bildpunkte pro Zoll])

<table>
<thead>
<tr>
<th>Switch symbol</th>
<th>Operation mode</th>
<th>Power consumption</th>
<th>Activation time</th>
<th>Return time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum power consumption (at switch on): 1199 watts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Printing (continuous operation at 27 pages/minute), monochrome</td>
<td>543</td>
<td>immediately</td>
<td>immediately</td>
</tr>
<tr>
<td></td>
<td>Ready</td>
<td>13.69</td>
<td>immediately</td>
<td>immediately</td>
</tr>
<tr>
<td></td>
<td>Sleep</td>
<td>1.02</td>
<td>5 (1...60)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Off-mode (standby)</td>
<td>0.1</td>
<td>switch activated</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Disconnection from mains</td>
<td>0</td>
<td>e.g. pull out power plug</td>
<td>–</td>
</tr>
</tbody>
</table>

1. After the last print job, the device switches over to electric power saving modes in several steps. By and by, electric power consumption is reduced in these modes. The device will switch over to the Ready mode first. Then the device switches over to Sleep mode after the activation time stated above.

2. Averaged value, measured without accessories.

3. Activation time is the time that elapses after the end of the printing process until the device enters the respective mode. The figures in brackets indicate the user-selectable range within which activation times can be adjusted.

Energy consumption of HP Color LaserJet Pro M452dn
Measured according to the settings stated in the table above, the energy consumption of HP Color LaserJet Pro M452dn is 1.2 kilowatt-hours/week (energy consumption at standard use cycle according to ENERGY STAR version 2.0 (7-day week with 5 working days of 8 hours each) determined by using the test pattern taken from ISO/IEC 10561:1999).

For the standard use cycle according to ENERGY STAR version 2.0 for this device, the following values were used: 27 print jobs per working day, each with 13 pages, single-sided at monochrome printing (351 pages/day).