

# Nominal conversion efficiency of solar panels

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Title: Nominal conversion efficiency of solar panels

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Energy conversion efficiency is measured by dividing the electrical output by the incident light power. Factors influencing output include spectral distribution, spatial distribution of power, temperature, and ...

Interactive Best Research-Cell Efficiency Chart NLR maintains a chart of the highest confirmed conversion efficiencies for research cells for a range of photovoltaic technologies. This is ...

The key metrics of solar panel efficiency ratings include conversion efficiency, temperature coefficient, and power output. Conversion efficiency measures the percentage of sunlight converted into usable ...

This guide breaks down the essential aspects of solar panel efficiency measurements, helping you navigate technical specifications with confidence and make choices that align with your ...

Factors Affecting Conversion Efficiency  
Determining Conversion Efficiency  
Additional Information  
Not all of the sunlight that reaches a PV cell is converted into electricity. In fact, most of it is lost. Multiple factors in solar cell design play roles in limiting a cell's ability to convert the sunlight it receives. Designing with these factors in mind is how higher efficiencies can be achieved. 1. Wavelength--Light is composed of photons--or p...See more on energy.gov.iacfm

.iacf\_head{display:flex;align-items:center;gap:var(--smtc-gap-between-content-small);text-decoration-color:var(--smtc-foreground-content-neutral-primary);box-sizing:border-box;margin-bottom:var(--smtc-gap-between-content-x-small)}.iacf\_head span{flex:1 1 0;white-space:nowrap;text-overflow:ellipsis;overflow:hidden;color:var(--smtc-foreground-content-neutral-primary);font:var(--bing-smtc-text-global-body3-strong)}.iacf\_head div{display:flex;height:22px;width:22px;justify-content:center;align-items:center;transition:background 300ms ease-out;margin-right:-3px;border-radius:var(--mai-smtc-corner-list-card-default);overflow:hidden}.iacf\_head .iacf\_chv{color:var(--smtc-foreground-content-neutral-primary)}[dir="rtl"] .iacf\_head svg{transform:scaleX(-1)}.rel\_ent\_w{margin:4px 0 9px}.rel\_ent\_w

# Nominal conversion efficiency of solar panels

```
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.rel_ent_w{margin:4px 0 20px}.b_rich .rel_ent_w{margin:-3px -16px
8px}.rel_ent_w.rel_ent_scr:not(.rel_ent_crs){height:50px;overflow:hidden}.rel_ent_c{white-space:nowrap;ov
erflow:hidden;padding-left:1px;height:50px}.aqptmt:not(.rel_ent_crs) .rel_ent_c{display:flex}.rel_ent_wp
.rel_ent_c{white-space:initial}.rel_ent_scr
.rel_ent_c{overflow-y:hidden;-webkit-overflow-scrolling:touch;overflow-x:auto}.rel_ent_scr:not(.rel_ent_crs)
.rel_ent_c{padding-bottom:12px}.b_mm_swipable
.rel_ent_c{padding-left:10px;margin-top:-2px;margin-bottom:4px}.b_rich
.rel_ent_c{padding-left:15px}.rel_ent_w.rel_ent_crs .slide,.rel_ent_w.rel_ent_crs
.slide:hover{width:auto;height:42px;border-radius:20px!important;box-shadow:none!important;overflow:visib
le}a.rel_ent{display:inline-block;padding:0 16px 0 12px;margin:4px 8px 4px
0;border-radius:20px;border:1px solid
#ddd;text-decoration:none;overflow:hidden;height:40px;max-width:80vw}:not(#lgVidAnsContainer)>.aqptmt
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.slide .rel_ent .cico,.rel_ent .cico,.rel_ent>img{display:inline-block;vertical-align:middle;margin:2px 8px 2px
-10px;border-radius:50%;background:#f7f7f7;flex-shrink:0}.rel_ent_tw{vertical-align:middle;font-size:12px;
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middle;align-content:center}.aqptmt:not(.spl2) .rel_ent_tw,.aqptmt:not(.spl2) .rel_ent_tw
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nt_w:not(.spl2) .rel_ent_t strong{display:inline-block;font-weight:normal}#b_results phead
.b_attribution{padding-bottom:8px}.iaplanner .b_moreLink{margin-top:11px}.iaplanner.iarnd
.b_moreLink{margin-top:3px}.b_ans .b_rich pserp.b_mBMargin{padding:0;border-top:0}.b_ans #vidans2
.b_rich .rel_ent_w{margin:6px 0 16px}.aqptmt a.rel_ent{border-color:#106ebe}.aqptmt:not(.spl2)
.rel_ent_tw,.aqptmt:not(.spl2) .rel_ent_tw .rel_ent_t{font-size:16px}#b_content .acfImgAns
.salink{text-align:center;display:block;padding-bottom:var(--smtc-gap-between-content-medium);margin:-2px
0 0 0}#b_content .acfImgAns .salink acf-button-standard{display:inline-block;position:relative}#b_content
.acfImgAns .salink::before{border-bottom:1px solid
var(--smtc-stroke-ctrl-on-neutral-rest);width:100%;display:block;content:"";top:18px;position:relative}#b_con
tent .acfImgAns .rel_ent_w a.rel_ent{border:1px solid var(--acf-stroke-neutral-decorative)}#b_content
.acfImgAns .iaheader
.iacf_head{text-decoration-color:var(--smtc-foreground-ctrl-neutral-primary-hover)}#b_content .acfImgAns
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.iacfic.mmkiaacf .iacf_plan .cico{border-radius:var(--mai-smtc-corner-card-default)}#b_content
.iacfic.mmkiaacf .iacf_plan .cico img{border-radius:var(--mai-smtc-corner-card-default)}#b_content
.iacfic.mmkiaacf{overflow:visible;padding:0}#b_content .iacfic.mmkiaacf
.iacf_crsl[data-wptds-carousel]{margin:0;padding-bottom:var(--smtc-gap-between-content-medium)}#b_cont
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[data-wptds-carousel-controls]{--wptds-carousel-control-opacity:1}#b_content .iacfic.mmkiaacf
```

# Nominal conversion efficiency of solar panels

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button{background:var(--smtc-background-card-on-primary-default-rest);box-shadow:var(--bing-smtc-shado
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.iacfic.mmkiaacf .iacf_crsl[data-wptds-carousel]
button: active{background:var(--smtc-background-card-on-primary-default-pressed)}#b_content
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.iacf_crsl[data-wptds-carousel] button svg
path{fill:var(--smtc-foreground-content-neutral-secondary);forced-color-adjust:auto}#b_content
.iacfic.mmkiaacf .iacfmit{position:absolute}#b_content .iacfic.mmkiaacf .iacfimgc{margin:auto}#b_content
.b_ans.b_imgansacf{padding:0!important}#b_content
.b_ans.b_top.b_imgansacf{background-color:initial!important}#b_content .acfImgAns .iaheader
.iacf_head{gap:0;padding:var(--smtc-gap-between-content-medium)
0;display:flex;align-items:center;box-sizing:border-box}#b_content .acfImgAns .iaheader
.iacf_head: hover{text-decoration:none}#b_content .acfImgAns .iaheader .iacf_head: hover
span{text-decoration:underline}#b_content .acfImgAns .iaheader .iacf_head: hover
.iacf_chv{background:initial}#b_content .acfImgAns .iaheader .iacf_head
div{display:flex;align-items:center;transition:background
300ms
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oreground-content-neutral-secondary-alt)}#b_content .acfImgAns .iaheader .iacf_head
span{width:initial;flex:none;font:var(--bing-smtc-text-global-subtitle1-strong);padding-inline-start:0;max-widt
h:90%;text-overflow:ellipsis;white-space:nowrap;overflow:hidden}#b_content .acfImgAns .iaheader
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.rel_ent_w{margin-top:0}#b_content .acfImgAns .rel_ent_w .b_slideexp{margin:0}#b_content .acfImgAns
.rel_ent_w .btn. rounded{top:initial;margin-top:1px}#b_content .acfImgAns .rel_ent_w
.btn.next{right:-14px}#b_content .acfImgAns .rel_ent_w
.cr>div{width:36px;height:38px;border-radius:var(--smtc-corner-ctrl-lg-rest);background:var(--bing-smtc-bac
kground-container);box-shadow:var(--bing-smtc-shadows-card-hover-3);border:initial}#b_content
.acfImgAns .rel_ent_w .cr>div: after{margin-inline-start:2px;top:0}#b_content .acfImgAns .rel_ent_w
.b_viewport{padding-top:0;margin-left:0;padding-left:0}#b_content .acfImgAns .rel_ent_w .b_viewport
.slide{height:38px;margin-left:0;margin-inline-end:var(--smtc-gap-between-content-x-small)}#b_content
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lt-rest);padding-left:0;height:38px}#b_content .acfImgAns .rel_ent_w
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.rel_ent_w a.rel_ent: active{background:var(--smtc-background-card-on-primary-default-pressed)}#b_content
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var(--smtc-gap-between-content-xx-small)}#b_content .acfImgAns .rel_ent_w
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.acfImgAns .rel_ent_w .rel_ent_c
.rel_ent:first-child{margin-inline-start:var(--mai-smtc-padding-card-default);align-items:center}html[dir=rtl]
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.cico::after{content:"";position:absolute;left:0;top:0;width:100%;height:100%;background:rgba(0,0,0,.03)}.gs
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.iacf_pag{position:absolute;bottom:8px;left:50%;transform:translate(-50%,0)}.cards.large
.iacfca{height:200px}[dir="rtl"] .iacfca .iacf_pag{transform:translate(50%,0)}.iacfm.iacfca
.iacf_crsl[data-wptds-carousel]
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;width:16px;transition:width .3s;background-color:var(--smtc-foreground-ctrl-neutral-primary-hover)}.iacfm.iacfca .iacf_crsl[data-wptds-carousel]
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m.iacfca .iacf_crsl[data-wptds-carousel] [data-wptds-carousel-control] path{fill:currentColor}.iacfm.iacfca
.iacf_crsl[data-wptds-carousel] ol [data-direction="start"]{border-radius:0 8px 8px
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.iacf_crsl[data-wptds-carousel] [data-wptds-carousel-control],.iacfm.iacfca.iacf_ss
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[data-wptds-carousel-control] path,.iacfm.iacfca.iacf_ss .iacf_crsl[data-wptds-carousel]
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[data-wptds-carousel-list]{width:fit-content}.iacfca .iacf_colg_crsl .iacfmit{position:absolute}.iacfca
.iacf_colg_crsl
.cico{border-radius:0}.iacfca:not(.iacfh):has(>.iacf_colg_crsl){height:100%;width:100%;padding:0;overflow:
hidden;border-radius:inherit}.iacfca:not(.iacfh):has(>.iacf_colg_crsl)
.iacfmit{border-radius:0}.iacfca:not(.iacfh):has(>.iacf_colg_crsl) [data-wptds-carousel][data-default]
[data-wptds-carousel-controls]{inline-size:calc(100% + var(--wptds-carousel-control-size) -
var(--mai-smtc-padding-card-default)*2);transform:translateX(calc(0rem +
var(--mai-smtc-padding-card-default) - (var(--wptds-carousel-control-size)/2)))
translateY(-50%)}[data-wptds-carousel][data-default],[data-wptds-carousel][data-default]::before,[data-wptds-
carousel][data-default]::after,[data-wptds-carousel][data-default] *,[data-wptds-carousel][data-default]
*::before,[data-wptds-carousel][data-default]
*::after{box-sizing:border-box;margin:0;padding:0}[data-wptds-carousel][data-default][hidden],[data-wptds-c
arousel][data-default]
[hidden]{display:none}[data-wptds-carousel][data-default][data-visually-hidden],[data-wptds-carousel][data-d
efault] [data-visually-hidden]{block-size:.0625rem;border:0;clip:rect(0 0 0
0);inline-size:.0625rem;margin:-.0625rem;overflow:hidden;padding:0;position:absolute}[data-wptds-carousel]
[data-default]{--wptds-carousel-control-bg-color:#fff;--wptds-carousel-control-border-color:#ddd;--wptds-car
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sition:relative;block-size:100%}[data-wptds-carousel][data-default]
[data-wptds-carousel-scroll-container]{overflow-x:auto;overflow-y:clip;scroll-behavior:smooth;block-size:10
0%;-ms-overflow-style:none;scrollbar-width:none}[data-wptds-carousel][data-default]
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[data-wptds-carousel-controls]{list-style:none;position:absolute;inline-size:calc(100% + var(--wptds-carousel-control-size));inset-block-start:50%;transform:translateX(calc(0rem - (var(--wptds-carousel-control-size)/2))) translateY(-50%);display:flex;align-items:center;justify-content:space-between;pointer-events:none}[data-wptds-carousel][data-default]
[data-wptds-carousel-controls]>*[flex-grow:0;flex-shrink:0][data-wptds-carousel][data-default]
[data-wptds-carousel-control]{cursor:pointer;inline-size:var(--wptds-carousel-control-size);aspect-ratio:1;display:grid;place-content:center;border-radius:50%;background-color:var(--wptds-carousel-control-bg-color);border:.0625rem solid var(--wptds-carousel-control-border-color);box-shadow:var(--wptds-carousel-control-box-shadow);color:var(--wptds-carousel-control-fg-color);opacity:var(--wptds-carousel-control-opacity);pointer-events:all}[data-wptds-carousel][data-default]
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[data-wptds-carousel-control]:focus-visible{outline-color:Highlight;outline-color:-webkit-focus-ring-color;outline-offset:.0625rem;outline-style:auto;outline-width:.0625rem}[data-wptds-carousel][data-default]
[data-wptds-carousel-control]*{pointer-events:none}[data-wptds-carousel][data-default]
[data-wptds-carousel-control]>svg{display:block}[data-wptds-carousel][data-default]
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[data-wptds-carousel-control][data-direction="end"]>svg{transform:scaleX(-1)}[data-wptds-carousel][data-default]
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[data-wptds-carousel-announce]{block-size:.0625rem;border:0;clip:rect(0 0 0 0);inline-size:.0625rem;margin:-.0625rem;overflow:hidden;padding:0;position:absolute}[data-wptds-carousel][data-default]
[data-wptds-carousel-control][data-variant="Normal"],[data-wptds-carousel-control][data-variant="FullWidth"]{--wptds-carousel-control-opacity:0}[data-wptds-carousel][data-default]
[data-wptds-carousel-control][data-variant="Normal"]:has([data-wptds-carousel-scroll-container]:focus-visible),[data-wptds-carousel-control][data-variant="FullWidth"]:has([data-wptds-carousel-scroll-container]:focus-visible),[data-wptds-carousel-control][data-variant="FullWidth"]:has([data-wptds-carousel-control]:focus-visible){--wptds-carousel-control-opacity:1}[data-wptds-carousel][data-default]
[data-wptds-carousel-control][data-variant="Normal"]>[data-wptds-carousel-scroll-container]{scroll-snap-type:x
```

```

proximity }[data-wptds-carousel][data-default][data-variant="Normal"][data-snap]
[data-wptds-carousel-item]{ scroll-snap-align:center;scroll-snap-stop:always }[data-wptds-carousel][data-default][data-variant="Normal"][data-snap]
[data-wptds-carousel-item]:first-of-type{ scroll-snap-align:start }[data-wptds-carousel][data-default][data-variant="Normal"][data-snap]
[data-wptds-carousel-item]:last-of-type{ scroll-snap-align:end }[data-wptds-carousel][data-default][data-variant="FullWidth"]
[data-wptds-carousel-scroll-container]{ scroll-snap-type:x mandatory }[data-wptds-carousel][data-default][data-variant="FullWidth"]
[data-wptds-carousel-item]{ inline-size:100%;scroll-snap-align:center;scroll-snap-stop:always }[data-wptds-carousel][data-default][data-variant="FullWidth"]
[data-wptds-carousel-item]:first-of-type{ scroll-snap-align:start }[data-wptds-carousel][data-default][data-variant="FullWidth"]
[data-wptds-carousel-item]:last-of-type{ scroll-snap-align:end }[data-wptds-carousel][data-default][data-variant="FullWidth"]
[data-wptds-carousel-item]>{*{ inline-size:100% }[data-wptds-carousel][data-default][data-bleed-inline]
[data-wptds-carousel-controls]{ --control-side-gap:.25rem;inline-size:calc(100% - (var(--control-side-gap)*2));transform:translateX(calc(0rem + var(--control-side-gap))) translateY(-50%)}[data-wptds-carousel][data-desktop]
[data-wptds-carousel-control]:hover:not([aria-disabled="true"]):not(:active){ --wptds-carousel-control-bg-color:#fff;--wptds-carousel-control-border-color:#ddd;--wptds-carousel-control-box-shadow:0rem .125rem .3125rem rgba(0,0,0,.14);--wptds-carousel-control-fg-color:#111 }[data-wptds-carousel][data-desktop][data-variant="Normal"]:has([data-wptds-carousel-scroll-container]:hover),[data-wptds-carousel][data-desktop][data-variant="Normal"]:has([data-wptds-carousel-control]:hover),[data-wptds-carousel][data-desktop][data-variant="FullWidth"]:has([data-wptds-carousel-scroll-container]:hover),[data-wptds-carousel][data-desktop][data-variant="FullWidth"]:has([data-wptds-carousel-control]:hover){ --wptds-carousel-control-opacity:1 }[dir="rtl"]
[data-wptds-carousel][data-default] [data-wptds-carousel-controls]{ transform:translateX(calc(0rem + (var(--wptds-carousel-control-size)/2))) translateY(-50%)}[dir="rtl"] [data-wptds-carousel][data-default]
[data-wptds-carousel-control][data-direction="start"]>svg{ transform:scaleX(-1)}[dir="rtl"]
[data-wptds-carousel][data-default]
[data-wptds-carousel-control][data-direction="end"]>svg{ transform:scaleX(1)}[dir="rtl"]
[data-wptds-carousel][data-default][data-bleed-inline]
[data-wptds-carousel-controls]{ transform:translateX(calc(0rem - var(--control-side-gap))) translateY(-50%)} .b_dark [data-wptds-carousel][data-default],.b_drk
[data-wptds-carousel][data-default]{ --wptds-carousel-control-bg-color:#484644;--wptds-carousel-control-border-color:#545250;--wptds-carousel-control-box-shadow:0rem .125rem .1875rem rgba(0,0,0,.1);--wptds-carousel-control-fg-color:#d2d0ce} .b_dark [data-wptds-carousel][data-default]
[data-wptds-carousel-control]:active,.b_drk [data-wptds-carousel][data-default]
[data-wptds-carousel-control]:active{ --wptds-carousel-control-bg-color:#484644;--wptds-carousel-control-border-color:#545250;--wptds-carousel-control-box-shadow:0rem .125rem .1875rem rgba(0,0,0,.1);--wptds-carousel-control-fg-color:#d2d0ce} .b_dark [data-wptds-carousel][data-desktop]

```

```
[data-wptds-carousel-control]:hover:not([aria-disabled="true"]):not(:active),.b_drk
[data-wptds-carousel]][data-desktop]
[data-wptds-carousel-control]:hover:not([aria-disabled="true"]):not(:active){--wptds-carousel-control-bg-color:
:#605e5c;--wptds-carousel-control-border-color:#545250;--wptds-carousel-control-box-shadow:0rem .125rem
.3125rem rgba(0,0,0,.14);--wptds-carousel-control-fg-color:#faf9f8}.gs_card .iacfic .iacfmit
.iacfimgc,.gs_card .iacfic .iacfmit .cico,.b_wpt_container .iacfic .iacfmit .iacfimgc,.b_wpt_container .iacfic
.iacfmit .cico{width:100%!important;height:100%!important;border-radius:0}.gs_card .iacfic .iacfmit.iacfstc
img,.gs_card .iacfic .iacfmit .iacfimgc img,.b_wpt_container .iacfic .iacfmit.iacfstc img,.b_wpt_container
.iacfmit .iacfmit .iacfimgc img{width:100%;height:100%;object-fit:cover}.gs_card .iacfic .iacfmit
.iacfimgc,.b_wpt_container .iacfic .iacfmit .iacfimgc{position:absolute;top:0;bottom:0;left:0;right:0;margin:auto}acf-button-standard{display:block;inlin
e-size:fit-content;max-inline-size:100%}acf-button-standard,acf-button-standard::before,acf-button-standard::
after,acf-button-standard *,acf-button-standard *::before,acf-button-standard *::after{box-sizing:border-box;margin:0;padding:0}acf-button-standard[hidden],acf-button-standard
*[hidden]{display:none}acf-button-standard[data-visually-hidden],acf-button-standard
*[data-visually-hidden]{block-size:1px;inline-size:1px;margin:unset;padding:unset;border:0;clip:rect(0 0 0
0);clip-path:inset(50%);overflow:clip;position:absolute;white-space:nowrap}.acf-button-standard__btn,.acf-bu
tton-standard__link{font:var(--font);color:var(--color)!important;background-color:var(--background-color);b
order:1px solid var(--border-color);display:grid;grid-auto-flow:column;align-items:center;gap:var(--smtc-gap-inside-ctrl-to-se
condary-icon);cursor:pointer;text-decoration:none!important}.acf-button-standard__btn>*,.acf-button-standar
d__link>*{min-inline-size:0;max-inline-size:100%}.acf-button-standard__btn[aria-disabled="true"],.acf-butto
n-standard__link[aria-disabled="true"]{opacity:.3;cursor:not-allowed}.acf-button-standard__btn:focus-visible,
.acf-button-standard__link:focus-visible{outline-width:2px;outline-style:solid;outline-color:var(--smtc-ctrl-foc
us-outer-stroke);outline-offset:2px}.acf-button-standard__label{white-space:nowrap;overflow:clip;text-overfl
ow:ellipsis;max-block-size:calc(1*1lh)}acf-button-standard[data-shape="Pill"]
.acf-button-standard__btn,acf-button-standard[data-shape="Pill"]
.acf-button-standard__link{border-radius:var(--smtc-corner-circular)}acf-button-standard[data-size="Default"
] .acf-button-standard__btn,acf-button-standard[data-size="Default"]
.acf-button-standard__link{padding-block-start:var(--smtc-padding-ctrl-text-top);padding-block-end:var(--smtc
padding-ctrl-text-bottom);padding-inline:var(--smtc-padding-ctrl-horizontal-default)}acf-button-standard[da
ta-style="Secondary"]{--color:var(--bing-smtc-foreground-ctrl-neutral-primary-alt-rest);--background-color:va
r(--bing-smtc-background-ctrl-neutral-rest);--border-color:transparent}acf-button-standard[data-style="Second
ary"] .acf-button-standard__btn:hover:not([aria-disabled="true"]),acf-button-standard[data-style="Secondary"]
.acf-button-standard__link:hover:not([aria-disabled="true"]){--color:var(--smtc-foreground-ctrl-neutral-primar
y-hover);--background-color:var(--smtc-background-ctrl-neutral-hover);--border-color:transparent}acf-button-
standard[data-style="Secondary"]
.acf-button-standard__btn:active:not([aria-disabled="true"]),acf-button-standard[data-style="Secondary"]
.acf-button-standard__link:active:not([aria-disabled="true"]){--color:var(--smtc-foreground-ctrl-neutral-primar
y-pressed);--background-color:var(--smtc-background-ctrl-neutral-pressed);--border-color:transparent}acf-bu
tton-standard[data-weight="Strong"][data-size="Small"],acf-button-standard[data-weight="Strong"][data-size
```

# Nominal conversion efficiency of solar panels

```
="Default"]{--font:var(--bing-smtc-text-global-caption1-strong)}acf-button-standard[data-weight="Strong"][data-size="Large"]{--font:var(--bing-smtc-text-global-body3-strong)}acf-icon{display:block;inline-size:fit-content;max-inline-size:100%;pointer-events:none}acf-icon,acf-icon::before,acf-icon::after,acf-icon * ,acf-icon *::before,acf-icon *::after{box-sizing:border-box;margin:0;padding:0}acf-icon[hidden],acf-icon *[hidden]{display:none}acf-icon[data-visually-hidden],acf-icon *[data-visually-hidden]{block-size:1px;inline-size:1px;margin:unset;padding:unset;border:0;clip:rect(0 0 0 0);clip-path:inset(50%);overflow:clip;position:absolute;white-space:nowrap}.acf-icon__def{display:none}.acf-icon__icon{display:block;inline-size:auto;color:inherit}[dir="rtl"] .acf-icon__icon{transform:scaleX(-1)}@media(forced-colors:active){acf-icon{color:ButtonText!important}}.acf-icon[data-size="M"] .acf-icon__icon{block-size:16px}#slideexp2_672850 .slide { margin-right: 8px; }#slideexp2_672850c .b_slidebar .slide { border-radius: 6px; }#slideexp2_672850 .slide:last-child { margin-right: 1px; }#slideexp2_672850c { margin: -4px; } #slideexp2_672850c .b_viewport { padding: 4px 1px 4px 1px; margin: 0 3px; } #slideexp2_672850c .b_slidebar .slide { box-shadow: 0 0 0 1px rgba(0, 0, 0, 0.05); -webkit-box-shadow: 0 0 0 1px rgba(0, 0, 0, 0.05); } #slideexp2_672850c .b_slidebar .slide.see_more { box-shadow: 0 0 0 0px rgba(0, 0, 0, 0.00); -webkit-box-shadow: 0 0 0 0px rgba(0, 0, 0, 0.00); } #slideexp2_672850c .b_slidebar .slide.see_more .carousel_seemore { border: 0px; }#slideexp2_672850c .b_slidebar .slide.see_more: hover { box-shadow: 0 0 0 0px rgba(0, 0, 0, 0.00); -webkit-box-shadow: 0 0 0 0px rgba(0, 0, 0, 0.00); }Images of Nominal conversion Efficiency of Solar PanelsSolar Panel EfficiencyEfficiency Of Solar PanelsAverage Efficiency Of Solar PanelsSolar Panel Efficiency ChartSolar Panel Efficiency ComparisonSolar Panel Efficiency Comparison ChartCommercial Solar Panel Efficiency ChartWhat Is The Efficiency Of Solar PanelsWhat Is Solar Panel EfficiencySee all.b_wikiRichcard_noHeroSection{content-visibility:auto;contain-intrinsic-size:1px 218px}#b_results .b_wikiRichcard p{display:inline}.b_wikiRichcard .b_promoteText{font-weight:bold}.b_wikiRichcard .tab-head{margin-bottom:var(--smtc-gap-between-content-x-small)}#b_results>li .b_wikiRichcard .wikiRichcard_heroSection{padding-bottom:var(--smtc-gap-between-content-small)}#b_results>li .b_wikiRichcard .wikiRichcard_heroSection p{color:var(--bing-smtc-foreground-content-neutral-secondary-alt)}#b_results>li .b_wikiRichcard .tab-content p,#b_results>li .b_wikiRichcard .tab-content a{color:var(--smtc-ctrl-rating-icon-foreground-filled)}#b_results>li .b_wikiRichcard .tab-container a{border-bottom:1px dashed var(--smtc-stroke-ctrl-on-neutral-rest)}#b_results>li .b_wikiRichcard a.b_mopexpref{border-bottom:0}#b_results>li .b_wikiRichcard line>a: hover{background-color:transparent;text-decoration:none}#b_results>li .b_wikiRichcard a[href*="wikipedia "],#b_results>li .b_wikiRichcard a[href*="wikipedia "]:hover,#b_results .b_wikiRichcard .wiki_attr a,#b_results .b_wikiRichcard .wiki_attr a: hover{border-bottom:0}#b_results>li .b_wikiRichcard a[href*="wikipedia "]:hover,#b_results .b_wikiRichcard .wiki_attr a: hover{text-decoration:underline;background-color:var(--smtc-background-card-on-primary-default-rest)}#b_results>li .b_wikiRichcard_noHeroSection .b_wikiRichcard p{color:var(--bing-smtc-foreground-content-neutral-secondary-alt);display:-webkit-box;-webkit-line-clamp:5;-webkit-box-orient:vertical;overflow:hidden;padding-bottom:0}.b_wikiRichcard_noHeroSection .b_imagePair .b_wikiRichcard_image{float:right;margin-top:var(--smtc-padding-ctrl-text-side)}.b_wikiRichcard_noHeroSection .b_wikiRichcard
```

```
.b_clearfix.b_overflow{line-height:var(--mai-smtc-padding-card-default)}.b_wikiRichcard_noHeroSection
.b_imagePair .b_wikiRichcard_image_caption{margin-right:110px}.b_wikiRichcard_noHeroSection
.b_imagePair .sml{display:none}#b_results li.b_algoBigWiki: hover h2
a{text-decoration:underline}.b_wikiRichcard_noHeroSection .b_floatR_img{padding:0 0
var(--smtc-gap-between-content-x-small)
var(--smtc-gap-between-content-x-small)}.b_wikiRichcard_noHeroSection{margin-top:var(--smtc-gap-between-content-x-small);margin-bottom:var(--smtc-gap-between-content-xx-small);box-sizing:border-box}#b_content
#b_results .b_algo .b_wikiRichcard .tab-head .tab-menu
li.tab-active{box-shadow:none;background:var(--bing-smtc-background-ctrl-subtle-pressed);border-radius:var(--mai-smtc-corner-list-card-default);color:var(--smtc-foreground-ctrl-active-brand-rest)}#b_content
#b_results .b_algo .b_wikiRichcard:not(:has(.tab-navr)) .tab-head .tab-menu
li: hover{background:var(--smtc-background-ctrl-neutral-hover);color:var(--bing-smtc-foreground-content-brand-rest);border-radius:var(--mai-smtc-corner-list-card-default)}.b_wikiRichcard .tab-head .tab-menu
ul{gap:var(--smtc-gap-between-content-small)}#b_results .tab-menu li: hover{box-shadow:none}#b_content
#b_results .b_wikiRichcard .tab-active:focus-visible{outline:0}#b_results .b_wikiRichcard
.tab-menu,#b_results .b_wikiRichcard .tab-menu li,#b_results .b_wikiRichcard .tab-menu
ul{height:auto;line-height:var(--AC_LineHeight)}#b_results .b_wikiRichcard
.tab-head{display:flex;justify-content:center;align-items:center}#b_results .b_wikiRichcard
.tab-head:has(tab-navr){width:fit-content}#b_results .b_wikiRichcard .tab-head
li{padding-top:var(--smtc-gap-between-content-x-small);padding-bottom:var(--smtc-gap-between-content-x-small)}#b_results .b_wikiRichcard .tab-container{padding-bottom:0}.b_wikiRichcard_noHeroSection
span{color:var(--bing-smtc-foreground-content-neutral-secondary-alt)}#b_results .b_wikiRichcard,#b_results
.b_wikiRichcard span{font:var(--bing-smtc-text-global-body3)}#b_content #b_results .b_algo
.b_wikiRichcard .tab-head .tab-menu li
.tab-active{color:var(--smtc-foreground-content-neutral-primary)}#b_content #b_results .b_algo
.b_wikiRichcard .tab-head .tab-menu
li:not(.tab-active){color:var(--bing-smtc-foreground-content-neutral-tertiary)}#b_content #b_results .b_algo
.b_wikiRichcard:not(:has(.tab-navr)) .tab-head .tab-menu
li:not(.tab-active):hover{color:var(--bing-smtc-foreground-content-brand-rest)}.b_wikiRichcard
.b_vList>li{padding-bottom:var(--smtc-gap-between-content-xx-small)}#b_results>li .b_wikiRichcard
a{color:var(--smtc-ctrl-link-foreground-brand-rest)}.pvc_title_with_frows{padding-bottom:10px}.paratitle
.actionmenu{float:right;margin-top:-26px}.paratitle .actionmenu::after{float:none}.b_paractl,#b_results
.b_paractl{line-height:1.5em;padding-bottom:10px}#tabcontrol_12_650102 .tab-head { height: 40px; }
#tabcontrol_12_650102 .tab-menu { height: 40px; } #tabcontrol_12_650102_menu { height: 40px; }
#tabcontrol_12_650102_menu>li { background-color: #ffffff; margin-right: 0px; height: 40px;
line-height:40px; font-weight: 700; color: #767676; } #tabcontrol_12_650102_menu>li: hover { color: #111;
position:relative; } #tabcontrol_12_650102_menu .tab-active { box-shadow: inset 0 -3px 0 0 #111;
background-color: #ffffff; line-height: 40px; color: #111; } #tabcontrol_12_650102_menu .tab-active: hover {
color: #111; } #tabcontrol_12_650102_navr, #tabcontrol_12_650102_navl { height: 40px; width: 32px;
background-color: #ffffff; } #tabcontrol_12_650102_navr .sv_ch, #tabcontrol_12_650102_navl .sv_ch { fill:
#444; } #tabcontrol_12_650102_navr: hover .sv_ch, #tabcontrol_12_650102_navl: hover .sv_ch { fill: #111; }
```

# Nominal conversion efficiency of solar panels

#tabcontrol\_12\_650102\_navr.tab-disable .sv\_ch, #tabcontrol\_12\_650102\_navl.tab-disable .sv\_ch { fill: #444; opacity:.2; }wikipedia Solar-cell efficiency - WikipediaOverviewComparisonFactors affecting energy conversion efficiencyTechnical methods of improving efficiencySee alsoEnergy conversion efficiency is measured by dividing the electrical output by the incident light power. Factors influencing output include spectral distribution, spatial distribution of power, temperature, and resistive load. IEC standard 61215 is used to compare the performance of cells and is designed around standard (terrestrial, temperate) temperature and conditions (STC): irradiance of 1 kW/m, a spectral distribution close to solar radiation through AM (airmass) of 1.5 and a cell temperature 25 °C. The resi...

Best Research-Cell Efficiency Chart NLR maintains a chart of the highest confirmed conversion efficiencies for research cells for a range of photovoltaic technologies, plotted from 1976 ...

Solar panel efficiency refers to the percentage of sunlight that a panel can convert into usable electricity. For example, a panel with 20% efficiency will turn 20% of the sunlight it captures ...

Solar Panel Efficiency explained. Solar panel efficiency is the amount of sunlight (solar irradiance) that falls on the surface of a solar panel and is converted into electricity. Due to the many ...

Modern panels reach 18-23% efficiency. That means they convert about one-fifth of sunlight into usable power. But efficiency is only part of the story. Real-world performance changes ...

Solar panels have rapidly increased in efficiency over the past few decades. Progress has slowed in recent times, but having reached a top efficiency rating of 25%, domestic panels are ...

Solar Performance and Efficiency The conversion efficiency of a photovoltaic (PV) cell, or solar cell, is the percentage of the solar energy shining on a PV device that is converted into usable electricity.

Web: <https://www.moritz-kenk.eu>

