CLAIMS

What is claimed is:

1. A method for reporting a power headroom report, applied to a terminal and comprising:

in a case that a trigger condition for reporting a power headroom report is satisfied, reporting a power headroom report, wherein the power headroom report comprises power headroom report information of at least one power control object, and the power control object is an antenna panel or a beam.

2. The method according to claim 1, wherein the trigger condition comprises at least one of the following:

a current power control object has changed;

a pathloss measurement value or a variation of a pathloss measurement value of the current power control object satisfies a first preset condition;

a power backoff value or a variation of a power backoff value of the current power control object satisfies a second preset condition;

a power management maximum power reduction P-MPR value or a variation of a P-MPR value of the current power control object satisfies a third preset condition;

a P-MPR difference between the current power control object and a first power control object satisfies a fourth preset condition;

a link quality value or a variation of a link quality value of the current power control object satisfies a fifth preset condition;

a link quality difference between the current power control object and the first power control object satisfies a sixth preset condition;

a power control object is activated, enabled, or added;

configuration information of the current power control object or the first power control object has changed; and

information about a serving transmission and reception point has changed; wherein

the first power control object is any power control object or a specified power control object in power control objects of the terminal, other than the current power control object.

3. The method according to claim 2, wherein that the current power control object has changed comprises:

a network side indicates to change the current power control object; or

the terminal has changed the current power control object based on a preset change trigger condition; or,

~~4. The method according to claim 2,~~ wherein that information about the serving transmission and reception point has changed comprises:

a network side configures or activates information about a new transmission and reception point; or

configuration information corresponding to the information about the serving transmission and reception point has changed; or

related configuration information of a control resource set has changed.

~~5~~4. The method according to claim ~~4~~3, wherein the related configuration information comprises at least one of control resource set pool index CORESETPoolIndex information, transmission configuration indicator state information, and search space information; or,

~~6. The method according to claim 4,~~ wherein the configuration information corresponding to the information about the serving transmission and reception point comprises: at least one of a transmission and reception point identifier, CORESETPoolIndex information, a group identifier, a cell identity, and a physical cell identifier.

~~7~~5. The method according to claim 1, wherein the reporting a power headroom report comprises:

reporting the power headroom report by using at least one medium access control control element MAC CE.

~~8~~6. The method according to claim ~~7~~5, wherein the reporting the power headroom report by using at least one ~~medium access control control element~~ MAC CE comprises:

reporting the power headroom report by using one MAC CE, wherein the MAC CE carries power headroom report information of a preset power control object.

~~9. The method according to claim 8, wherein the preset power control object is specified by a protocol or configured by a network side.~~

~~10~~7. The method according to claim ~~8~~6, wherein the preset power control object is a current power control object, a to-be-changed-to power control object, or a changed-to power control object.

~~11~~8. The method according to claim ~~7~~5, wherein the reporting the power headroom report by using at least one MAC CE comprises:

reporting the power headroom report by using one MAC CE, wherein the MAC CE carries power headroom report information of at least one power control object.

~~12~~9. The method according to claim ~~11~~8, wherein the MAC CE further carries identification information or corresponding index information of the at least one power control object.

~~13~~10. The method according to claim ~~11~~8, wherein the power control object comprises a current power control object.

~~14~~11. The method according to claim ~~7~~5, wherein the reporting the power headroom report by using at least one MAC CE comprises:

reporting the power headroom report by using a plurality of MAC CEs, wherein each of the MAC CEs carries power headroom report information of at least one power control object.

~~15~~12. The method according to claim ~~11~~ 8 or ~~14~~11, wherein when the MAC CE carries power headroom report information of a plurality of power control objects, the power headroom report information of the plurality of power control objects is arranged in a preset order.

~~16~~13. The method according to claim ~~14~~11, wherein

each of the MAC CEs further carries identification information or corresponding index information of the power control object; or

identification information of each of the MAC CEs corresponds to identification information of a corresponding power control object.

~~17~~14. The method according to claim ~~12~~ 9 or ~~16~~13, wherein the identification information or the corresponding index information comprises at least one of the following:

identification information or corresponding index information of an antenna panel;

identification information or corresponding index information of a beam; and

identification information or corresponding index information of an antenna panel, and identification information or corresponding index information of a beam corresponding to the antenna panel.

~~18~~15. The method according to claim ~~8~~6, ~~11~~8, or ~~14~~11, wherein the power headroom report information comprises at least one of the following:

power headroom;

information about a serving cell;

maximum transmit power;

P-MPR;

duty cycle ~~(duty cycle)~~; and

indication information used to indicate whether there is power backoff.

~~19~~16. The method according to claim ~~18~~15, wherein

in a case that the MAC CE carries the power headroom report information of the at least one power control object, any one piece of information in the power headroom report information is specific to the serving cell, or is specific to the power control object, or is specific to a power control object corresponding to the serving cell.

~~20~~17. The method according to claim 1, before the reporting a power headroom report, further comprising:

determining power headroom information based on a measurement result corresponding to the power control object.

~~21~~18. The method according to claim ~~20~~17, wherein the determining power headroom information based on a measurement result corresponding to the power control object comprises:

measuring a downlink reference signal corresponding to the power control object; and

determining a power headroom of the power control object based on a measurement result of the downlink reference signal.

~~22. The method according to claim 20 or 21, wherein all or part of calculation parameters used in determining the power headroom information are specific to the power control object.~~

~~23~~19. A terminal, comprising:

a reporting module, configured to: in a case that a trigger condition for reporting a power headroom report is satisfied, report a power headroom report, wherein the power headroom report comprises power headroom report information of at least one power control object, and the power control object is an antenna panel or a beam.

~~24. The terminal according to claim 23, wherein the trigger condition comprises at least one of the following:~~

~~a current power control object has changed;~~

~~a pathloss measurement value or a variation of a pathloss measurement value of the current power control object satisfies a first preset condition;~~

~~a power backoff value or a variation of a power backoff value of the current power control object satisfies a second preset condition;~~

~~a power management maximum power reduction P-MPR value or a variation of a P-MPR value of the current power control object satisfies a third preset condition;~~

~~a P-MPR difference between the current power control object and a first power control object satisfies a fourth preset condition;~~

~~a link quality value or a variation of a link quality value of the current power control object satisfies a fifth preset condition;~~

~~a link quality difference between the current power control object and the first power control object satisfies a sixth preset condition;~~

~~a power control object is activated, enabled, or added;~~

~~configuration information of the current power control object or the first power control object has changed; and~~

~~information about a serving transmission and reception point has changed; wherein~~

~~the first power control object is any power control object or a specified power control object in power control objects of the terminal, other than the current power control object.~~

~~25. The terminal according to claim 24, wherein that the current power control object has changed comprises:~~

~~a network side indicates to change the current power control object; or~~

~~the terminal has changed the current power control object based on a preset change trigger condition.~~

~~26. The terminal according to claim 24, wherein that information about the serving transmission and reception point has changed comprises:~~

~~a network side configures or activates information about a new transmission and reception point; or~~

~~configuration information corresponding to the information about the serving transmission and reception point has changed; or~~

~~related configuration information of a control resource set has changed.~~

~~27~~20. A terminal, comprising a processor, a memory, and a computer program stored in the memory and capable of running on the processor, wherein when the computer program is executed by the processor, the steps of the method for reporting a power headroom report according to any one of claims 1 to ~~22~~ 18 are implemented.

~~28. A computer-readable storage medium, wherein a computer program is stored in the computer-readable storage medium, and when the computer program is~~

~~executed by the processor, the steps of the method for reporting a power headroom report according to any one of claims 1 to 22 are implemented.~~