

Base Fee Estimates API

This API provides both type-2 base fee and type-3 blob base fee prediction using Blocknative's Gas Platform. Predictions are made for the next 5 blocks at a 99% confidence level (highest inclusion guarantee at the expense of some overpayment) and 50% confidence level (likely inclusion with reduced overpayment).

Authentication

Use of this endpoint requires an API key for proper authorization. Please [reach out to Blocknative](#) for an API key.

API Endpoint

GET <https://api.blocknative.com/gasprices/basefee-estimates>

Returns a range of confidence intervals for gas prices needed to qualify a transaction for inclusion in the next block. Order of confidence intervals is subject to change.

Fields

Each payload contains header fields followed by base fee predictions for the next 5 blocks after the current pending block.

Header Fields

Field Name	Description
system	Type of chain (EVM = "ethereum")
network	Name of network (chain id 1 = "main")
unit	Type of unit for fee values (currently all fee values are in gwei)
currentBlockNumber	Block number at time of prediction
msSinceLastBlock	Time, in milliseconds, since last block (i.e. how far into slot time)
baseFeePerGas	Base fee for current pending block
blobBaseFeePerGas	Blob base fee for current pending block
estimatedBaseFees	Future pending block estimates (see below)

Estimate Fields

Field Name	Description
pending+n	Future pending block for the estimate (current n = 1...5). This is the pending block after the current pending block. The base fee and blob base fee for the current pending block is already fixed and included in the header.
confidence	Indicates how likely predictions are to being greater than or equal to the actual base fee or blob base fee for that future block number. For example the 99% confidence level attempts to make a prediction that is greater than or equal to the actual base fees 99% of the time, while minimizing the gap between the prediction and actual fee. And the 50% confidence level attempts to make a prediction that is greater than or equal to the actual base fees 50% of the time, while minimizing the gap between the prediction and actual fee. Therefore, the 99% confidence level will always make a prediction that is higher than the 50% confidence level in order to achieve its 99% confidence.
baseFee	The estimated base fee at the specified confidence level for the specified future pending block.
blobBaseFee	The estimated blob base fee at the specified confidence level for the specified future pending block.

Example Request

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Copy curl-H"X-Api-Key: ""<https://api.blocknative.com/gasprices/basefee-estimates>"

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Example Response

The response payload contains the predictions for the base fee and blob base fee for the current pending block + X where X can be 1 through 5.

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Copy { "system":"ethereum", "network":"main", "unit":"gwei", "currentBlockNumber":19577777, "msSinceLastBlock":6672, "baseFeePerGas":31.004192998, "blobBaseFeePerGas":0.028263001, "estimatedBaseFees":[ { "pending+1":{ "confidence":99, "baseFee":34.75, "blobBaseFee":0.031795876 }, { "confidence":50, "baseFee":30.74, "blobBaseFee":0.031795876 } ] }, { "pending+2":{ "confidence":99, "baseFee":34.7, "blobBaseFee":0.035770362 }, { "confidence":50, "baseFee":30.36, "blobBaseFee":0.035770362 } ] }, { "pending+3":{ "confidence":99, "baseFee":35.28, "blobBaseFee":0.040241657 }, { "confidence":50, "baseFee":30.35, "blobBaseFee":0.040241657 } ] }, { "pending+4":{ "confidence":99, "baseFee":36.25, "blobBaseFee":0.045271865 }, { "confidence":50, "baseFee":30.55, "blobBaseFee":0.045271865 } ] }, { "pending+5":{ "confidence":99, "baseFee":37.09, "blobBaseFee":0.050930849 }, { "confidence":50, "baseFee":30.48, "blobBaseFee":0.050930849 } } ] }
```

...

In the above example response, you receive the system (Ethereum), network (main), unit (gwei), current block number, time

since last block (ms), base fee (gwei), and blob base fee (gwei) as well as the estimated base fee predictions (over the next 5 blocks after the current pending block) for the base fee and the blob base fee at a 99% confidence level and 50% confidence level.

Questions

If you have any questions, please [reach out to Blocknative](#).

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