

Introduction

This document is intended to provide a brief technical introduction to 3TIER's FirstLook Basic API.

The FirstLook Basic API enables developers, installers, manufacturers, and others involved with renewable energy to use 3TIER's annual mean solar and wind information within their products and services. This is the same information used to power 3TIER's FirstLook wind and solar assessment sites. The API provides secure access to annual mean wind speed at 20m-80m hub heights, annual GHI, and confidence intervals for each value.

All calls to the API must be authenticated with user credentials (username, password) using either HTTP Basic or HTTP Digest Authentication. Alternatively, an API key tied to user credentials may be used to access the API. The authentication key is added to the GET request arguments using the variable apikey.

Sample API Call (for Annual GHI)

```
https://data.3tier.com/api/rest/0.9/get_point/?  
lat=44.6&lon=-110.5&  
client_reference_id=MyReferenceId&  
product=FirstlookBasicAPI&  
field=AnnualMeanGHI
```

Sample API Call using authkey

```
https://data.3tier.com/api/rest/0.9/get_point/?  
lat=44.6&lon=-110.5&  
client_reference_id=MyReferenceId&  
product=FirstlookBasicAPI&  
field=AnnualMeanGHI&  
apikey=SAMPLE-API-KEY
```

Sample API Response (for Annual GHI)

```
<?xml version="1.0" encoding="UTF-8"?>  
<GetPointResult id="Sf9xHcwP5@kAAGVbA9MAAAD">  
  <Request>  
    <Resource>/api/rest/0.9/get_point/</Resource>  
    <ClientReferenceId>MyReferenceId</ClientReferenceId>  
    <Product>FirstlookBasicAPI</Product>  
    <Longitude>-110.5</Longitude>  
    <Latitude>44.6</Latitude>  
    <Field>AnnualMeanGHI</Field>
```

```

</Request>
<Data>
  <FieldResult name="AnnualMeanGHI" units="watts/(square meter*day)">
    <FieldResultItem>
      <Value>196.46</Value>
      <ErrorEstimate>19.06</ErrorEstimate>
    </FieldResultItem>
  </FieldResult>
</Data>
</GetPointResult>

```

Sample API Error Response (for Annual GHI)

If a user makes an API call outside the product region, a permissions error is returned like the one shown below.

```

<?xml version="1.0" encoding="UTF-8"?>
<GetPointResult xmlns="https://data.3tier.com/api/rest/0.9/get_point"
id="Sf9xlswP5@kAAGVcBA4AAAAE">
  <Request>
    <Resource>/api/rest/0.9/get_point</Resource>
    <ClientReferenceId>MyReferenceId</ClientReferenceId>
    <Product>FirstlookBasicAPI</Product>
    <Longitude>-110.5</Longitude>
    <Latitude>54.6</Latitude>
    <Field>AnnualMeanGHI</Field>
  </Request>
  <Error code="NotAuthorized">
    <Message>you are not authorized to access the requested resource</Message>
  </Error>
</GetPointResult>

```