

Compositing your scene into an environment

Often it is not economical to model and create an environment for your scene to sit in, and it is a common technique to composite elements together to fake it.

There are 3 techniques that I will take you through to help you composite your renders. The first, and easiest, will be using an Alpha Render. The second, but that gives the best results, will be Environment Maps, and the third, that sits somewhere between the two, will be using Image Planes.

You can get the SketchUp house model I am using for this tutorial from the [Ronen Bekerman](#) website.

1. The Alpha Render Technique

After modelling your scene, lighting it and framing it with the camera, find an image to use as a background that suits your scene. Think about the camera angle, time of day or shadows, and the type of light. Try and get an image that is the same, or higher, resolution of your render.

1. Render normally.



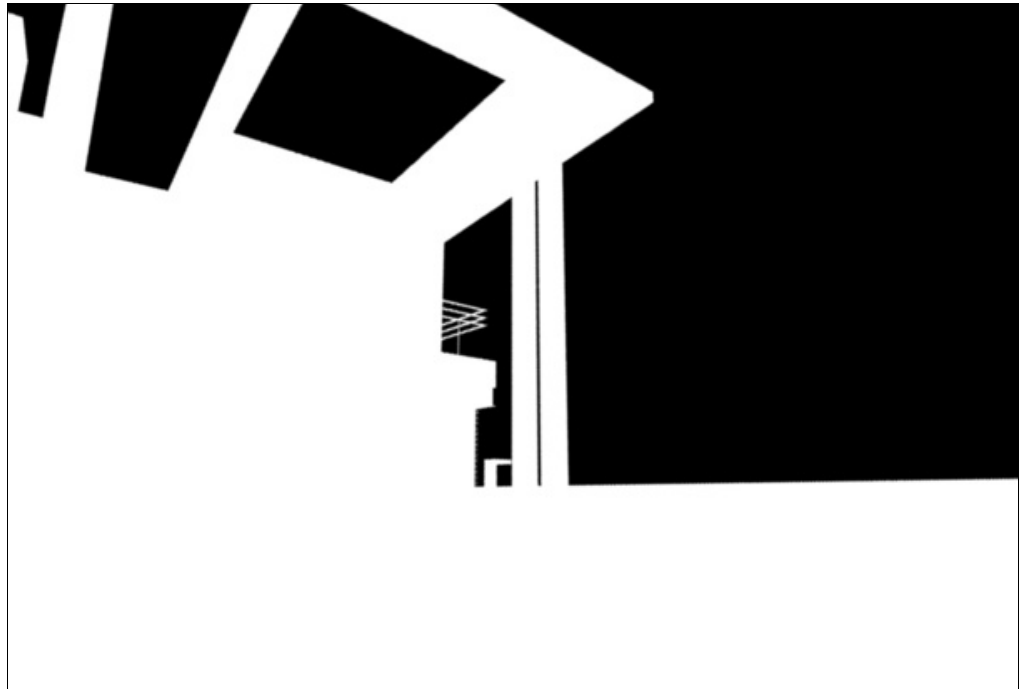
2. Next make an **Alpha Render**.

SketchUp – SkIndigo > Render Settings > Advanced > Tracing Method

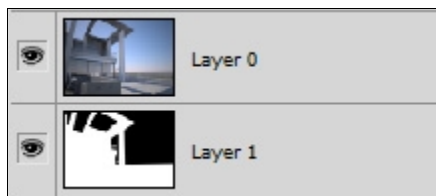
Cinema4d - Cindigo Render Settings > Export Settings > Background alpha

Blender – Blendigo > Render Settings > Alpha render

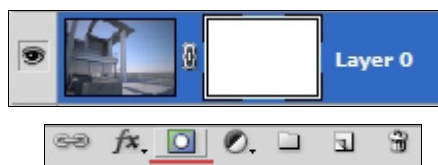
3ds Max – Maxigo > Export > Export Scene > Alpha Mode



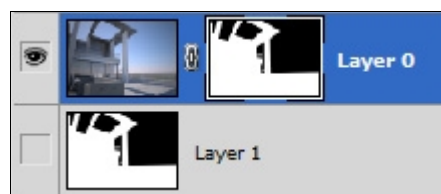
3. You can now composite the two using an image editing tool such as Photoshop. Here's a crash course on how to use the alpha render as a layer mask for the real render in photoshop.



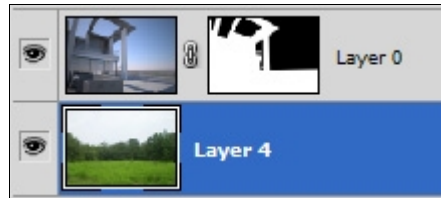
1. Put the both images together



2. Create a mask for the real render by selecting the layer and clicking the add mask button



3. Select the alpha layer and **copy** it.
4. **Win:Alt; Mac:Option +** click the white mask to select it, and then **paste** the alpha render onto it.



5. Put an image under it and you're done!



Final composite

Results: Notice the Sun & Sky is still present in the reflections of the windows and looks quite out-of-place.

2. HDR Environment maps

An HDR environment map is an image that fully wraps around your scene to create the effect of having a background, and also emits light. It is important that you use an HDR environment map that has good light, especially if it has the sun in it – the sun is many thousand times brighter than anything else and will only cast good shadows if it has been captured right.

This technique gives the best results because all the reflections from the materials will accurately respond to the 'environment' as if it were real. But it is difficult to find a good HDR environment map for free – and can be difficult to make your own.

I am using an HDR environment map found from openfootage.net

1. Download an .EXR or .float HDR map. Indigo does not support .HDR files, but there are good converters out there. Try [Picturenaut](#).



Italian field from openfootage

2. In your render settings, change the **environment** to **Environment Map** and set your HDR environment map.
3. **Render!** If the environment map is too dark, or not positioned correctly, you can change the **gain** for brightness, and **rotation** to change its position.



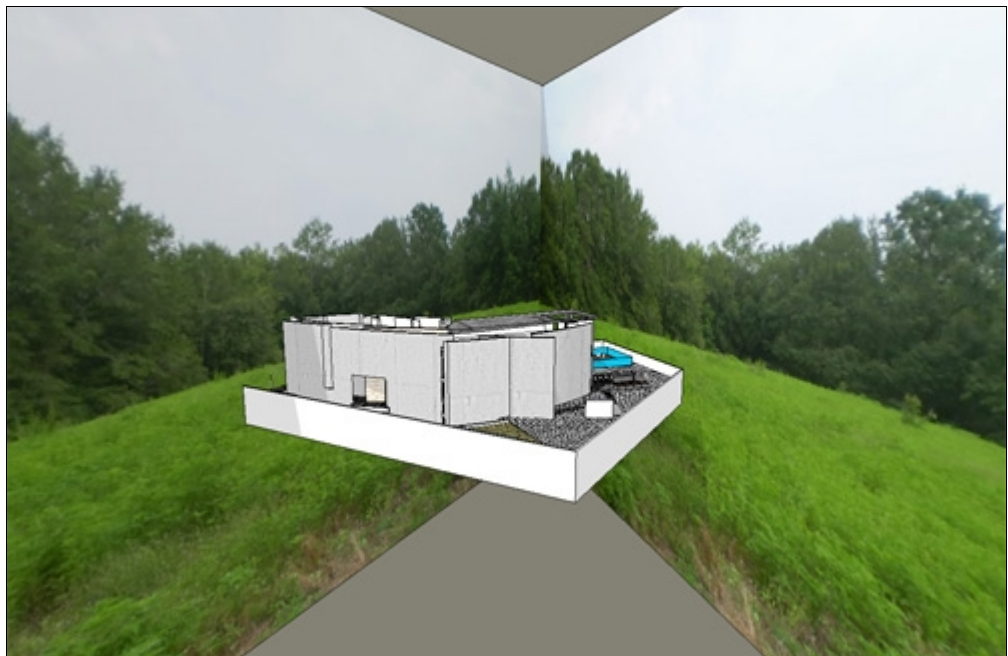
Final render

Results: The scene is effected by the light of the environment map and you can just see reflections of trees from the map in the windows.

3. Image Planes

This technique is a bit of a cheat really. It involves taking a picture of a background that you would otherwise composite, and texturing them onto a large flat plane. The trick is to get a large enough image that it fills the whole background of the render.

1. Create a massive plane that sits directly behind your model, and fills the camera's view. Texture it with your background image and resize it so it fits nicely.
2. Copy this front image plane and mirror it behind the camera to create a back-plane.



Sketchup scene with massive image planes arranged

3. To create a convincing background, light must come from the image planes, or they will catch shadows and look fake. Add emission to the textured material, as an emission texture. This will emit light from the surface based on the texture itself. In SketchUp, simply change **Emission** to SketchUp. I've also set the emission color to white and power to 200.

4. Render with sun & sky for good shadows, or you could even just use background colour.



Render with only a front image plane



Final render

Result: (excuse the tonemapping) The bottom has reflections in the windows and a mostly convincing background. It looks alright.