



## LIST OF NO BRAINERS

*The list below are items we feel are so important they should be added to every project. These measures (“No Brainers”) do not significantly add to first costs and have great potential energy or operational savings. This list is ever evolving, and we welcome your suggestions and additions. For sources and contact information, please contact us: [info@organicarchitect.com](mailto:info@organicarchitect.com)*

**REVISED: October 2005**

1. Every project should be a Passive Solar design, orient to the sun and incorporate passive cooling.
2. Double the minimum amount of insulation required. Use only non-toxic or recycled content insulation.
3. Use Low/No-VOC and Formaldehyde-Free Paint. Use Solvent-Free Adhesives.
4. Use Low VOC, Water-Based Wood Finishes.
5. Use certified wood or finger-jointed wood for all finish trim.
6. Expose the structure to avoid the need for additional finishes.
7. Avoid wall to wall carpet, or use carpet tiles with a company with a take back program.
8. If you must use drywall, use recycled content drywall. Try other natural wall finishes.
9. Use composite lumber for all exterior decks.
10. Replace up to 35% of the Portland Cement in the concrete with Fly Ash.
11. Avoid vinyl products. Alternatives include rubber, turned up carpet, linoleum, etc. As an alternative to vinyl flooring consider linoleum, made from wood flour, resins and linseed oil. It's available in a variety of colors and can be cut and pieced in to any pattern you can dream up.
12. Specify a light color roof in warm regions; a non asphalt roof allows for future water catchment.
13. Avoid standard particle board cabinets and use formaldehyde-free medium density fiberboard, plywood or wheat board for cabinet boxes.
14. Consider bamboo, reclaimed or sustainably harvested wood, and wheatboard for cabinet doors and drawers, and sealed with a no- or low-volatile organic compound clear finish.
15. On-demand hot water pumping system rather than a whole house re-circulating hot water loop, which has proven to be inefficient for delivering hot water quickly.
16. Any new toilets should be dual flush type. For \$20, EcoFlush makes a kit to retrofit existing toilets to dual flush.
17. Recycle Job Site Construction and Demolition Waste. Change your general demolition notes to salvage all removed doors and windows for possible salvage or reuse.
18. Use treated wood that does not contain Chromium, CCA or Arsenic for decking and sill plates.
19. Landscaping uses drip irrigation system to save water and indigenous xeriscaping plants that require little water.
20. Incorporate permeable paving at all driveways and exterior surfaces.
21. Reuse concrete form boards, or reusable slip forms.
22. Insulate foundation before backfill.
23. Substitute solid sawn lumber with engineered lumber.
24. Use OSB for subfloor and sheathing
25. If you are going to use stucco siding, use integrally colored stucco.
26. Install a whole house water filter.
27. Provide conduit for future solar addition.
28. Provide dimmers on all light switches. (Wattstopper)
29. South and west facing walls to have a high thermal mass material (concrete, or earthen).
30. All appliances to be high level EnergyStar models.
31. Pre-plumb for solar water heating.
32. On demand, tankless water heaters
33. Provide heat reclamation GFX exchangers at all high use showers.



## MEASURES EXPLAINED

### **Drywall:**

#### THE PROBLEM WITH IT:

The chief ingredient in a drywall panel is gypsum, which is mined out of the earth uses a great deal of heat to produce. This heat requires energy and gives off CO<sub>2</sub>. The backing is typically 100% recycled, unbleached paper facings that are bonded without adhesives onto a gypsum core.

#### HOW TO CORRECT IT:

Though mined virgin gypsum is still widely used in gypsum board production, recycled and synthetic gypsum is easily available. Synthetic gypsum may replace up to 100% of the natural gypsum in drywall. Be aware that paper facings may provide a medium for mold growth in conditions of high humidity and low air circulation; some drywall is made with integral cellulose or fiberglass fibers instead of paper facing to eliminate mold risk. Also, be aware that the boards come in standard heights of 8' & 9' and designing to those ceiling heights will reduce waste.

#### SUGGESTED ALTERNATIVES:

G-P Gypsum Corporation  
Phone: 404-652-4000  
Fax: 404-230-7052  
[www.gp.com/gypsum](http://www.gp.com/gypsum)

Gold Bond Gypsum Wallboard  
National Gypsum Company  
Phone: 704-365-7300  
Toll-free: 800-628-4662  
Fax: 800-329-6421  
[www.national-gypsum.com](http://www.national-gypsum.com)

Temple-Inland Gypsum  
Temple-Inland Forest Products  
Phone: 936-829-5511  
Toll-free: 800-231-6060  
Fax: 800-426-7382  
[www.templeinland.com](http://www.templeinland.com)

Fiberock Gypsum Fiber Panels  
Sheetrock Brand Gypsum Panels  
USG Corporation  
Phone: 312-606-4000  
Toll-free: 800-874-4968  
Fax: 312-606-4476  
[www.usg.com](http://www.usg.com)



## **Plywood:**

### THE PROBLEM WITH IT:

Plywood consists of wood cut into thin layers and alternately glued together. Typically, the wood comes from newly cut trees. The adhesives are typically toxic and contain urea-formaldehyde (UF) and phenol-formaldehyde (PF), which can offgas significant concentrations of formaldehyde gas—an indoor air quality concern and known carcinogen.

### HOW TO CORRECT IT:

All plywood used should carry the FSC label (Certification to Forest Stewardship Council) to ensure that sustainable practices were used in the extraction of the wood. MDI binders do not offgas any formaldehyde and should be specified for all wood materials used.

Oriented-strand board (OSB) is an efficient alternative use of wood because it is produced from small-pieces and low-grade species of wood. The same concerns about using non-toxic adhesives still apply.

### SUGGESTED ALTERNATIVES:

EnerMax Radiant Barrier Sheathing  
EMCO Building Products Corporation  
Toll-free: 800-567-2726  
Fax: 800-361-7011  
www.emcobp.com

4-Way Floor Deck, N.C.F.R., and Firestall Roof Deck  
Homasote Company  
Phone: 609-883-3300  
Toll-free: 800-257-9491  
Fax: 609-883-3497  
www.homasote.com

Fiberboard - Regular and High Density  
Huebert Brothers Products, LLC  
Phone: 660-882-2704  
Toll-free: 800-748-7147  
Fax: 660-882-7991  
www.huebertfiberboard.com

AdvanTech OSB  
J. M. Huber Wood Products  
Phone: 704-547-0671  
Toll-free: 800-933-9220  
Fax: 704-547-0739  
www.huberwood.com

BarrierPanel, TechShield Radiant Barrier, and BarrierFloor OSB  
LP  
Toll-free: 877-744-5600  
Fax: 877-523-7192  
www.lpcorp.com

Energy Brace and Thermo Ply  
Ludlow Coated Products  
Phone: 269-435-2425  
Toll-free: 800-345-8881  
Fax: 269-435-7510  
www.ludlowcp.com

Certified Pine Plywood  
Tuff-Strand Certified OSB  
ROMEX World Trade Company, LLC  
Phone: 318-445-1973  
Toll-free: 800-299-5174  
Fax: 318-443-0159  
www.martco.com



**Paint:**

THE PROBLEM WITH IT:

A primary consideration for most interior paints is their potential impact on occupant health due to their containing VOC's. VOC's (Volatile Organic Compounds) are known carcinogens and are directly related to asthma cases in children.

HOW TO CORRECT IT:

Very-low-VOC or zero-VOC paints are preferred.

SUGGESTED ALTERNATIVES:

Safecoat Zero-VOC Flat, Eggshell, and Semi-gloss  
American Formulating & Manufacturing (AFM)  
Phone: 619-239-0321  
Toll-free: 800-239-0321  
Fax: 619-239-0565  
[www.afmsafecoat.com](http://www.afmsafecoat.com)

Healthy Milk Paint  
Antique Drapery Rod Co., Inc.  
Phone: 214-653-1733  
Fax: 214-653-1776  
[www.antiquedraperyrod.com](http://www.antiquedraperyrod.com)

Pristine Eco-Spec  
Benjamin Moore & Co.  
Phone: 201-573-9600  
Toll-free: 800-344-0400  
Fax: 201-573-6673  
[www.benjaminmoore.com](http://www.benjaminmoore.com)

Best Paints  
Best Paint, Inc.  
Phone: 206-783-9938  
Fax: 206-783-5017  
[www.bestpaintco.com](http://www.bestpaintco.com)

Enviro-Safe Paint  
Chem-Safe Products Company  
Phone: 512-326-4474  
Fax: 512-326-4496  
[www.ecowise.com](http://www.ecowise.com)

Genesis Odor-Free  
Duron Paints & Wallcoverings  
Toll-free: 800-723-8766  
Fax: 301-595-3919  
[www.duron.com](http://www.duron.com)

BioShield Interior Paint  
Eco Design/BioShield Paint Company  
Phone: 505-438-3448  
Toll-free: 800-621-2591  
Fax: 505-438-0199  
[www.bioshieldpaint.com](http://www.bioshieldpaint.com)

Kelly-Moore Enviro-Cote  
Kelly-Moore Paint Co.  
Phone: 916-921-0165  
Toll-free: 800-874-4436 ext. 157  
Fax: 650-592-1215  
[www.kellymoore.com](http://www.kellymoore.com)



## **Vinyl Base:**

### THE PROBLEM WITH IT:

Polyvinyl chloride is one of our most common synthetic materials. Commonly known as “PVC” or “vinyl,” polyvinyl chloride is a tremendously versatile resin, appearing in thousands of different formulations and configurations. In the U.S. we produced over ten billion pounds of PVC resins in 1992.

While some vinyl products such as siding and flooring have long had critics, recently the entire PVC industry has come under fire for environmental reasons. Greenpeace is calling for the phase-out of all chlorine-based industries, including PVC, for a range of health and environmental reasons.

PVC is toxic at every stage of it’s lifecycle and the extraction, manufacture, installation and use of the material gives off proven and known carcinogens, including mercury, which has been turning up in women’s breast milk who reside within 150 miles of the largest PVC plant in Louisiana. There is a correlation between PVC exposure and birth defects in communities adjacent to PVC factories. In addition, PVC is difficult to recycle and again toxic to do so.

### HOW TO CORRECT IT:

Avoid the use of all vinyl, especially in interior, exposed areas. Look for low-VOC adhesive.

### SUGGESTED ALTERNATIVES:

There are now numerous alternatives for vinyl, including ABS, Rubber and Polyethelene. For the vinyl base, these alternatives will work:

Rubber Wall Base

Reclaimed Wood Millwork

Turned up Carpet Edging

Design to avoid need for wall base

## **Wood Flooring:**

### THE PROBLEM WITH IT:

Wood flooring comes, obviously, from trees. These are typically clear-cut and milled into planks very inefficiently and with no regard for the future environmental impact.

### HOW TO CORRECT IT:

Reclaimed Wood Flooring is made from timbers salvaged from old buildings, barns, bridges, or other timber structures. The benefit is a floor with a great deal of character and old growth quality unmatched in new wood. Plan your needs with plenty of lead time, as availability and pricing fluctuate widely.

Certified wood carries the FSC label (Forest Stewardship Council) to ensure that sustainable practices were used in the extraction of the wood.

Sustainably harvested woods include Bamboo or palm wood. Bamboo—which is a grass, not a tree—typically comes from China and is very strong and dimensionally stable. Despite the long-distance transport, the durability, hardness, and short regeneration time of bamboo provide justification for using it for flooring instead of wood.

No matter what floor you use, be sure to specify non-toxic sealers.

### SUGGESTED ALTERNATIVES:

Black's Farmwood  
Phone: 415-454-8312  
Toll-free: 877-321-WOOD  
Fax: 415-454-8393  
[www.blacksfarmwood.com](http://www.blacksfarmwood.com)

TerraMai  
Phone: 530-964-2740  
Toll-free: 800-220-9062  
Fax: 530-964-2745  
[www.terramai.com](http://www.terramai.com)

Smith & Fong Company  
Toll-free: 866-835-9859  
Fax: 650-872-1185  
[www.plyboo.com](http://www.plyboo.com)

EcoTimber  
Phone: (888) 801-0855  
[www.ecotimber.com](http://www.ecotimber.com)

### ADHESIVES:

BioShield Adhesives  
Eco Design/BioShield Paint Company  
Phone: 505-438-3448  
Toll-free: 800-621-2591  
Fax: 505-438-0199  
[www.bioshieldpaint.com](http://www.bioshieldpaint.com)

Safecoat Adhesives  
American Formulating & Manufacturing (AFM)  
Phone: 619-239-0321  
Toll-free: 800-239-0321  
Fax: 619-239-0565  
[www.afmsafecoat.com](http://www.afmsafecoat.com)

## **Carpet:**

### THE PROBLEM WITH IT:

Carpet, especially wall-to-wall carpet, has several environmental issues.

1. *Carpet is typically made from synthetic, oil-based materials. These are toxic and off-gas harmful chemicals.*
2. *Carpet is typically backed with vinyl (PVC) and vinyl is toxic at every stage of its lifecycle.*
3. *The synthetic and mixed materials make carpet impossible to recycle.*
4. *Carpet requires a great deal of energy to maintain, since it must be vacuumed.*
5. *Vacuuming alone does not clean carpet and instead creates an environment for pests, mold and mildew to reside. Carpet is host to numerous indoor-air quality issues, including the spread of asthma.*

### HOW TO CORRECT IT:

There are now many carpet manufacturers who have addressed some or all of these issues:

Use natural fiber carpets from companies with recycling take-back programs. The use of carpet tile is an environmentally preferable alternative to wall-to-wall since damaged tiles can be individually replaced without having to replace an entire floor. Of course, avoiding carpet altogether would be best.

Natural padding is preferred over glue down applications for several reasons: the adhesives typically contain VOC's which off-gas harmful chemicals; the adhesives make replacing or removing the carpet much more difficult; the adhesives can make the carpet unrecyclable.

### SUGGESTED ALTERNATIVES:

Shaw Contract Group  
Phone: 877-502-7429 / 800--257-7429  
[www.shawcontract.com](http://www.shawcontract.com)

Milliken Carpet  
Toll-free: 800.241.4826  
[www.milliken.com](http://www.milliken.com)

Mohawk Industries, Inc.  
Phone: 800-622-6227  
[www.mohawkind.com](http://www.mohawkind.com)

### CARPET PADDING:

Ethos Carpet-Cushion Backing  
C&A Floorcoverings  
Toll-free: 800-248-2878  
[www.cafloorcoverings.com](http://www.cafloorcoverings.com)

EcoSoft Carpet Cushion  
Invista Commercial Flooring  
Toll-free: 800-438-7668  
[www.antron.invista.com](http://www.antron.invista.com)

Interface  
Toll-free: 800-336-0225  
[www.interfaceflooring.com](http://www.interfaceflooring.com)

Bentley Prince Street  
Toll-free: 800-423-4709  
[www.bentleyprincestreet.com](http://www.bentleyprincestreet.com)

J&J / Invision  
Toll-free: 800-241-4586  
[www.jj-invision.com](http://www.jj-invision.com)

Carpet Padding  
Earth Weave Carpet Mills, Inc.  
Phone: 706-278-8200  
[www.earthweave.com](http://www.earthweave.com)

Hartex, PL and DublBac Series Carpet Cushion  
Leggett & Platt, Inc. - Fairmont Division  
Phone: 770-459-7060  
Toll-free: 877-579-4737  
[www.leggett.com](http://www.leggett.com)



## **Insulation:**

### THE PROBLEM WITH IT:

Most fiberglass insulation is made primarily from spun glass fibers and contains a phenol-formaldehyde (PF) binder, which offgasses harmful chemicals. In addition, the airborne fibers are also a potential carcinogenic hazard. Most fiberglass insulation today has at least 30% recycled-content, but varies from plant to plant.

### HOW TO CORRECT IT:

Use a natural insulation, with a formaldehyde-free binder.

Cotton insulation is made from recycled cotton, such as denim. Nontoxic flame retardants similar to those used in clothing are added. Unlike fiberglass, there are no microfibers to cause respiratory problems.

Cellulose insulation contains 75-80% recycled newspapers and nontoxic borate for fire retarding.

Insulation saves energy, so the more the better. Specify more than the minimum amount and it will pay for itself within a year in the energy savings.

### SUGGESTED ALTERNATIVES:

#### FORMALDEHYDE-FREE INSULATION

InsulSafe 4  
CertainTeed Corporation  
Phone: 610-341-7739  
Toll-free: 800-233-8990  
www.certainteed.com

Formaldehyde-Free Insulation Batts  
Johns Manville Corporation  
Phone: 303-978-2000  
Toll-free: 800-654-3103  
www.jm.com

#### NATURAL COTTON INSULATION

UltraTouch Natural Fiber Insulation  
Bonded Logic, Inc.  
Phone: 480-812-9114  
Fax: 480-812-9633  
www.bondedlogic.com

Inno-Therm Fiber Insulation  
InnoTherm  
Phone: 828-466-1147  
Toll-free: 877-466-0612  
www.innotherm.com

#### CELLULOSE INSULATION

Cellulose Insulation  
Clayville Insulation  
Phone: 208-678-9791  
Toll-free: 800-584-9022  
www.safelink.net/clayinsu

Energy Control  
Energy Control, Inc.  
Phone: 260-622-7614  
Toll-free: 800-451-6429

Igloo Cellulose Insulation  
Igloo Cellulose, Inc.  
Toll-free: 800-363-7876  
Fax: 514-694-3999  
www.cellulose.com

K-13 and SonaSpray "fc" Insulation  
International Cellulose Corporation  
Phone: 713-433-6701  
Toll-free: 800-444-1252  
www.spray-on.com

## OFFICE LIBRARY ADDITIONS

*The following materials should be in every architect's library. We provide these for your reference, and do not imply or suggest any warranty or endorsement of these materials.*

### SURFACES:

Modular Arts (Textured wall panels)  
www.modulararts.com  
425.670.8618

Phenix Environ Biocomposites  
(Sunflower Seed Panels)  
www.environmentbiocomposites.com  
507-388-3434

Alkemi (100% recycled aluminum resin surface)  
www.renewedmaterials.com

Richlite Company (pressed paper surfacing)  
www.richlite.com/  
888-383-5533

Kirei Board (Rice sorghum)  
www.kireiusa.com  
619-236-9924

3-Form (Eco-Resin panels)  
www.3-form.com  
800-726-0126

American Clay Earth Plaster  
www.americanclay.com  
866-404-1634

### PAINTS:

Auro Paints (plant based)  
www.aurousa.com  
707-763-0662

AFM Safecoat (Zero VOC)  
www.afmsafecoat.com  
619-239-0321

### FLOORING:

EcoTimber (Bamboo & reclaimed)  
www.ecotimber.com  
415-258-8454

Durapalm (Palm wood floors)  
www.durapalm.com  
650-872-1184

Smith & Fong (Bamboo wood floors)  
866-835-9859  
www.plyboo.com

TerraMai (reclaimed wood flooring)  
www.terramai.com  
800-220-9062

Forbu Marmoleum (linoleum)  
www.marmoleum.com  
570-459-0771

### CARPET:

InterfaceFLOR (renewable)  
www.interfaceflor.com  
403-203-6000

Earthweave (biodegradable carpets)  
www.earthweave.com  
706-278-8200

Nature's Carpet (natural fiber carpet)  
www.naturescarpet.com

### PAINTS:

Anna Sova (organic)  
www.annasova.com  
877-326-7682

Old Fashioned Milk Paints (natural)  
www.milkpaint.com  
978-448-6336

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**CABINETS:**

Baltix (ecofriendly office solutions)  
www.baltix.com  
763-210-0152

NEFF (custom cabinets)  
www.neff.co.uk

Neil Kelly (custom cabinets)  
www.neilkellycabinets.com  
503-288-NEIL

AlterEco (custom bamboo cabinets and furniture)  
www.bamboocabinets.com  
415-331-8342

**WALLCOVERINGS:**

MioCulture (3D Wallpaper)  
www.mioculture.com  
215-925-9359

Natural Environments Wallcovering

DesignTex  
www.dtex.com  
800-221-1540

**INSULATION:**

Bonded Logic (Ultra Touch Cotton Insulation)  
www.bondedlogic.com  
480-812-9114

**CORK:**

Expanko Cork  
www.expanko.com

Natural Cork (click system tiles)  
www.naturalcork.com  
800-404-2675

**COUNTERS/TILES:**

Counter Production (80-95% recycled glass)  
www.counterproduction.com  
510.843.6916

IceStone (75% recycled glass)  
www.icestone.biz  
718.624.4900

Bedrock Industries (100% recycled glass)  
www.bedrockindustries.com  
877 283-7625

Oceanside Glasstile  
www.glasstile.com

EnviroGLAS  
www.enviroglass.net  
208-453-4860

Fireclay & Lavastone (recycled tiles and lavastone with porcelain finish)  
www.fireclaytile.com  
408- 275-1182

Shaw Tile (recycled content)  
www.shawfloors.com  
1-800-441-7429

**PARTICLE BOARD:**

PrimeBoard (Wheat Board)  
www.primeboard.com  
701-642-1152

**CLEANING PRODUCTS:**

Method Home  
www.methodhome.com

Seventh Generation  
www.seventhgen.com