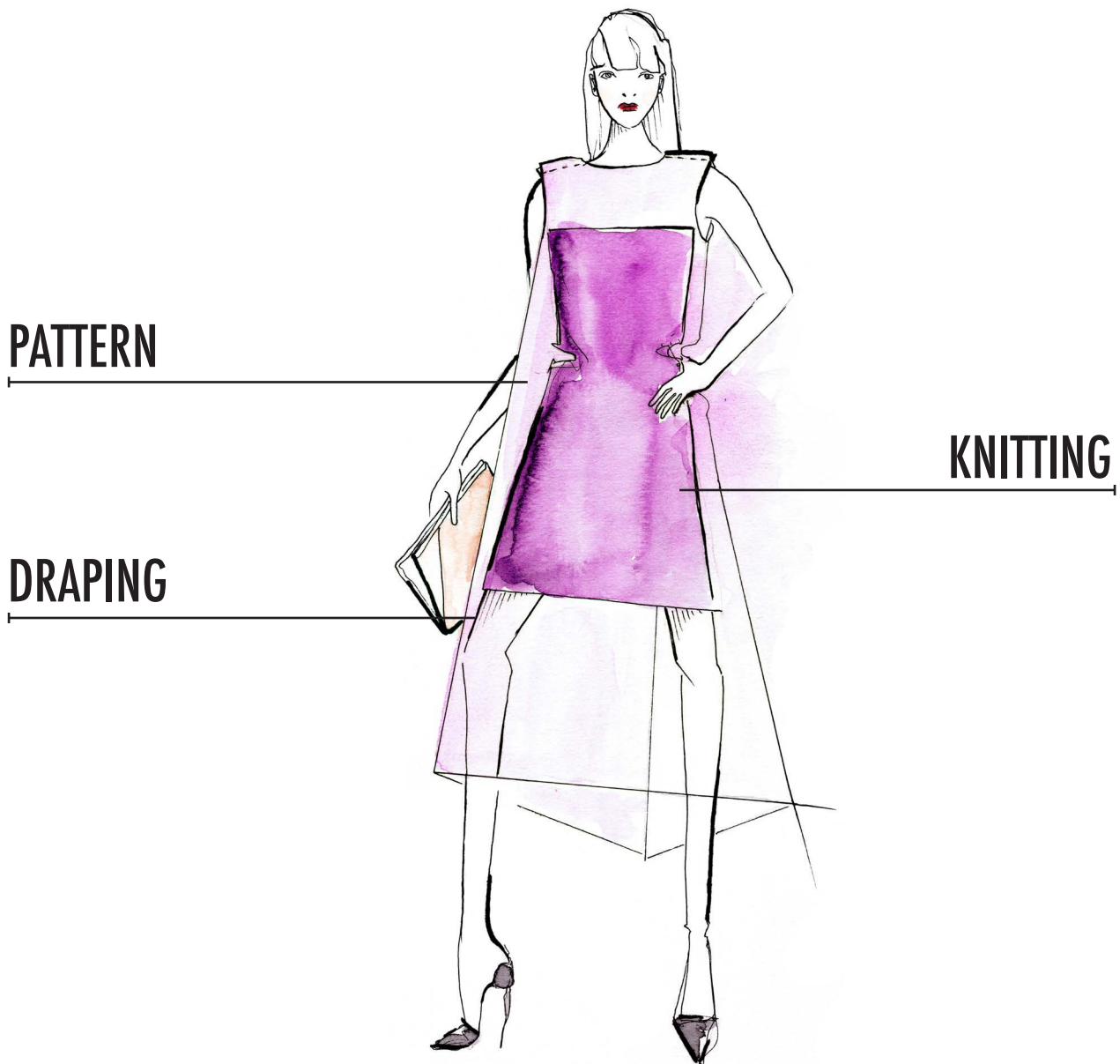


# The EcoChic Design Award

## ZERO-WASTE DESIGN TECHNIQUE



ORGANISED BY





*Model backstage at 'Redress on the Runway'.*

## WHAT IS IT?

Zero-waste is a design technique that eliminates textile waste at the design stage.

## WHY DO IT?

Approximately 15 percent of textiles intended for clothing ends up on the cutting room floor.<sup>1</sup>

When textiles are wasted so too are the resources, both natural and human labour resources, which were invested and imbedded into the textiles. It is vital to address the source of the problem by maximising the use of textile materials and by minimising the wastage. Adopting a zero-waste design approach reduces textile waste and the demand on natural resources.

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<sup>1</sup> Timo Rissanen, 'From 15% to 0: Investigating the creation of fashion without the creation of fabric waste' Presenter, Kreativ Institut for Design og Teknologi, 2005

# HOW DO I DO IT?

## 1 FIRST DECIDE

There are various approaches to making a zero-waste garment. The one rule is that there should be no wastage. So, first things first, decide what type of garment you wish to make and which zero-waste technique to use, for example draping, knitting or using a zero-waste pattern, as these will inform your design and sourcing options.

Ferrando Chan, The EcoChic People's Award 2011 Winner, created this cape by making a zero-waste pattern.



*Image credit Hellen Van Rees*

*Hellen Van Rees sourced leftover yarns from factories and then wove the yarns in the shape of the garment. She fused everything together into the shape of the garment so in the final garment, there were no seams, cut-offs or leftovers.*

*Angus Tsui Yat Sing, The EcoChic People’s Award Hong Kong 2012 Winner, created this zero-waste garment by pleating rectangular textile waste scraps.*



*Image credit Angus Tsui Yat Sing*

## EXPERT’S TIP

— *Timo Rissanen, Assistant Professor of Fashion Design and Sustainability at Parsons The New School for Design* —

When I first started with zero-waste design I worked in a way that I had always worked, which was to sketch things and then move onto the pattern-cutting phase. But I changed my approach to zero-waste design when I realised that by keeping an open mind regarding the final outcome, with the same goal of making beautiful garments, allowed me to explore and invent new outcomes.

# 3 THEN DESIGN & SOURCE

The zero-waste design technique is an integrated design process, where designing and sourcing go hand in hand. This means that you need to know your textile dimensions to be able to design your garment; and like-wise you need to know your design dimensions to source your textile. Knowing both this information is vital, as you do not want to limit your design by having to work with set textile dimensions, as this can often lead to creating unnecessary embellishments and compromise your design.

Creating a zero-waste garment is about minimising wastage, so when you source, find the textile that will work for your design. Using textile waste will improve your garment's sustainability credentials, but is not a necessity.

If you construct a zero-waste pattern you will need to plan the usage of the entire piece of textile by arranging your pieces like a jigsaw puzzle. You can also work out the pattern by draping. Alternatively, you can design directly by draping your entire piece of textile on the body directly.



Aman Cheung, The EcoChic Design Award Hong Kong 2011 Finalist, created this zero-waste sheer skirt with leftover stock fabric.

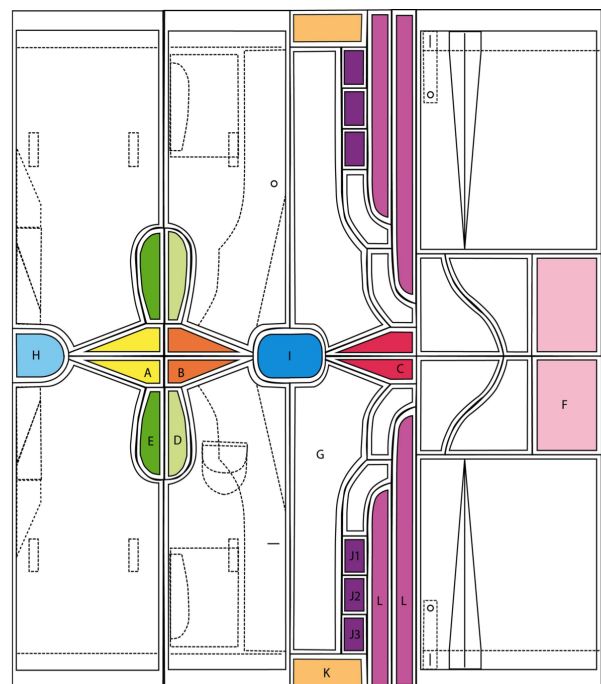


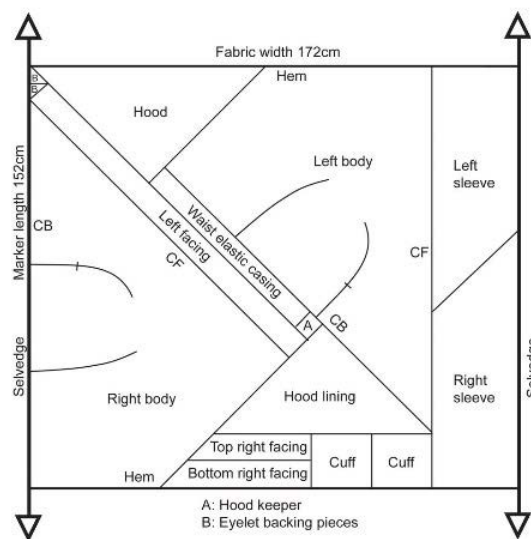
Image credit Winsome Lok

Winsome Lok worked with this jigsaw puzzle-like pattern to create her zero-waste outfit.

## EXPERT'S TIP

— Timo Rissanen, Assistant Professor of Fashion Design and Sustainability at Parsons The New School for Design —

The textile width is always a crucial consideration in zero-waste design. You can't design zero-waste without knowing exactly how wide the textile is. The textile width is the space within which you create zero-waste fashion design.



Copyright Timo Rissanen 2009

Image credit Timo Rissanen

*Timo Rissanen worked with the dimensions of the textile to create a zero-waste pattern.*

# 4 --- FINALLY... MAKE!

This is where your sketching and pattern will be tested. Whether you drape, knit or use a zero-waste pattern, the important thing is that the whole textile is used and that there is no wastage.

## EXPERT'S TIP

— Johanna Ho, Fashion designer —

Be experimental and don't give up too easily. Try different shapes, styles and ways of doing zero-waste and eventually you will get there.



*Image credit Johanna Ho*

*Johanna Ho cut textile waste into thin strips and then turned the textile strips into yarns. She then knitted these textile waste yarns to create this sweater.*

# ADA ZANDITON

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## ON ZERO-WASTE DESIGN

Fashion Designer  
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*“Zero-waste design changes the way we use textiles and produces effective environmental results.”*

I take a common sense approach to sustainability. The zero-waste design technique is good for the environment, as it eliminates textile waste going to landfill, and it is economically smart by giving you the most mileage from your dollars. Waste produced during garment production can be avoided by applying the zero-waste design technique, where designers carefully plan the design so that they utilise the entire textile.

The concept of utilising the entire width of the textile is not a new phenomenon. It has long been used in the making of Japanese kimonos and Indian saris because it makes sense not to waste valuable textiles. However, it became less popular after the industrialisation of fashion and the emergence of mass-produced fast fashion.

Today, there are many different approaches to zero-waste design, including draping, knitting and smart pattern making. I use a variety of waste reducing techniques to create sculptural, elegant and desirable sustainable fashion garments. For example, I used zero-waste geometric cutting for the origami-inspired Hera dress (see image). For this, I took two squares and cut a line through them, and then joined the lines together and finally used buttons to fix the points of the dress into folds. This design also incorporates the amount of textile needed for seam allowance and hemming. I also have a zero-waste policy in my studio where all textile residues are kept and reused or donated to local recycling programs.

Elsewhere in this field, I think the most influential designer is Mark Liu who fits the pieces of his designs together like a jigsaw puzzle onto the textile. Looking beyond individual designers and into the mass market, the commercialization of zero-waste would be a huge step towards sustainability for the entire fashion industry.”

### MY TOP TIPS TO ZERO-WASTE DESIGN

1. **Think before you cut and be inventive and experimental**
2. **Construct a zero-waste pattern or drape the textile**
3. **Sew or heat-seal the textile together**
4. **Knit and you will only ever use the necessary amount of material**
5. **Be inspired by origami**



*Image credit Ada Zanditon*

*Hera Dress, SS'12 Poseisus*

# LEARN MORE

## WATCH THIS...

**The EcoChic Design Award 2013 Zero-waste Design Tutorial:**

**YouTube** <http://youtu.be/rikkAuaoUGs>

**Youku** [http://v.youku.com/v\\_show/id\\_XNTQ3MzkwNDI0.html](http://v.youku.com/v_show/id_XNTQ3MzkwNDI0.html)

**The EcoChic Design Award 2012 Zero-waste Design Tutorial with Timo Rissanen**

**Youtube** [www.youtube.com/watch?v=vJK\\_y56ot3I](http://www.youtube.com/watch?v=vJK_y56ot3I)

**Youku** [http://v.youku.com/v\\_show/id\\_XMzg3ODMxOTAw.html](http://v.youku.com/v_show/id_XMzg3ODMxOTAw.html)

## READ THIS...

**Cradle To Cradle: Remaking The Way We Make Things** by Michael Braungart

**Design Is The Problem: The Future Of Design Must Be Sustainable** by Nathan Shedroff

**Eco-Chic: The Fashion Paradox** by Sandy Black

**Eco Fashion** by Sass Brown and Geoffrey B. Small

**Fashion & Sustainability: Design for Change** by Kate Fletcher and Lynda Grose

**Shaping Sustainable Fashion: Changing The Way We Make And Use Clothes** by Alison Gwilt and Timo Rissanen

**Sustainable Fashion And Textiles: Design Journeys** by Kate Fletcher

**The Sustainable Fashion Handbook** by Sandy Black

**The Zero-Waste Lifestyle: Live Well** by Throwing Away Less by Amy Korst

## BE INSPIRED BY...

**Ada Zanditon** [www.adazanditon.com](http://www.adazanditon.com)

**David Telfer** [www.davidtelfer.co.uk](http://www.davidtelfer.co.uk)

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**Issey Miyake** [www.isseymiyake.com](http://www.isseymiyake.com)

**Julia Lumsden** <http://www.julialumsden.com/>

**Julian Roberts** [www.julianand.com](http://www.julianand.com)

**Mark Liu** [www.stique.com](http://www.stique.com)

**Timo Rissanen** [www.timorissanen.com](http://www.timorissanen.com)

## LEARN THE LANGUAGE...

**Closed loop design** is when a product is designed to have another function after its use thereby eliminating all waste. In this way, a used product's output becomes the input for a new product or function.

**Cradle to cradle** refers to a closed loop design process, which is free of waste. When a product is no longer useful, it becomes material for another product.

**Life cycle** is the resource extraction, manufacture, distribution, use, disposal and recycling of a

product.

**Post-consumer waste** is waste collected after the consumer has disposed of it.

**Pre-consumer waste** is manufacturing waste that has not reach the consumer.

**Recycled** is when a waste material or product has been reused and turned into a new usable material or product.

**Reduce, reuse, recycle** are the so called 3R's that classify waste management, according to their order of importance. Reduce your consumption and usage, reuse items again and recycle materials.

**Supply chain** are the resources and steps involved in moving a product from raw material to consumer.

**Sustainability** is a lasting system, process, that meets the current needs while preserving for the future.

**Sustainable fashion** is clothing that is produced with respect to the environment and social impacts throughout its lifespan.

**Sustainable textile** is a textile that is produced with minimal environmental impact.

**Textile waste** is a material that is deemed unusable for its original purpose by the owner.

**Zero-waste** is a design technique that eliminates textile waste at the design stage.