

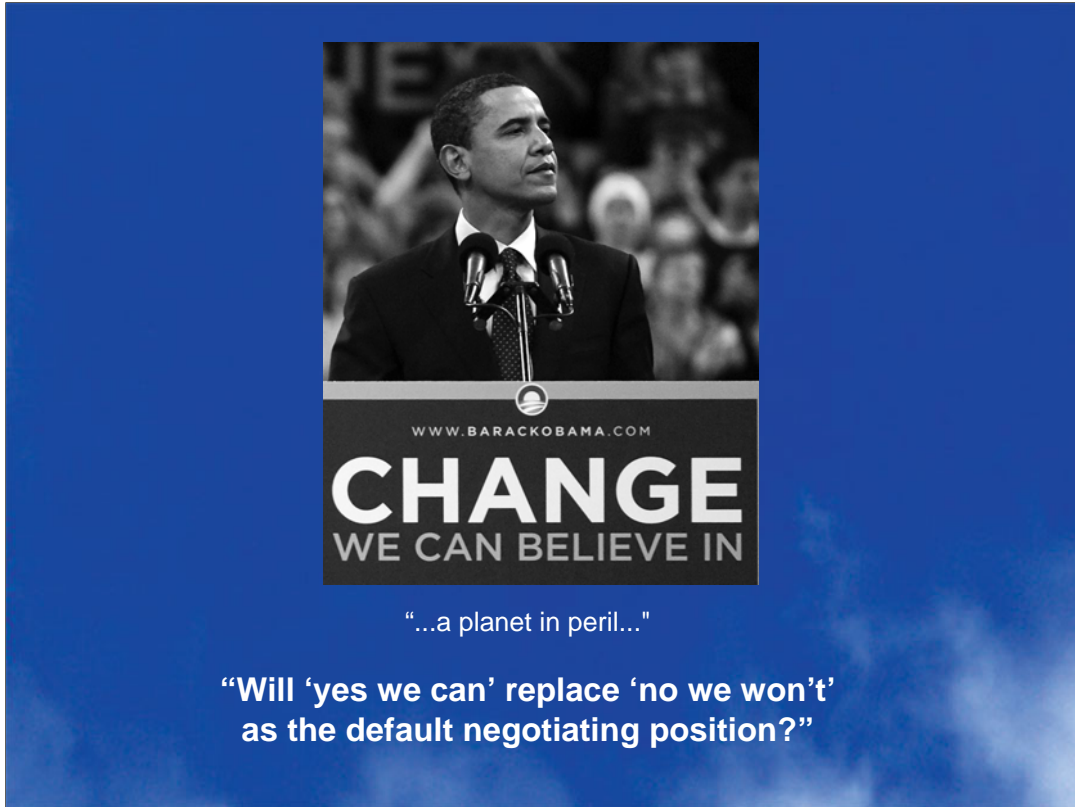
**arcola**  
**theatre**

**Dr Ben Todd, Executive Director**  
**APAP, NYC, January 2009**

Good morning. Over the next hour I'm going to hit you with a vast array of information, ideas and challenges in the field of sustainability. To help you through this, APAP have kindly arranged for visual aids and I have a secret guest speaker from Arup, one of our key partners. David Taylor (nee Neill Woodger in London who has done the carbon thing and passed on the job to a NYC colleague) has a truly global arts experience and is part of a 10,000 strong international organisation which has managed to retain clarity of vision, focus on bespoke locally relevant solutions and thus provides us with a phenomenal bank of expertise and a model for development.

First I'd like to thank APAP and the British Council for their vision in creating this track. Member organisations and public sector agencies have a crucial role to play in fostering, disseminating and mandating the massive changes we need to see in the next few years. I look forward to working with both and many others to address this unprecedented global challenge.

Second I'd like to clarify the fundamentals of my approach. I use the work 'challenge' quite deliberately. To an engineer, a challenge is a call to action, a reason to get out of bed and the start of everything. I did not say 'difficulty'. A difficulty is an annoyance, a hindrance, a source of distress – it is a challenge unmet. Many people who really know about the state of the planet and the trajectory we have set it upon would say we are in great difficulty. In common parlance – “we are fucked”. An esteemed colleague of mine announced a few months ago that “knowing what I know, it would be immoral for me to fly”. I never forget this, but my engineer's excitement at the possibilities sustainability presents for resolving challenges and opportunities which have been ignored for years is what drives me.



Finally – what am I going to talk about

- America
- Arcola
- Why I am at Arcola and what this has to do with sustainability
- How we have structured Arcola to put sustainability at the heart of things
- Some practical things we have done and how we funded them
- Something to illustrate the power in this room
- Some of the acclaim we have gained – that you too could gain
- Present to you – !! EXCLUSIVE PREVIEW !!- Future Arcola
- Greening London Theatres
- Provocations

My first question about this event – are we talking why or how?

We are talking and acting on 'how' and for the sake of humanity, let's hope that Obama does too.

# Arcola Theatre

Founded 2000 / Hackney / Factory

200 & 60 seats / plans for 350 & 250 seats



A little about Arcola Theatre, for those who don't know:

-Founded in 2000

-In a former factory in Hackney, East London

-On credit cards – always had an anything possible mentality – why I am there. Left the comfort of an academic life in Cambridge and the possibility of a commercial life at Rolls Royce because I wanted to see things happen quickly.

-Importantly, Arcola wins lots of awards, high calibre theatre and community engagement

-More than a theatre, the scope of our work brings us in to contact with policy makers, product developers, financiers and 'humble' consumers.

# Why Theatre?

- Artistic - Shakespeare
- Entrepreneurial - Branson
- Societal - Ghandi
- Technical - Einstein

Da Vinci

Dyson

Zuckerberg

A broad understanding of creativity is crucial. Merging the artistic, entrepreneurial and societal creativity of Arcola with the technical creativity of sustainability.

The point is simply that creative is not synonymous with artistic. Rather artistic is a subset of creative – one particular mode of expression.

The examples are obvious, as are those who are known for transcending these boundaries

Da Vinci – technical & art

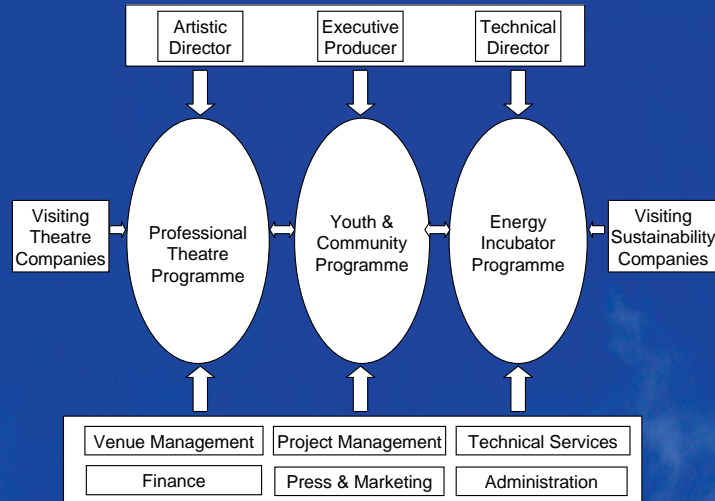
Dyson (Vacuum Cleaners) – technical & entrepreneurial

Zuckerberg (Facebook) – technical & societal

Theatre, like architecture is a great art form in which to see this.

Achieving sustainability is, in my opinion, totally dependent on us attaining excellence in multiple modes of creativity.

# How Theatre?



So how can theatres engage with sustainability – the same way we engage with youth & community

This is a framework for the practical management and elucidation of the manner in which a single organisation can manage and benefit from innovation in multiple independent and cross-disciplinary fields. Simply really. Don't just put them all in the same building. Manage the organisation with maximum horizontal and vertical integration. This facilitates both accidental and stimulated cooperation.

Parallels:

Artistic Director = Technical Director

Executive Producer = MBA

Common:

Finance

Project Management

Press & Marketing

Community sits in the middle, informed by both.

Same structure or relations across disciplines:

Visiting companies / Co productions / Joint Projects / Commissions / Subcontractors

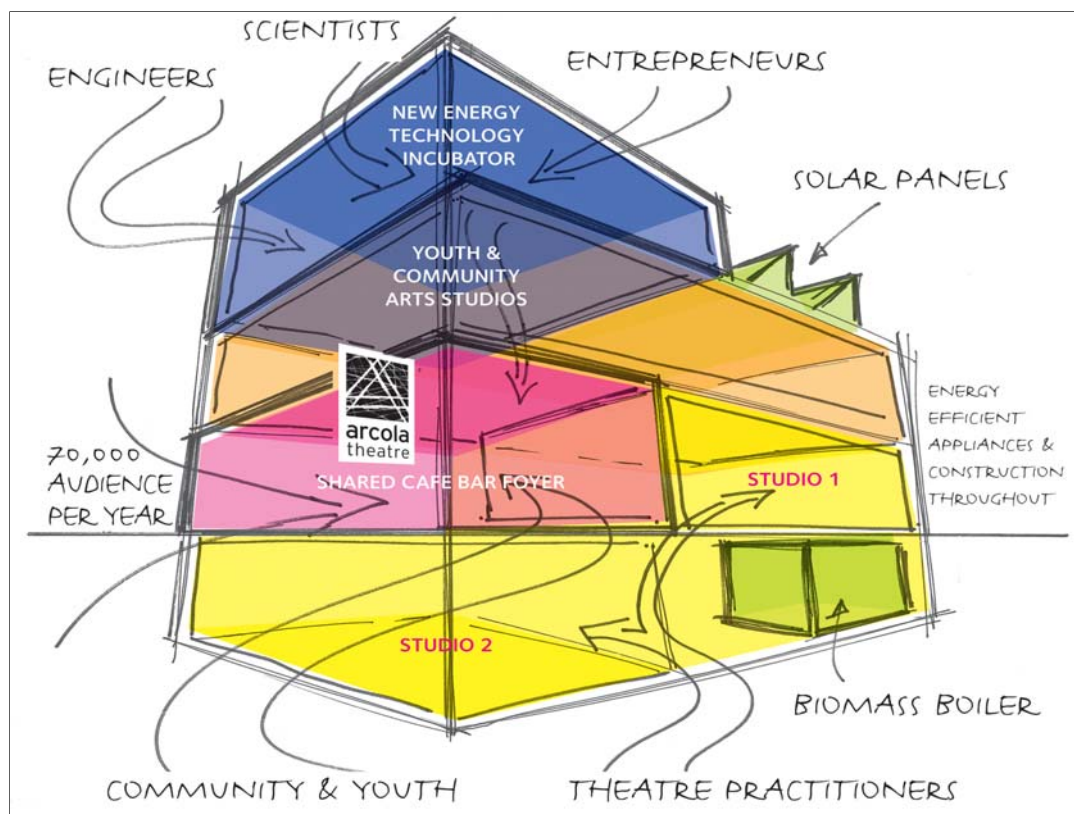


What does it look like??

This is Cathy Tyson giving a reading at the launch of Arcola Energy last July. She is lit by low energy LED lighting which uses about a 10<sup>th</sup> the power of conventional theatre lighting.

The electricity for the lighting is supplied by the Fuel Cell in the background which is generating electricity from Hydrogen, on stage, with the sole waste product being potable water.

A partnership project. White Light and Stage Electrics provided the lights and the Fuel Cell was arranged by the London Hydrogen Partnership, a GLA project.



Taster for and headline for our wider ambitions

- To take the model we have (theatre + community) and add a third strand – Energy
- Our building will look something like this:
  - 2 floors of professional studios
  - 1 floor of community workshop & rehearsal studios
  - 2-3 floors of engineers: The AE Incubator
- All in a 'carbon neutral' building. Which to us means:
  - Minimising consumption of all resources through innovation, best practice, insulation etc
  - Generating renewably on site all of our electrical and heating requirements – Solar PV, Biomass boiler (scripts, set), fuel cell (green H2 – ask me later)
  - Educating our audiences, staff, stakeholders, visiting technical & creatives



## Our first big step - Fuel Cell & Low Energy Lighting

- First theatre in the world to have a fuel cell / one of only a handful in the UK
- Big partnership project – Mayor of London, DCMS, ACE, LBH, WL, Pixel Range, PLASA, ETC. Industry link crucial. Tight budgets can be an incentive for highly beneficial partnerships – if you know how to make them and manage them.
- 5kW IdaTech system. Operates in UPS mode – easy switch over.
- Fuel cell sets a limit on energy consumption - one you can see – motivates change – lighting design, each show a new challenge
- Proves we can act NOW

More on how we made it happen shortly.



Hydrogen fuelled. Delivered by truck about once per week.  
Expensive, not particularly carbon-beneficial. But that is OK.  
Need to understand the benefits and articulate them.

The fuel cell is a motivator, a reason to cut power consumption, a means of making power generation real to audiences and most importantly it is at the cutting edge – right next to our art.

# Leverage

<b>Total</b>	<b>£121,915</b>
<b>Fuel Cell</b>	<b>£23,250</b>
London Hydrogen Partnership (purchase)	£12,500
Arts Council England (ancillary equipment)	£5,000
Dept. Culture, Media & Sport (install)	£5,000
BOC Gasses (hydrogen supply)	£350
Arcola Theatre (hydrogen supply)	£400
<b>Low Energy Lighting - Café/Bar</b>	<b>£92,415</b>
James Thomas Engineering (units)	£81,000
Electronic Theatre Controls (controller)	£6,915
Arcola Theatre (installation)	£2,500
London Borough Hackney (cable & fittings)	£2,000

And now the real story – how do you fund it?

Key points:

- Fuel cell is a small part of the wider project
- Fuel cell makes the wider project possible
- Fuel cell allowed us to leverage massive generosity from our industry partners

# Sustainable Theatre

- Living Unknown Soldier
- An Enemy of the People
- Small Craft Warnings

- Tungsten
- Fluorescent
- LED

Latest Designer: Johanna Town

Fluorescent wash/cyc, tungsten spots

LED wash & detailing, Ion control



This show and even more so An Enemy of the People where critically acclaimed – the best version people had ever / for a long time seen.

Lit on or around 5kW using non-standard equipment. Don't let anyone tell you that artistic need precludes sustainable innovation – only lack of imagination precludes innovation.

Lighting designer for Small Craft Warnings was Johanna Town – internationally known – she put her reputation on the line by allowing me to announce at PLASA that she was lighting actors faces using fluorescents. You can't do that. But of course you can. If you are good enough. It is a creative challenge.

# Arcola Fuel Cell Bikes

- Arcola Energy – importer, distributor and service provider.
- Utilising theatre skills to deliver new products in new markets



Beyond theatre.

Using the skills of theatre to solve a problem engineers, business and government have failed to address for years.

In the next 12 months we will deliver a micro-hydrogen economy in London. The vehicles, the fuel the refuelling, the services and most importantly the motivation.

Using theatre approach – we've decided to do this. Let's all now work out how to do it.

# Acclaim

*"I congratulate Arcola Theatre for showing leadership in taking this innovative creative approach to the greatest challenge we face today – climate change"*

**Colin Challen MP, Chair of the All Party  
Parliamentary Group on Climate Change**

*"...the admirable Arcola Theatre...a fascinating, trailblazing example to  
entertainment venues worldwide"*

**Lee Baldock, Editor, Light & Sound International**

2008 **Charity Award** (highly commended)

2008 **REA** British Renewable Energy Pioneer Award (highly commended)

2008 **IVCA** Clarion Awards - Performing Arts (winner)

2008 **Peter Brook** Empty Space Awards - Established Studio (nominee)

2008 **CBI** Growing Business - Green Award (nominee)

2008 **TMA** Awards - Special Award (nominee)

Recognition and PR is crucial to this project. Sponsorship is secured because people know we will get their brand and their message out there. The cultural sector has skills in great demand in industry/government.

# Future Arcola

A globally significant landmark  
for Dalston - a professional theatre  
and community programme of  
international repute in the world's  
most environmentally sustainable  
venue

What it says on the tin.

Sustainability is the single guiding principle for Future Arcola.

Everything from international touring to flushing the toilets, to corporate sponsors, to community projects is understood, integrated and will be delivered sustainably. This to me is the meaning of sustainability – it is a whole system approach.

It is a word many people are frustrated with because it is too nebulous and used wrong it can be confusing. But that is the nature of powerful concepts. It is both rigorous (carbon calculators) and visionary (value of international touring). Spend some time with sustainability.

As they say of thermodynamics – first it will confuse you, then you will think you understand, then you will realise that you can never fully understand. Or as the great Walt Whitman said “Do I contradict myself, very well then I do. I am large, I contain multitudes”.

The contradiction of counting paper cups whilst flying 50 dancers across the globe is the same contradiction whole world is struggling with and is what makes it all so interesting.

The arts thrive on contradiction and uncertainty. This is your field. The spaces in-between.

## Our Delivery Partner

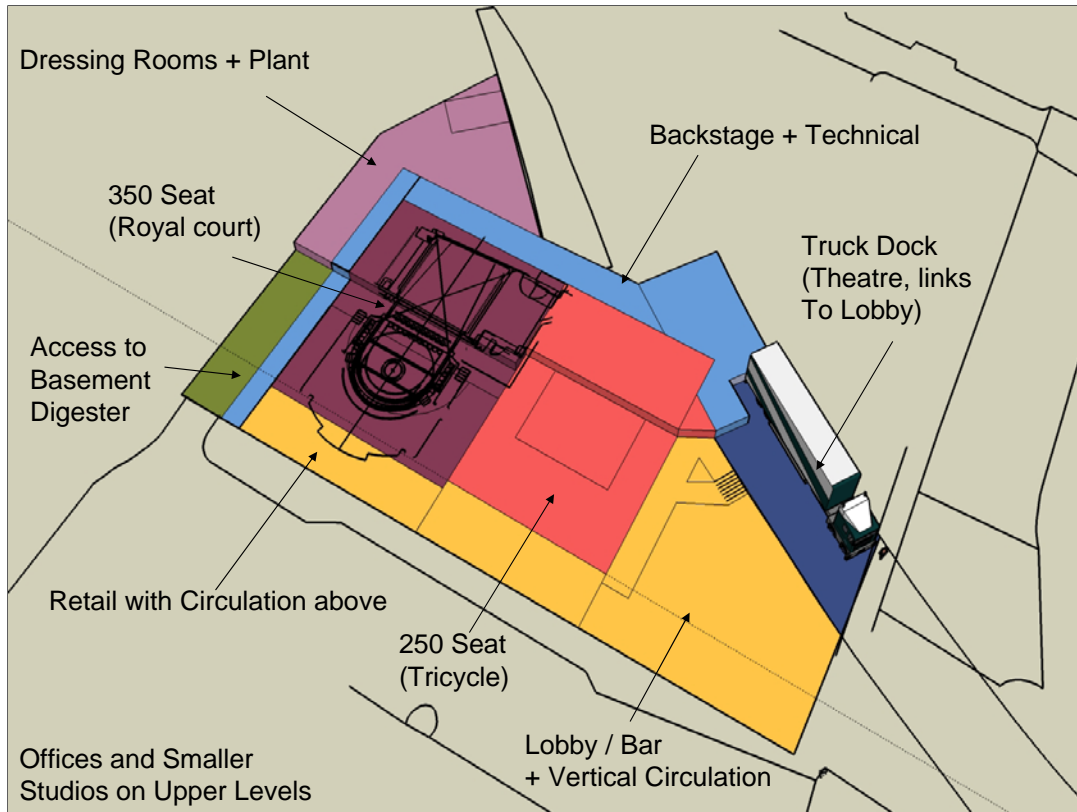
“We see this as an exceptional project and one that we are very excited to be part of. It offers a wonderful opportunity for us to bring together all the things we want to achieve with theatres and sustainability in a single project” **Neill Woodger, Director, Arup**



The ARUP logo, consisting of the word "ARUP" in a bold, teal, serif font, set against a white rectangular background.

Arup partnership - the point at which 'crazy ideas' became reality waiting to be delivered.

Over to David



A sneak preview of the site – the smallest it can possibly be.



- Government inspired
- Industry led
- Practical actions
- US partnership sought

# Provocations

## **1. Recognise the Vision / Rigour Spectrum**

Place your activities along it.  
DON'T FORCE ACTIVITIES IN TO THE WRONG PLACE

## **2. Do the Basics Now**

Talk about it for about 1 week.  
Then put in £1,000 and a few days of FoH / Technical / Operations

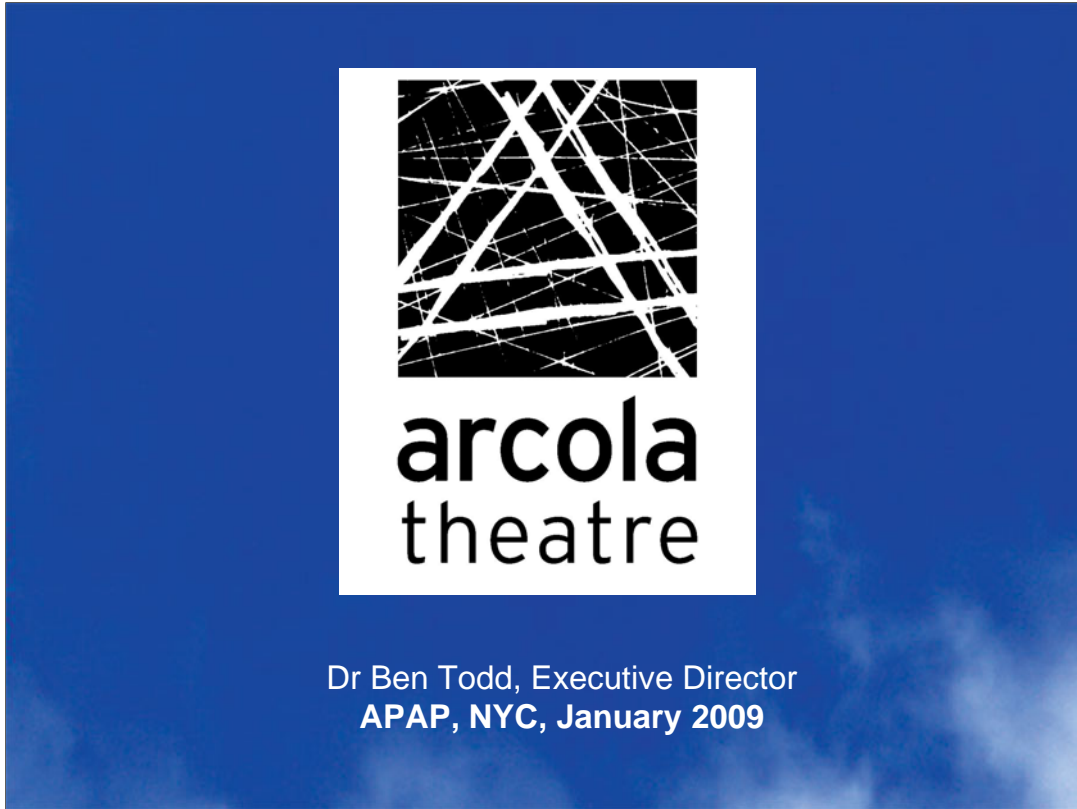
## **3. Lead with Exceptional Art and Ethos**

Link delivery to productions – apply the same principles  
THIS IS WHAT WE WANT – MAKE IT HAPPEN

## **4. Learn & Share**

[www.arcolaenergy.com](http://www.arcolaenergy.com)  
[www.greeningtheatres.com](http://www.greeningtheatres.com)

Some starters for ten...



Thank you. Now over to you. You are our only hope.